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PREFACE

This volume of the Economic Survey-a historic first because it is the second to appear within a year-needs explanation, especially for an audience that might be Survey-addled.

Prior to 2014-15, the Economic Survey had a more analytical/policy chapter attributable to the Chief Economic Adviser (CEA). The Survey was tabled, and hence became public, on the day before the Union Budget presented by the Minister of Finance.

In the last two years, the pattern changed. There were two volumes that were released on the day before the Budget. While Volume 1 was analytical, and policy and ideas-oriented, the second volume featured a backward-looking review and included historic data tables.

This year, the pattern has changed yet again but forced by the advancement of the Budget calendar from early March to early February. The backward-looking review of past years was always a little awkward because data availability limited the review to the first three quarters of the year gone by. Accordingly, this time it was decided to split the Economic Survey into two volumes: Volume 1 as in the previous two years continued to be analytical/policy-oriented and was released just before the Budget. Volume 2 could come out at a time when data for the full year gone by became available (also in the process replacing the Mid-Year Economic Analysis that used to come out in December). That data availability largely dictated the timing of the tabling of Volume 2 in Parliament.

However, since Volume 2 appears almost half a year (an event-rich period with GST implementation, demonetization impacts, farm stress etc.) after Volume 1, a fresh macro-economic update with an analytical review of the pressing issues seemed necessary. This update-contained in Chapter 1 ("State of the Economy") in this volume-like its counterparts in the years before 2014-15 can be attributed to the CEA, with the Economic Division taking the lead for the other chapters. It is in this respect that this volume of the Survey is more akin to the Surveys prior to 2014-15. Whether this practice of issuing two volumes continues will depend in part on the future timing of the Budget calendar.

Another innovation this year is that along with the Economic Survey, electronic versions of the data-going back to the 1950s in some cases-will also be released. This should greatly facilitate teaching, analysis, and research by the public at large.

A final point to note is that, in response to strong demand from a wide cross-section of users, the Hindi version of Volume 1 is being re-issued in a fresh translation by Professor Bagla of Delhi University.

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ABBREVIATIONS

AAS	Agrometeorological Advisory Services	DII	Domestic Institutional Investors
AAY	Antyodaya Anna Yojana	DIPP	Department of Industrial Policy & Promotion
ABP	Area Based Projects	DISCOMs	Distribution Companies
AE	Advance Estimates	DISE	District Information System for Education
AEPS	Aadhar Enabled Payment System	ECA	Essential Commodities Act
AFB	Adaptation Fund Board	ECB	External Commercial Borrowing
AIDIS	All India Debt and Investment Survey	EHR	Electronic Health Record
APL	Above Poverty Line	EMDEs	Emerging Market and Developing Economies
APMC	Agricultural Produce Marketing Committee	EMEs	Emerging Market Economies
APY	Atal Pension Yojana	e-NAM	Electronic National Agriculture Market
ARM	Additional Resource Mobilization	EO	Earth Observation
ARPU	Average Revenue per User	EPFO	Employees' Provident Fund Organisation
ASEAN	Association of South East Asian Nations	ESA	European Space Agency
ASER	Annual Status of Education Report	ESIC	Employees' State Insurance Corporation
ASI	Annual Survey of Industries	EUS	Employment and Unemployment Survey
AUM	Asset Under Management	FAITH	Federation of Associations in Indian Tourism & Hospitality
BC	Benefit Cost	FAO	Food and Agriculture Organization
BCD	Basic Custom Duty	FCCB	Foreign currency Convertible Bonds
BCM	Billion Cubic Meter	FCI	Food Corporation of India
BE	Budget Estimates	FCNR (B)	Foreign Currency Non-Resident (Banks)
BHIM	Bharat Interface for Money	FDI	Foreign Direct Investment
BPL	Below Poverty Line	FEEs	Foreign Exchange Earnings
BRICS	Brazil, Russia, India, China and South Africa	FIG	Farmer Interest Group
BSBD	Basic Savings Bank Deposit Account	FII	Foreign Institutional Investor
BUR	Biennial Update Report	FIPB	Foreign Investment Promotion Board
BVS	Biodegradable Vascular Scaffolds	FIR	First Information Report
CAA&A	Controller of Aid Accounts and Audit	FPO	Farmer Producer Organisation
CACP	Commission for Agricultural Costs and Prices	FRBM	Fiscal Responsibility and Budget Management
CAD	Coronary Artery Disease	FRL	Fiscal Responsibility Legislation
CBDR-RC	Common but Differentiated Responsibilities and Respective Capabilities	FTA	Free Trade Agreement
CBR	Crude Birth Rate	FY	Financial Year
CDR	Crude Death Rate	GCCA	Grants for creation of capital assets
CECA	Comprehensive Economic Cooperation Agreement	GDI	Gender Development Index
CFPI	Consumer Food Price Index	GDP	Gross Direct Premium
CGA	Controller General of Accounts	GDP	Gross Domestic Product
CGST	Central Goods and Services Tax	GEC	Green Energy Corridor
CHE	Current Health Expenditure	GEF	Global Environment Facility
CIC	Currency in circulation	GER	Gross Enrolment Ratio
CIN	Corporate Identity Number	GFCF	Gross Fixed Capital Formation
CIP	Central Issue Price	GHI	Global Hunger Index
CIPHET	Central Institute of Post-Harvest Engineering and Technology	GLC	Ground Level Credit
CKM	Circuit Kilometer	GM	Genetically Modified
COP 21	21st Conference of Parties	GM	Geometric Mean
CPI (AL)	Consumer Price Index (Agricultural Labourers)	GNI	Gross National Income
CPI (C)	Consumer Price Index (Combined)	GNPA	Gross Non-Performing Advances
CPI (IW)	Consumer Price Index (Industrial Workers)	GPI	Gender Parity Index
CPI (RL)	Consumer Price Index (Rural Labourers)	GSDP	Gross State Domestic Product
CPI TC	Consumer Price Index True Core	GSLV	Geo-Synchronous Satellite Launch Vehicle
CPI	Consumer Price Index	GST	Goods and Services Tax
CPSE	Central Public Sector Enterprises	GSVA	Gross State Value Added
CRAR	Capital to Risk-Weighted Assets Ratio	GVA	Gross Value Added
CSO	Central Statistical Office	GW	Gigawatt
CV	Coefficient of Variation	HDI	Human Development Index
CVDs	Cardiovascular Diseases	HDR	Human Development Report
CWP	Currency with Public	HFCs	Housing Finance Companies
DAC&FW	Department of Agriculture, Cooperation & Farmers Welfare	HYVs	High Yielding Varieties
DAE	Direct Access Entity	IaaS	Infrastructure as a Service
DAY-NRLM	Deendayal Antyodaya Yojana - National Rural Livelihoods Mission	IBBI	Insolvency and Bankruptcy Board of India
DAY-NULM	Deendayal Antyodaya Yojana - National Urban Livelihoods Mission	IBC	Insolvency and Bankruptcy Code
DBT	Direct Benefit Transfer	IC	Interest Coverage
DCP	Decentralised Procurement	ICTs	Information and Communication Technologies
DDUGJY	Deen Dayal Upadhyaya Gram Jyoti Yojana	IEA	International Energy Agency
DES	Directorate of Economics & Statistics	IEC	Importer Exporter Code
		IGS	International Ground Stations
		IGST	Integrated Goods and Services Tax
		IIP	Index of Industrial Production
		IIPS	International Institute for Population Sciences

IMF	International Monetary Fund	NER	North Eastern Region
IMR	Infant Mortality Rate	NFHS	National Family Health Survey
InvITs	Infrastructure Investment Trusts	NFSA	National Food Security Act
IOI	Incidence of Indebtedness	NGCP	National Green Corridor Programme
IoT	Internet of Things	NHA	National Health Accounts
IPC	Indian Penal Code	NIC	National Industrial Classification
IQR	Interquartile Range	NITI	National Institution for Transforming India
IRENA	International Renewable Energy Agency	NLEM	National List of Essential Medicines
ISS	Interest Subvention Scheme	NPA	Non-Performing Assets
IT	Information Technology	NPISH	Non-Profit Institutions Serving Households
ITA	International Tourist Arrivals	NPK	Nitrogen, Phosphorus, Potassium
IT-BPM	Information Technology-Business Process Management	NPPA	National Pharmaceutical Pricing Authority
ITC	Input Tax Credit	NPS	National Pension Scheme/System
ITIs	Industrial Training Institutes	NRI	Non-Resident Indian
ITR	International Tourism Receipts	NSDC	National Skill Development Corporation
JLF	Joint Lenders Forum	NSQF	National Skills Qualifications Framework
KMS	Kharif Marketing Season	NSS	National Sample Survey
KW	Kilowatt	NSS/O	National Sample Survey/Office
KWH	Kilowatt-Hour	NSSF	National Small Savings Fund
LEB	Life Expectancy at Birth	NSSO	National Sample Survey Office
LEO	Low Earth Orbit	NTBs	Non-Tariff Barriers
LTRCF	Long Term Rural Credit Fund	OBCs	Other Backward Classes
LULUCF	Land use, Land Use Change and Forestry	ODF	Open Defecation Free
M0	Reserve Money	OECD	Organisation for Economic Co-Operation and Development
M3	Broad Money	OFCB	Overseas Foreign Currency Borrowings
MBPS	Megabits per Second	OMO	Open Market Operations
MDDS	Metadata and Data Standards	OMSS	Open Market Sale Scheme
MDM	Mid-Day Meal	OOI	Other Operating Income
MEIS	Merchandise Exports from India Scheme	OoP	Out of Pocket
MEP	Minimum Export Price	OPEC	Organization of Petroleum Exporting Countries
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act	P/E	Price/Earnings
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme	PA	Provisional Actuals
MHRD	Ministry of Human Resource Development	PaaS	Platform-as-a-Service
MI	Micro Irrigation	PAED	Publicly Available Environmental Data
MIDH	Mission for Integrated Development of Horticulture	PAHAL	PratyakshHanstantritLabh
MMR	Maternal Mortality Ratio	PAT	Perform Achieve Trade
MMT	Million Metric Tonne	PAT	Profit After Tax
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act	PCA	Prompt Corrective Action
MOSPI	Ministry of Statistics and Programme Implementation	PDS	Public Distribution System
MPC	Monetary Policy Committee	PE	Provisional Estimates
MSDE	Ministry of Skill Development and Entrepreneurship	PG	Post Graduate
MSF	Marginal Standing Facility	PGCIL	Power Grid Corporation of India Ltd.
MSME	Ministry of Micro, Small and Medium Enterprises	PLF	Plant Load Factor
MSP	Minimum Support Price	PMAY	Pradhan MantriAwasYojana
MT	Metric Tonne	PMJDY	Pradhan Mantri Jan DhanYojana
MVA	Mega Volt Amp	PMJJBY	Pradhan MantriJeevanJyotiBimaYojana
MW	Megawatt	PMKSY	Prime Minister's KrishiSinchaiYojana
NABARD	National Bank for Agriculture & Rural Development	PMKVY	Pradhan MantriKaushalVikasYojana
NAFCC	National Adaptation Fund for Climate Change	PMSBY	Pradhan Mantri Suraksha BimaYojana
NAM	National Agriculture Market	POL	Petroleum Oil and Lubricant
NAPCC	National Action Plan on Climate Change	PPA	Purchasing Power Agreement
NAR	Net Attendance Ratio	PPP	Purchasing Power Parity
NAREDCO	National Real Estate Development Council	PROBE	Public Report on Basic Education
NASSCOM	National Association of Software and Services Companies	PSBs	Public Sector Banks
NBFS	Non-Banking Financial Sector	PSLV	Polar Satellite Launch Vehicle
NCEEF	National Clean Energy and Environment Fund	PTR	Pupil Teacher Ratio
NCRB	National Crime Records Bureau	PVBs	Private Sector Banks
NCT	National Capital Territory	QE	Quantitative Easing
NCTF	National Committee on Trade Facilitation	QES	Quarterly Employment Survey
NDC	Nationally Determined Contribution	RBI	Reserve Bank of India
NDDB	National Dairy Development Board	RCEP	Regional Comprehensive Economic Partnership
NDHA	National Digital Health Authority	RCS	Regional Air Connectivity Scheme
NDTL	Net Demand & Time Liabilities	RE	Revised Estimates
NEER	Nominal Effective Exchange Rate	REER	Real Effective Exchange Rate
NEFT	National Electronic Funds Transfer	REITs	Real Estate Investment Trust
NER	Net Enrolment Ratio	RES	Renewable Energy Sources
		RGI	Registrar General of India
		RHS	Right Hand Side
		RKM	Route Kilometer
		RMS	Rabi Marketing Season

RMSA	RashtriyaMadhyamikShikshaAbhiyan	STRI	Services Trade Restrictiveness Index
ROA	Return on Assets	STs	Scheduled Tribes
ROE	Return on Equity	Sub-GTO	Sub-Geo Transfer Orbit
RRB	Regional Rural Banks	SUUTI	Specified Undertaking for Unit Trust of India
RTE	Right To Education	TBS	Twin Balance Sheet
RTGS	Real Time Gross Settlement	TFR	Total Fertility Rate
S4A	Sustainable Structuring of Stressed Assets	TFS	Trade Facilitation in Services
SaaS	Software as a Service	TIES	Trade Infrastructure for Export Scheme
SAD	Special Additional Duty	TISA	Trade in Services Agreement
SAP	Swachhta Action Plan	TPDS	Targeted Public Distribution System
SAPCC	State Action Plans on Climate Change	TPP	Trans-Pacific Partnership
SBM-G	Swachh Bharat Mission-Gramin	TRAI	Telecom Regulatory Authority of India
SBNs	Specified Bank Notes	UDAN	UdeDeshKaAamNaagrik
SCB	Scheduled Commercial Bank	UDAY	Ujwal DISCOM Assurance Yojana
SCs	Scheduled Castes	UN	United Nations
SDGs	Sustainable Development Goals	UNESCO	United Nations Educational, Scientific and Cultural Organization
SDL	State Development Loans		
SDR	Special Drawing Right	UNFCCC	United Nations Framework Convention on Climate Change
SDR	Strategic Debt Restructure		
SEBI	Securities and Exchange Board of India	UNWTO	United Nation's World Tourism Organization
SECC	Socio Economic Caste Census	USD	United States Dollar
SEIS	Services Exports from India Scheme	USEIA	United States Energy Information Administration
SEQI	Social Education Quality Index	UTs	Union Territories
SGST	State Goods and Services Tax	VAT	Value Added Tax
SHGs	Self Help Groups	VNR	Voluntary National Review
SMBs	Server Message Block	WPI	Wholesale Price Index
SPV	Solar Photo Voltaic	WTO	World Trade Organization
SSA	SarvaShikshaAbhiyan	WTTC	World Travel and Tourism Council
STaaS	Storage as a Service		

NOTES

The following figures/units are used in the Economic Survey:

BCM	billion cubic metres	kg	kilogram
BU	billion units	ha	hectare
MT	million tonnes	Bbl	billion barrels per litre
lakh	1,00,000	billion	1,000 million/100 crore
million	10 lakh	trillion	1,000 billion/100,000 crore
crore	10 million		

State of the Economy: An Analytical Overview and Outlook for Policy

01 CHAPTER

Optimism about the medium term and gathering anxiety about near-term deflationary impulses simultaneously reign over the Indian economy. Optimism stems from the launch of the historic Goods and Services Tax (GST), the decision in principle to privatize Air India; actions to address the Twin Balance Sheet (TBS) challenge; and growing confidence that macro-economic stability has become entrenched. Optimism, even exuberance, is manifested in financial markets' high and rising valuations of bonds, and especially stocks. At the same time, anxiety reigns because a series of deflationary impulses are weighing on an economy yet to gather its full momentum and still away from its potential. These include: stressed farm revenues, as non-cereal food prices have declined; farm loan waivers and the fiscal tightening they will entail; and declining profitability in the power and telecommunication sectors, further exacerbating the TBS problem. For the year ahead, the structural reform agenda will be one of implementing actual and promised actions—GST, Air-India, and critically the TBS. The macro-economic challenge will be to counter the deflationary impulses through key monetary, fiscal, and agricultural policies. The opportunities created by the “sweet spot” that recent Economic Surveys have highlighted must be seized and not allowed to recede.

I. INTRODUCTION

1.1 At this juncture, the Indian economy elicits reactions that span the continuum: from fundamental optimism (and its frothy variant, exuberance) about the medium term to gathering anxiety about near-term deflationary impulses. So, there is:

- rekindled optimism on structural reforms with the launch of the Goods and Services Tax (GST), which has been in the making for nearly a decade and a half; the decision in principle to privatize Air India; further rationalisation of energy subsidies and actions to address the Twin Balance Sheet (TBS) challenge;
- growing confidence that macro-economic stability has become entrenched, partly because of a series of government and RBI actions, and partly because structural changes in the oil market have reduced the risk of sustained price increases that would destabilize inflation and the balance of payments;
- extraordinary financial market confidence, reflected in high and rising bond, and especially stock, valuations;
- demonetization's long-term positive consequences combined with recognition of its short-term costs;
- rising concern that state government

finances will be disrupted because of farm loan waivers; and

- a sense that deflationary tendencies are weighing on an economy yet to gather its full growth momentum and still away from its potential. These include: (i) stressed farm revenues, as non-cereal foodgrain prices have fallen sharply; (ii) fiscal tightening by the states to keep budget deficits on track—a recent illustration is Uttar Pradesh which has slashed capital expenditure by 13 per cent (excluding UDAY) to accommodate the loan waiver; (iii) declining profitability in the power and telecommunication sectors, further exacerbating the TBS problem; and (iv) transitional frictions from implementation of the GST.

1.2 The Indian economy's longer term economic challenges and priorities were discussed in the Economic Survey 2016-17, Volume I. For the year ahead, the structural and macro-economic agenda is clearer. The structural reform agenda will be one of implementing promised actions (GST, TBS, and Air-India) and decisions taken.

1.3 Cross-country evidence abounds that structural reforms are more successful the healthier the macro-economic context; indeed, the latter may be a pre-requisite. Macro-economic dynamism provides the lubrication and resources to minimize unavoidable disruptions and finance structural reforms. That is why overcoming the near-term demand shortfalls will be critical. Here, important policy choices may need to be considered: the timing and magnitude of monetary easing, the magnitude and composition of fiscal consolidation in the context of commitments made, and actions to deal with the non-cereal farm sector where conditions this year—good monsoon and soft demand—may resemble last year's.

1.4 This chapter is organized in three

sections: an analytical discussion of key recent macro-economic developments in Section A is followed by an assessment of the economic outlook for 2017-18, and the appropriate macro-economic policy stance in Section B. Recent economic developments are described in Section C.

A. ANALYTICAL REVIEW OF RECENT DEVELOPMENTS

1.5 Optimism about the medium-term prospects for the Indian economy has been engendered by a number of structural reform actions and developments, and manifested, above all, in financial market confidence.

II. HISTORIC TAX REFORM: THE GOODS AND SERVICES TAX (GST)

1.6 The launch of the GST represents an historic economic and political achievement, unprecedented in Indian tax and economic reforms, summarized in Table 1 below and elaborated in Chapter 2. Here the way ahead is outlined, misconceptions are clarified, and some relatively unnoticed benefits are highlighted.

1. Increased complexity of tax structure?

1.7 Much of the commentary has suggested that the GST has a complicated tax structure, implicitly comparing the new system with an ideal GST tax structure while implying that the comparison is with the past. It is inaccurate to suggest that the GST is more complicated than the system it replaced, for two related reasons.

1.8 Previously, every good faced an excise tax levied by the Centre and a state VAT. There were at least 8-10 rates of excises and 3-4 rates of state VATs, the latter potentially different across states. So, a structure of multiple rates (as much as 10 times 4 times 29 states) has been reduced to a structure of 6 rates.

1.9 More important, uniformity or the

Table 1. Key Benefits of the GST

1. Furthering cooperative federalism	<ul style="list-style-type: none"> Nearly all domestic indirect tax decisions to be taken jointly by Centre and states
2. Reducing corruption and leakage	<ul style="list-style-type: none"> Self-policing: invoice matching to claim input tax credit will deter non-compliance and foster compliance. Previously invoice matching existed only for intra-state VAT transactions and not for excise and service tax nor for imports
3. Simplifying complex tax structure and unifying tax rates across the country	<ul style="list-style-type: none"> 8-10 central excise duty rates times 3-4 state VAT rates itself applied differentially across states to be consolidated into the GST's 6 rates, applied uniformly across states (one good, one Indian tax) Other taxes and cesses of the states and the Centre subsumed in the GST
4. Creating a common market	<ul style="list-style-type: none"> Will eliminate most physical restrictions and all taxes on inter-state trade
5. Furthering 'Make in India' by eliminating bias in favour of imports ("negative protection")	<ul style="list-style-type: none"> Will make more effective and less leaky the domestic tax levied on imports (IGST, previously the sum of the countervailing duty and special additional duty), which will make domestic goods more competitive
6. Eliminating tax bias against manufacturing/reducing consumer tax burden	<ul style="list-style-type: none"> By rectifying breaks in the supply chain and allowing easier flow of input tax credits, GST will substantially eliminate cascading (paying taxes at each stage on value added and taxes at all previous stages, such as with the Central Sales Tax)
7. Boosting revenues, investment, and medium-term economic growth	<ul style="list-style-type: none"> Investment will be stimulated, because scope of input tax credit for capital purchases will increase Tax base will expand through better compliance Embedded taxes in exports will be neutralized

principle of "one good, one tax" all over India is now a reality. Previously, different states could impose different taxes on any given product and these could be different from that levied by the Centre.

1.10 So, relative to the past, there is now uniformity rather than multiplicity as well as considerably less complexity.

2. Additional compliance burden?

Goods

1.11 It is true that there will be additional documentation requirements on all those who are now part of the GST net. But the filing requirements will comprise filling one

set of forms per month (not three as has been alleged because filling the first automatically fills the two others). This will not be an additional burden because similar, sometimes more onerous, requirements existed under the previous state VAT and central excise regimes (Table 2). For example, as the Table below shows, under the pre-GST regime, three separate returns to three different authorities had to be filed in respect of the three major taxes that are now subsumed under the GST.

Services

1.12 Previously, since only the Centre

imposed the service tax, agents had to register with, and hence file to, only one authority. Now, agents will have to register in all states that they operate in and file in each of them. In the discussions in the GST Council, attempts were made to preserve the previous, simpler system, but states were nearly unanimous in insisting for multiple registration as a way to ensure that they receive their due share of revenues. That said, the increased compliance requirements will be faced only by a small number of agents with a pan-India presence whose ability to comply will be commensurately greater. Going forward, there is scope for more centralized procedures to minimize the compliance burden.

Table 2. Number and Frequency of Returns to be Filed: Before and After GST

Before GST		GST structure
State VAT	1 per month plus 1 annual	1 per month plus 1 annual
Service Tax	2 half yearly	
Central Excise	1 per month plus 1 annual	

Small Traders

1.13 Much has been made of the additional compliance burden on small traders and agents. This overlooks some important changes in the other direction. The GST has significantly raised turnover thresholds for inclusion in the tax net, as Table 3 shows. As a result, out of about 87 lakh agents that were previously in the tax net (states VAT, central excise and service tax) about 70 lakh remain in the GST net. A significant number of small traders with turnover less than 20 lakh may have opted out. Moreover, even though the new threshold is 20 lakh, agents with a turnover of up to 75 lakh can choose to pay a small tax on their turnover

(not valued added), which they can file every quarter instead of every month with fewer documents having to be submitted.

Table 3: Turnover Threshold for Inclusion in the Tax Net: Before and After GST (in Rs.)

Before GST		GST structure
State VAT	Rs. 5-10 lakh	<ul style="list-style-type: none"> • Minimum Rs. 20 lakh • Rs. 20-75 lakh subject to lower compliance burden
Service Tax	Rs. 10 lakh	
Central Excise	Rs. 1.5 crore	

1.14 On the concerns that the anti-profiteering provisions might lead to over-zealous administration, the Government has indicated that they will be sparingly used. In any case, a sunset clause was introduced to ensure that the provisions will expire no later than two years.

3. Hidden benefits

1.15 One important hidden benefit of the GST is that the textile and clothing sector is now fully part of the tax net. Previously, some parts of the value chain, especially fabrics, were outside the tax net, leading to informalisation and evasion. Some anomalies favoring imports of fabrics over domestic production will need to be rectified but overall the tax base has expanded.

1.16 Similarly, one segment of land and real estate transactions has been brought into the tax net: “work contracts”, referring to housing that is being built. This in turn would allow for greater transparency and formalization of cement, steel, and other sales, which tended to be outside the tax net. The formalization will occur because builders will need documentation of these input purchases to claim tax credit.

1.17 Third, the GST will rectify the inadequacies of the previous system of domestic taxes levied on imports—the countervailing duty to offset the excise tax

and the Special Additional Duty (SAD) to offset the state VAT. For example, the SAD was levied at 4 percent, even though the standard VAT was 12.5 percent in most states; while in principle firms that paid VAT on inputs could reclaim the tax, in practice there were difficulties getting the tax credits. Under the GST, the full taxes on domestic sales levied by the Centre and the states (the IGST) will be levied when imported goods first arrive into the country with full tax credits available down the chain to a greater extent than previously. This will lead to more transparent and more effective taxation of imports.

1.18 There are early signs of tax base expansion. Between June and July 2017, 6.6 lakh new agents previously outside the tax net have sought GST registration. This is expected to rise consistently as the incentives for formalization increase. Preliminary estimates point to potentially large increases in the tax base as a consequence.

1.19 Another benefit will be the impact of GST and the information it throws up on direct tax collections. This could be substantial. In the past, the Centre had little data on small manufacturers and consumption (because the excise was imposed at the manufacturing stage), while states had little data on the activities of local firms outside their borders. Under the GST, there will be seamless flow and availability of a common set of data to both the Centre and states, making direct tax collections more effective.

1.20 The longer-term benefits include the GST's impact on financial inclusion. Small businesses can build up a real time track record of tax payments digitally, and this can be used by lending institutions for credit rating and lending purposes. Currently, small

businesses are credit-constrained because they cannot credibly demonstrate their financial capability.

1.21 Finally, even within the first few days of the GST's launch there are reports of elimination of inter-state check-posts. So far, 24 states have abolished these check-posts while others are in the process of eliminating them. If this trend continues, the reduction in transport costs, fuel use, and corruption could be significant.

1.22 There is ample evidence to suggest that logistical costs within India are high. For example, one study suggests that trucks in India drive just one-third of the daily distance of trucks in the US (280 km vs 800 km). This raises direct costs (especially in terms of time to delivery), indirect costs (firms keeping larger inventory), and location choices (locating closer to suppliers/customers instead of the best place to produce). Further, only about 40 per cent of total travel time is spent driving; while one quarter is taken up by check points and other official stoppages. Eliminating check point delays could keep trucks moving almost 6 hours more per day, equivalent to additional 164 kms per day – pulling India above global average and to the level of Brazil.

1.23 Overall, logistics costs (broadly defined, and including firms' estimates of lost sales) are 3-4 times the international benchmarks. Studies show that inter-state trade costs exceed intra-state trade costs by a factor of 7-16, thus pointing to clear existence of border barriers to inter-state movement of goods¹. The implementation of GST will dramatically reduce these costs and give a boost to inter-state trade in the country.

4. Challenges ahead

1.24 Table 4 shows the structure of GST

¹ Report of the Committee on Revenue Neutral Rate and Structure of Goods and Services Tax: <http://www.cbec.gov.in/resources//htdocs-cbec/gst/cea-rpt-rnr-new.pdf>

Table 4. GST Rates and Exclusions from GST Base

IGST (%)			Number of Goods categories*	Major Goods/Sector excluded
CGST (%)	SGST (%)	Total (%)		
0	0	0	88	<ul style="list-style-type: none"> • Alcohol • Petroleum and energy • Electricity • Land and real estate • Education • Healthcare
1.5	1.5	3	Gold and jewelry	
2.5	2.5	5	173	
6	6	12	200	
9	9	18	521	
14	14	28	229	
Cesses (multiple)				

IGST is the sum of the GST levied by the Centre (CGST) and the states (SGST).

*Measured as number of Harmonized System (HS) lines defined under the tariff code

rates and goods/sectors that are outside the GST net. The rate structure and exclusion from the base, shown in Table 4, have scope for improvement. Alcohol, petroleum and energy products, electricity, and some of land and real estate transactions are outside the GST base but are taxed by the Centre and/or states outside the GST. Health and education are outside the tax net altogether, exempted under the GST and not otherwise taxed by the Centre and states.

1.25 Bringing electricity into the GST framework would improve the competitiveness of Indian industry because taxes on power get embedded in manufacturers' costs, and can be claimed back as input tax credit. Inclusion of land and real estate and alcohol in GST will improve transparency and reduce corruption; keeping health and education completely out is inconsistent with equity because these are services consumed disproportionately by the rich. Moreover, the tax on gold and jewellery products—items that are disproportionately consumed by the very rich—at 3 percent is still low.

1.26 The multiplicity of rates was a response to meeting a variety of objectives, including

the need to keep rates down for a number of essential items to protect poorer sections from price rises.

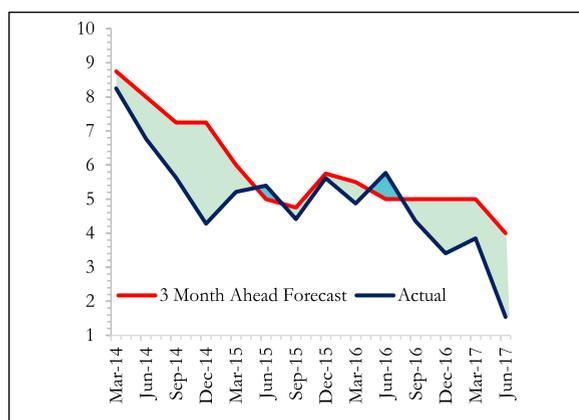
1.27 The GST Council—a remarkable institutional innovation in the governance of cooperative federalism, and one that has proven to be so already in its first ten months of existence—will need to take up these challenges in the months ahead to take India from a good GST to an even better one.

III. PARADIGM SHIFT TO LOW INFLATION?

1.28 Is India undergoing a structural shift in the inflationary process toward low inflation?

1.29 Research indicates that consumer price inflation has undershot professional forecasts fairly consistently over the last 5 years or so, globally as well as in the advance economies. In the Indian context, evidence seems to be pointing to same conclusion—though the errors have been on both side over longer time horizon. More recently such shifts seem to have been missed (Figure 1 and Figure 2, respectively); for example, in the last 14 quarters, inflation has been overestimated by more than 100 basis points in six quarters

Figure 1. CPI Inflation - RBI Forecast² and Actual



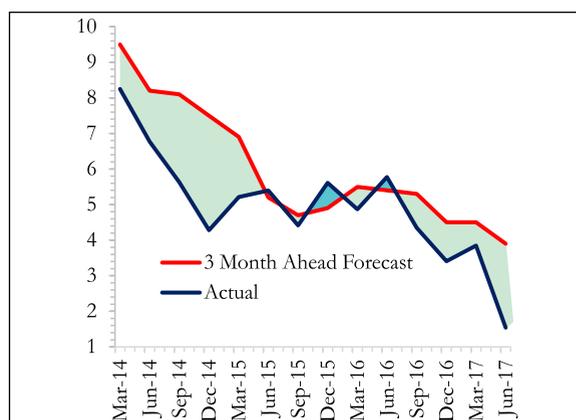
Sources: RBI and Survey Calculations

(three in 2014 and three in the most recent period) with an average error of 180 basis points (and that too for a very short-term forecast, just three months ahead) (Figure 1). It must also be noted that during this period the forecast was within 50 bps of the outcome in 4 out of 14 quarters (March 2014, June, September and December 2015) and within 25 bps in 1 out of 14 quarters (December 2015). The record of professional forecasters is similar (Figure 2). Actual lesser inflation than forecast could well reflect the extraordinary developments such as the durable collapse of international oil prices.

1.30 The question going forward is whether there is a paradigm shift in inflation and what it implies for monetary management.

1.31 Consider first a long term perspective on inflation in India shown in Figure 3. Over the last four decades (beginning 1977), there have been broadly four phases: high inflation, averaging 9 percent, for about 23 years; low inflation of about 4 percent for 5 years between 2000 and 2005; a resurgence

Figure 2. CPI Inflation -Professional Forecast and Actual



of inflation back to about 9 percent during the period 2006-2014; and now a new phase of relatively low, possibly very low, inflation.³

1.32 Figure 3 helps identify the drivers of inflation. Broadly, high inflation, and especially inflation peaks, coincide with surges in commodity prices, especially for oil and food; in some cases, they are caused by one-off factors such as sharp exchange rate depreciation.

1.33 So, if there are structural changes in the oil market and in domestic agriculture, the inflationary process could also experience structural shifts. As elaborated below, there are reasons to believe that both changes are underway.

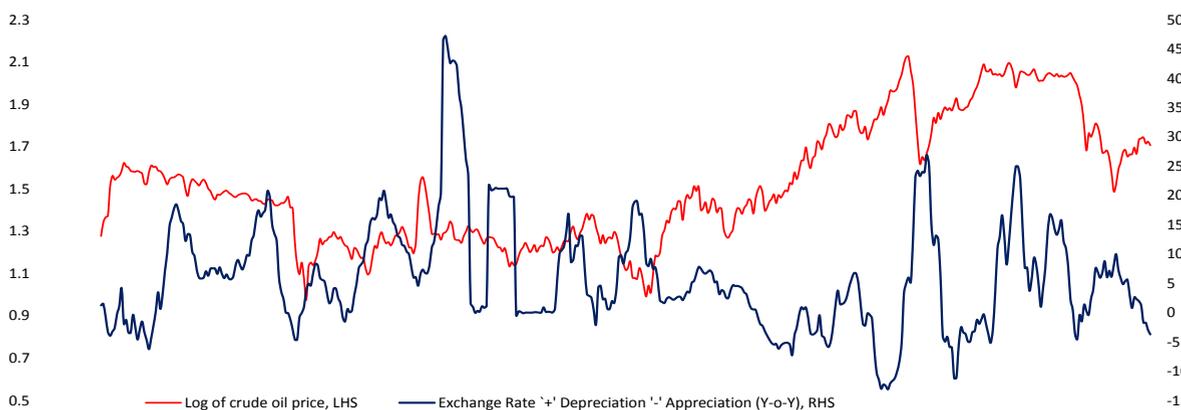
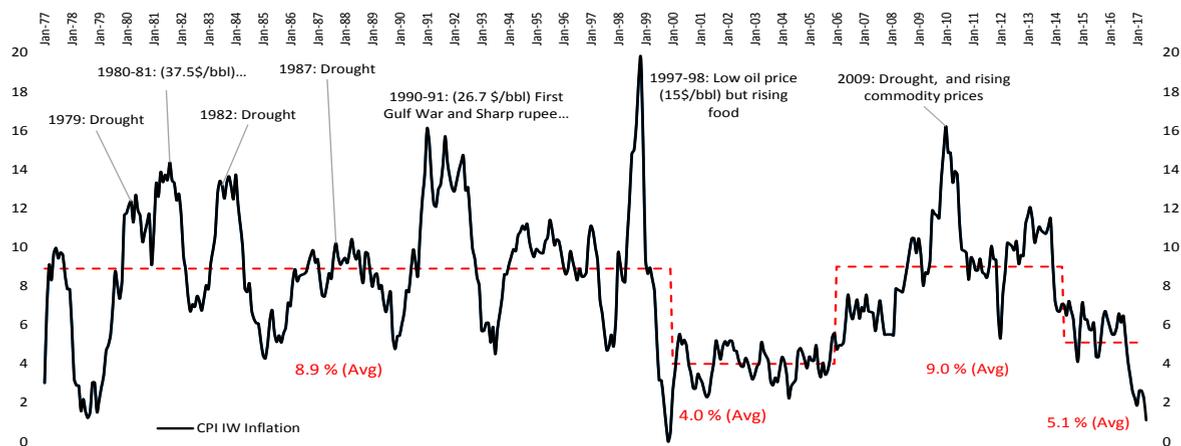
Oil

1.34 It has become almost an involuntary reflex to cite geopolitics in the list of risks to oil prices, and hence to domestic inflation. But these risks may well be diminishing substantially. The oil market is very different today than a few years ago in a way that

² In Figure 1, the inflation forecast is estimated as the mid-point of the confidence bands in the fan charts of respective monetary policy statements. Figures 1 and 2 start in March 2014 because 3-months ahead projections (embodied in the "fan charts") are not available for previous periods.

³ Headline CPI inflation is now below 2 percent but even refined core (which strips out all the volatile food and fuel components), has now gone below 4 percent. This compares very favorably with India's long-run inflation performance of close to 9 percent and with the average of refined core inflation of 6.8 percent in the CPI-New Series from January 2011 onwards.

Figure 3. Long term Inflation⁴ (1977-2017)



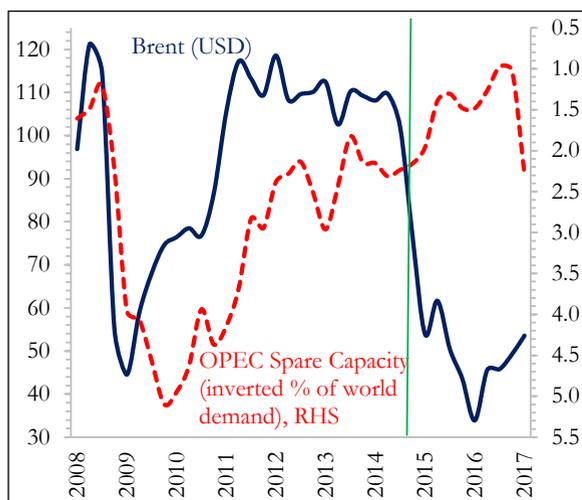
Sources: Labour Bureau, Reserve Bank of India and World Bank.

⁴ Inflation based on the Consumer Price index for Industrial Workers (CPI-IW) released by the Labour Bureau is used since it is available for a longer period. The new series of Consumer Price Index – Combined (CPI-C) released by the Central Statistics Office (CSO) is only available since 2012-13. However, the two series move very closely with a correlation coefficient of 0.94 (for 2012-13 to 2016-17, the period when both the series are available).

imparts a downward bias to oil prices, or at least has capped the upside risks to oil prices.

1.35 The exploitation of shale oil and gas—courtesy of sophisticated new technologies such as hydraulic fracturing—have increased the supply of oil from non-OPEC countries, especially from North America. Moreover, this supply has two significant properties. It is profitable at prices close to \$50 per barrel and supply responds more quickly to price changes because of much lower capital costs than for conventional oil. As a result, OPEC has less control over oil prices than it used to. Figure 4 plots OPEC’s swing capacity and oil prices. Before 2014, the two moved closely together but since then, the two have completely decoupled.

Figure 4. OPEC’s Fading Market Power?

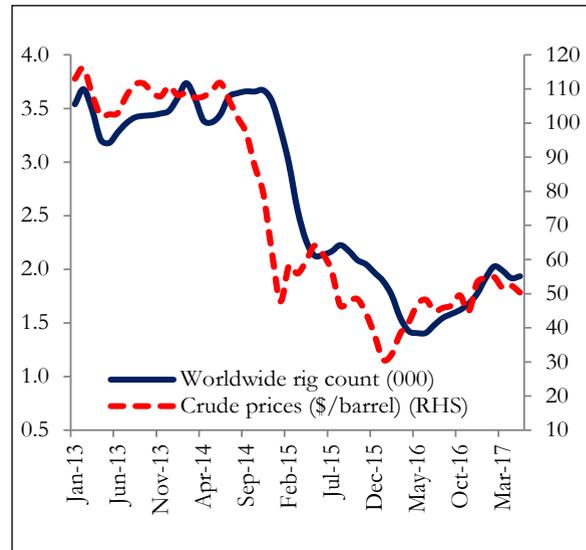


Source: US Energy Information Administration (EIA)

1.36 Figure 5 plots the worldwide count of rigs and oil prices. Here too the relationship is striking, with rig capacity declining in response to lower oil prices and quickly expanding as oil prices rise.⁵ This accordion-like quality of shale oil and gas combined with estimates that viability is achieved close to \$50 per barrel means that oil prices are broadly capped.

⁵ A broadly similar relationship holds between the flow of rigs and oil prices.

Figure 5. The Shale “Accordion”



Source: Baker Hughes

1.37 Going forward, therefore, it is not that oil prices will not be volatile nor is it the case that they will never rise above the \$50 “ceiling.” Rather, shale technology will ensure that prices cannot remain above this ceiling for any prolonged period of time because of rapid supply responses which will take the prices toward the marginal cost of production of shale. The dramatic decline in the cost and prices of renewables will only re-inforce this tendency.

1.38 In sum, geopolitical risks are simply not as risky as earlier. Technology has rendered India less susceptible to the vicissitudes of geo-economics (OPEC) and geo-politics (Middle East). If, and to the extent that, changes prove permanent, the consequences for the inflationary process need to be taken into account.

Agriculture

1.39 Assessed over longer spells of time (decades), Indian agricultural performance has been moderately successful. One achievement is that production, especially of

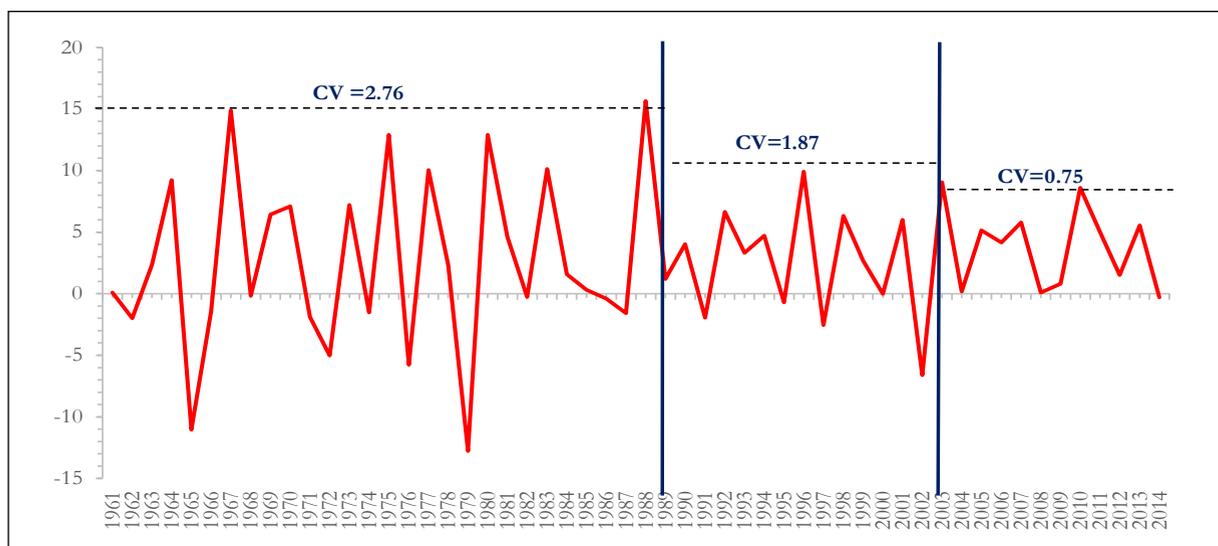
cereals—the major item of consumption—has become less volatile and more resilient to poor monsoons.

1.40 Figure 6 plots real growth in agricultural GDP. Average growth has remained in the 3 percent range but the volatility of output growth as measured by the coefficient of variation has declined from 1.87 percent in the period 1988-2004 to 0.75 since.

1.41 Figures 7 & 8 plot the growth of cereals and pulses production respectively. Here too, the remarkable decline in volatility

is evident for pulses and especially for cereals (Table-5). The coefficient of variation has declined dramatically in the last decade. What is striking about Figures 6 to 8 is that there are fewer troughs (growth rates of 1 percent or less)—in the key periods of inflation threat. Reasonably high support prices combined with effective procurement in the high-production, irrigation-intensive states (Punjab, Haryana, Uttar Pradesh, and recently also Madhya Pradesh) have contributed to stability in cereal production.

Figure 6. Agriculture GDP Growth in India (per cent)



Source: CSO

Note: CV – Coefficient of Variation

Figure 7. Annual growth of Cereal Production (per cent)

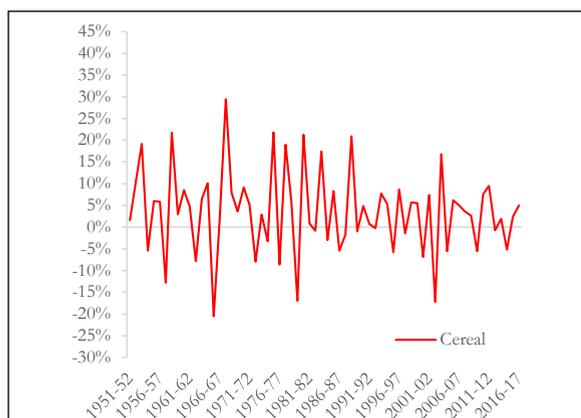
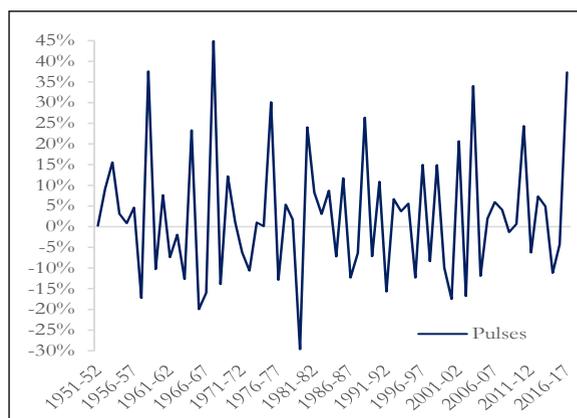


Figure 8. Annual growth of Pulses Production (per cent)



Source: Directorate of Economics & Statistics, Ministry of Agriculture

Table 5. Variability in Pulses and Cereal Production

	Mean		Coefficient of variation	
	Pulses	Cereal	Pulses	Cereal
1951-2017	2.6%	3.6%	5.88	2.69
1951-1965	2.2%	3.4%	6.86	3.19
1966-1989	2.8%	5.6%	6.03	2.04
1990-2004	0.7%	1.5%	20.35	5.01
2005-2016	5.3%	2.7%	2.42	1.64

Source: Directorate of Economics & Statistics, Ministry of Agriculture

1.42 What then explains the burst of food inflation during 2007-2011? That episode owed to a combination of a surge in global oil and agricultural prices combined with domestic agriculture policy. On the latter, the current government has responded by changing the framework in which agricultural prices are determined. It has rationalized Minimum Support Price (MSP) awards, liberalized agricultural marketing arrangements, and institutionalized the inflation targeting-cum-Monetary Policy Committee framework.

1.43 In recent months, falling food prices have driven inflation down to historically low levels, reaching 1.5 percent in June. This situation is surely temporary; soon, food prices will normalize. But even when this normalization occurs, inflation is unlikely to go back to its pre-2014 levels. To the contrary, the deep, technology-driven shifts in international energy markets and improvements in domestic policy and agricultural markets may be heralding a new era of low inflation in India.

IV. CONFIDENCE/EXUBERANCE: THE WEDGE BETWEEN ASSET PRICES AND REAL ECONOMY

1.44 As described in detail in Section C later,

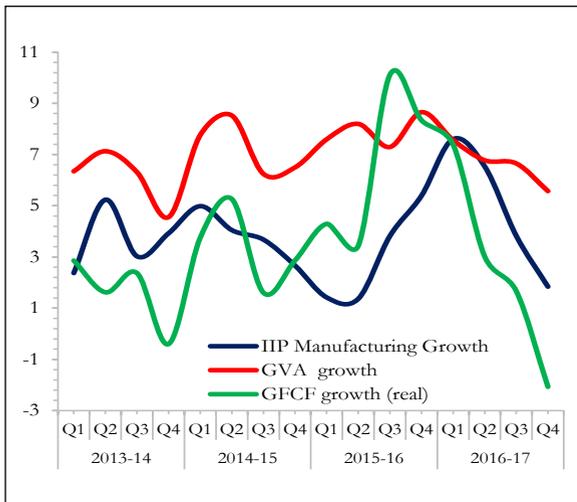
a variety of indicators—Gross Value Added (GVA), Index of Industrial Production (IIP), credit, prices, capacity utilization and investment—all commonly point to a possibly short-run deceleration of economic activity over the course of 2016-17 (Figure 9). Yet, during this period, especially since February 2017, asset prices have risen. For example, the decline in G-sec yields from a high of 7.12 percent to 6.5 percent implies higher bond valuations.

1.45 More strikingly, over the same period, stock prices have risen to record levels, with the Sensex climbing from 28,743 to 32,020, a gain of 11 percent (Figure 10), equivalent to 15 percent in US dollar terms.

1.46 Moreover, the price-earnings (P/E) ratio of the Indian stock market reached a level of 23 in May 2017, and is estimated to have reached about 25 by mid-July. This is substantially greater than the long-run average of 18, and not far from the frothy levels reached in 2007. It is well known from the finance literature that a key condition for sustaining unusually high P/E levels is for future economic and, especially profit, growth to be rapid, and/or for investors to be willing to accept a lower return for holding stocks over other less risky assets (the so-called equity risk premium). Failing these, there is a strong tendency for mean reversion all over the world, illustrated for India in the aftermath of the boom of the mid-2000s (Figure 10).

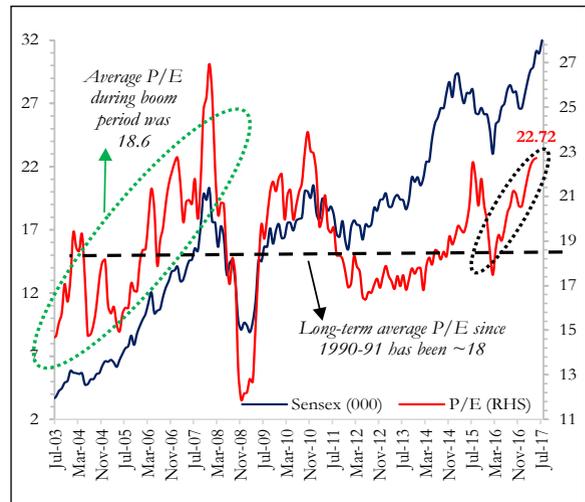
1.47 Whether profits and growth surge—because the recent deceleration proves transitory, or asset valuations adjust—in other words, rational confidence or over-exuberance—remains to be seen. Historical evidence suggests that there is mean reversion towards more realistic valuations, especially when global excess liquidity is driving high valuation in the first place.

Figure 9. GVA, IIP and Investment growth (per cent)



Source: CSO

Figure 10. Sensex & Price-Earnings Ratio (P/E)



Sources: RBI & BSE

V. FARM LOAN WAIVERS: MACRO-ECONOMIC IMPACT⁶

1.48 Recently, announcements or promises of farm loan waivers have been made in some form by Uttar Pradesh, Karnataka, Maharashtra, Punjab, and Tamil Nadu. The Supreme Court of India has stayed the decision of the Madras High Court to provide loan waivers to all farmers instead of only to small and marginal farmers. There is the possibility of a contagious spread to other states. This is in contrast to the previous episode in 2007-08 when farm loan waivers were awarded India-wide by the Centre.

1.49 Proponents have seen waivers as a means of helping farmers who have been subject to stress from successive shocks to agriculture: two years of inadequate rain followed by a year of large price declines. Others, including the Governor of the RBI, have pointed out that these waivers will have a long-term impact on the culture of loan repayments and induce moral hazard: waivers favor those who have borrowed relative to those who have been more thrifty, and those who have borrowed relative to those who

have repaid their loans; and they also favor those who have borrowed from formal sources relative to those who have borrowed, often at more usurious terms, from informal sources. Some have also suggested that there are more efficient and targeted ways of helping farmers.

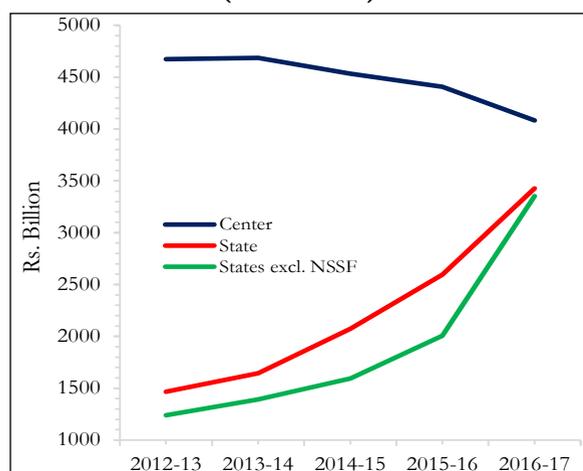
1.50 This section does not assess the normative dimensions of farm waivers. Instead, it undertakes a macro-economic analysis to understand their immediate consequences for an economy yet to gather full momentum. To the extent that the cyclical impact has been discussed, it has been presumed to be inflationary. But in fact, the analysis below shows that the short-term consequences are likely to be quite deflationary.

1. Potential magnitudes of loan waivers

1.51 Demands for farm loan waivers have emerged at a time when state finances have been deteriorating. The UDAY scheme has led to rising market borrowings by the states (Figure 11), expected soon to overtake central government borrowings. As a result, spreads on state government bonds relative to g-secs have steadily risen by about 60 basis points

⁶ The basic facts on farm indebtedness are provided in Appendix 1.

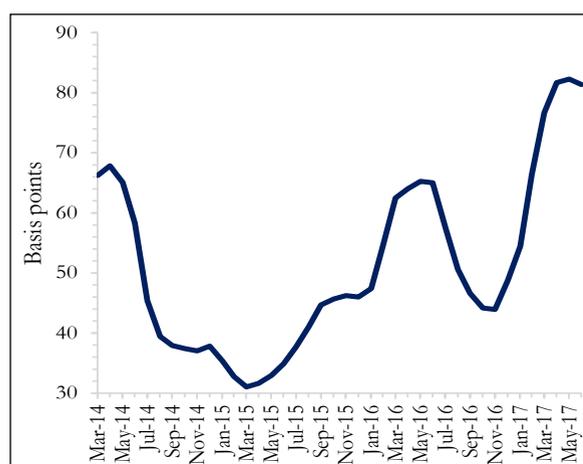
Figure 11. Net Market Borrowing (Rs billion)



Sources: RBI, JP Morgan

Note: NSSF refers to National Small Savings Fund that represents non-market borrowings.

Figure 12. State Development Loans (SDL)-Gsec Spread (5-month rolling average, bps)⁷



Sources: RBI and HSBC.

in the last six months (Figure 12). In turn, spreads on corporate bonds are estimated by J.P. Morgan to have risen by about 40 basis points, which could lead to reductions in corporate spending.

1.52 Estimating the macro-economic impact requires assumptions about the magnitudes of waivers. Three states have

been specific about the waiver schemes: UP has announced waivers of up to Rs. 1 lakh for all small and marginal farmers; Punjab's limit is Rs. 2 lakh for small farmers without defining who these are; and Karnataka has limited the waiver amount to Rs. 50,000 (Maharashtra's waiver terms are still unclear). The waiver announcements also do not make clear whether the amounts will apply to households or loans: typically, a household will have more than one loan.

1.53 It is assumed that waivers will apply at the loan rather than household level, since it will be administratively difficult to aggregate loans across households. It is also assumed that other states will follow the UP model. On this basis, an upper bound of loan waivers at the All-India level would be between Rs. 2.2 and Rs. 2.7 lakh crore (Appendix 1, Table 1). A state-wise assessment of the loan waivers is in Box 1⁸.

2. Macro-economic impacts

1.54 At its most basic, farm loan waivers simply transfer liabilities from private sector to public sector balance sheets. The impact on aggregate demand will then depend on which sector has the greater propensity to consume out of wealth. Of course, states don't actually have a propensity to consume out of wealth, but there is a link between the two because their spending is influenced by their need to respect their Fiscal Responsibility Legislation (FRL) targets. So, if they assume higher debt, they will in many cases need to cut other spending (or increase taxes). Once these spending changes take place, there will be second-round effects.

1.55 The analysis below assumes that the farm loan waivers spread throughout the country, along the lines of the discussion

⁷ Average SDL yield is the monthly average of yields of all states that issued state paper in that month.

⁸ Even if only the five states that have made the announcement to implement it, the estimated impact will be Rs.1-1.25 lakh crore.

Box 1. State-wise Fiscal Assessment of Loan Waivers

What is the fiscal ability of states to implement the farm loan waivers? Assessing this requires estimating the potential cost of the waivers, quantifying the fiscal space for the states relative to their FRL limits, and comparing the two. The analysis is shown in Table below.

States are ranked by the extent of fiscal space. The fiscal limit for most states is 3 percent of GSDP. However, six states (Odisha, Chhattisgarh, Telangana, Madhya Pradesh, Karnataka, and Bihar) have higher limits of 3.5 percent of GSDP because they have strong overall fiscal positions, as deemed by the Fourteenth Finance Commission's (FFC's) criteria.

Comparing limits with the BE estimates for 2017-18, only seven states have fiscal space exceeding 0.5 percent of GSDP. The states with the most space in rupee terms are Maharashtra, Gujarat, West Bengal, Karnataka and Madhya Pradesh. In relative terms, Jharkhand also has considerable space, amounting to 0.7 percent of GSDP. States with no additional deficit capacity include Uttar Pradesh, Telangana, Rajasthan, Andhra Pradesh, and Odisha.

State-Specific Fiscal Space for Farm Loan Waiver

State	GSDP current MP (2017-18)	FD without UDAY in 2017-18 (BE)	Fiscal Ceiling post FFC	Fiscal Space	FD without UDAY in 2017-18 (BE)	Fiscal Ceiling post FFC	Fiscal Space
	Lakh crore	In Rupee Thousand Crore			Per cent of GSDP		
Andhra Pradesh	7.7	23.1	23.1	0.0	3.0	3.0	0.0
Uttar Pradesh	14.2	42.6	42.6	0.0	3.0	3.0	0.0
Rajasthan	8.3	24.8	24.8	0.0	3.0	3.0	0.0
Kerala	7.5	25.8	22.4	0.0	3.4	3.0	-0.4
Himachal Pradesh	1.4	4.9	4.2	0.0	3.5	3.0	-0.5
Odisha	4.1	14.4	14.4	0.0	3.5	3.5	0.0
Chhattisgarh	2.8	9.7	9.7	0.0	3.5	3.5	0.0
Maharashtra	25.4	38.8	76.2	37.4	1.5	3.0	1.5
West Bengal	10.8	19.4	32.4	13.1	1.8	3.0	1.2
Gujarat	12.8	23.2	38.3	15.1	1.8	3.0	1.2
Jharkhand	3.0	6.9	9.1	2.2	2.3	3.0	0.7
Haryana	6.2	16.2	18.6	2.4	2.6	3.0	0.4
Karnataka	12.8	33.4	44.8	11.5	2.6	3.5	0.9
Tamilnadu	15.0	42.0	45.1	3.2	2.8	3.0	0.2
Uttarakhand	2.3	6.6	6.8	0.2	2.9	3.0	0.1
Punjab	5.0	14.6	15.1	0.5	2.9	3.0	0.1
Bihar	6.3	18.1	22.1	4.0	2.9	3.5	0.6
Madhya Pradesh	7.4	21.1	25.7	4.7	2.9	3.5	0.6
Telangana	7.6	26.1	26.6	0.5	3.5	3.5	0.0
TOTAL	160.6	411.6	502.2	94.6	2.6	3.1	0.6

Notes: Fiscal ceiling is calculated based on the 14th Finance Commission (FFC) recommendations. The necessary condition for being allowed to use additional fiscal space is a zero revenue deficit in the current and preceding years. Then, 0.25% of GSDP worth of fiscal space is available if the interest payment to revenue receipt ratio is less than or equal to 10%; and an additional 0.25% of GSDP if the debt to GDP ratio is less than 25% of GSDP. The fiscal deficit number for Uttar Pradesh, Punjab and Uttarakhand is for 2016-17 BE.

above. In that case, total loan waivers could reach Rs. 2.7 lakh crore. At the same time, it is assumed that the Centre will not—as emphasized by the Finance Minister—assume any responsibility for the waivers. So the state governments will have to finance the waivers on their own.

1.56 The waivers will have four effects on aggregate demand:

- Private consumption impact via increases in private sector net wealth
- Public sector impact via changes in government expenditure/taxes
- Crowding out impact via higher borrowings by state governments
- Crowding in impact via higher credit availability as bank NPAs fall

1.57 Consider each in turn.

1.58 *Private consumption impact:* Loan waivers will increase the net wealth of farm households. Wealth data is not available, it is assumed that net income will increase by the amount of loans waived off (whereas in fact this year's disposable income rises by only the debt service forgiven). Using cross-sectional data on farm households, a consumption elasticity out of (temporary) income of about 0.25 is estimated.⁹ Since loan waivers are assumed to increase aggregate income by 28 percent, consumption is estimated to increase by 7 percent or about Rs. 55,000 crore. This estimated consumption impact is on the higher side because a World Bank study on the “Agricultural Debt Waiver and Debt Relief Scheme” of 2008-09 found that consumption did not rise after the loan waivers.¹⁰

⁹ This might seem a low number because marginal propensities to consume are, typically, high. But behavioral economics suggests that a reaction to an actual increase in income might be very different from a notional increase based on an expenditure avoided.

¹⁰ Giné, X and M. Kanz, 2014, “The Economic Effects of a Borrower Bailout Evidence from an Emerging Market,” World Bank Policy Research Paper, WPS7109.

1.59 *Public sector impact:* This impact will in turn depend upon the extent of fiscal space that state governments have under their respective FRLs. Box 2 elaborates on the public sector impact methodology. The key intuition is that loan waivers involve spending that does not add to demand (because these are liability transfers to the states' balance sheets) but the actions taken to meet FRL targets (higher taxes and/or lower expenditure) will reduce demand. It is estimated that for states with fiscal space, loan waivers would add about Rs. 6,350 crore to demand via the additional interest costs. For states without space, waivers could reduce demand by about Rs. 1.9 lakh crore. The net effect of aggregating over the two cases state by state yields a reduction in aggregate demand of close to Rs. 1.9 lakh crore.

1.60 Now, for the second round effects.

1.61 *Crowding out impact:* Loan waivers will result in higher borrowing by the states with fiscal space. This could squeeze out private spending by firms. Analysis by J.P Morgan suggests that yields on corporate bonds have already risen by about 40 basis points post UDAY.

1.62 *Crowding in impact:* Bank balance sheets will improve to the extent that non-performing farm loans are taken off their books. So they might be able to provide additional financial resources to the private sector, leading to greater spending. The World Bank study found that lending increased following the 2008-09 waiver even if not in the districts with greater exposure to the waiver.

1.63 It is estimated that these two effects would almost cancel each other.

Box 2. The Macro-Economic Accounting of Loan Waivers

Consider loan waivers for two polar cases: where states have no space and have some space. In both cases,

$$FD = E - R \quad (1)$$

Where FD is a state's fiscal deficit, E and R are its total expenditures and non-debt revenues, respectively. Suppose states grant loan waivers to the extent of LW.

$$\text{Now } FD = E - R + LW \quad (2)$$

If before the waiver states were at their deficit limits, then in equation 2, they will either need to reduce E (by cutting expenditures) or increase R in order to accommodate higher LW for an unchanged FD.

The key insight is this: while the measured fiscal deficit might not change, aggregate demand will change significantly. From the perspective of the economy, LW is just an asset transaction (in macro-accounting parlance "below-the line") in which states effectively make payments to the banks on behalf of the farmer. At the same time, the increase in R or reduction in E necessary to respect the FRL target will have a real macro impact, reducing aggregate demand. So in this case, granting loan waivers would reduce aggregate public sector demand, potentially by large amounts.

Now the second case: If states had fiscal room before the waiver, then an increase in LW will not require changes in R or E, except to the extent that the higher borrowing will entail additional interest costs. So in this case the macro impact will be minor, comprising not the increase in LW (which has no impact) but the extra interest arising from the additional borrowing.

1.64 *Total impact:* Adding up these effects yields an impact on aggregate demand of minus Rs 1.1 lakh crore¹¹. In other words, loan waivers could reduce aggregate demand by as much as 0.7 percent of GDP, imparting a significant deflationary shock to an economy yet to gain full momentum. Note, however, that this is an upper bound. The actual impact will depend on the number of states that actually decide to grant waivers, and how they distribute them over time.

VI. AGRARIAN STRESS AMIDST SURFEIT?

1.65 What explains the sudden demand for loan waivers? Is it possible that farm stress has actually intensified when weather conditions are the best they've been in years? After all, incomes and weather conditions are normally highly correlated. When weather was good and international demand was booming during 2006-12, farm incomes soared. Then, when rainfall proved severely deficient, harvests were poor and hardship emerged. But last two years have received

adequate rains and good crops, raising the puzzle of why there is stress at a time of plenty.

1.66 Agrarian stress is difficult to measure objectively. The manifestations are easy to see—demands for loan relief and restiveness in a number of states—but it is difficult to disentangle their political and economic origins. For example, the widespread demand for loan waivers could simply be a demonstration effect from the UP loan waiver.

1.67 Nevertheless, there seem to be proximate economic causes for stress, reflected in lower prices and lower farm revenues.¹²

1.68 To assess the situation, the Ministry of Agriculture's Agmarknet database was used. This contains daily data on the arrivals of farm produce in the major mandis and the prices received by suppliers. For a number of major commodities—wheat, arhar, moong, tomatoes, potatoes, and onions—estimates

¹¹ This impact is estimated to be around Rs. 57,900 crore for the states who have already announced farm loan waivers.

¹² Farm income cannot be estimated because of lack of detailed data on costs; instead revenues as the product of quantities and prices are measured.

are provided for prices, quantities, revenues, and, where relevant (wheat and pulses), the percentage of crop that was sold at prices below the Minimum Support Price (MSP). The database has information on an all-India basis, as well as for the individual states. All the calculations are for the agricultural year (July-June).¹³

1.69 Some broad patterns are discernible. Economic distress—as measured by real revenues (prices times the quantity of arrivals deflated by the rural CPI)—is not a generalized phenomenon.¹⁴ For example, it does not afflict wheat and Bengal gram (“chana”), where market quantities and prices have risen, resulting in rising real revenues.

1.70 But there does seem to be a decline in real farm revenues in pulses and some vegetables like potato (Figure 13). In the agricultural year ending in June 2017, relative to the previous year, real revenues have declined most in the case of moong (30 percent) and least in the case of potatoes (4 percent) with arhar and moong posting declines of around 10 and 28 percent, respectively. However the prices of onion and tomato started rising recently.

1.71 There have also been interesting regional variations. Uttar Pradesh appears to have done reasonably well in most crops, including wheat and potatoes. In the case of wheat, there was a substantial increase in procurement, reflected in a decline in the magnitudes sold at prices below MSP. In contrast, Madhya Pradesh, which had recently been favoring wheat, saw an increase in the amount of sale at prices below MSP. Pulses witnessed large reductions in prices over the previous year, especially moong, although the price declines were steeper in

some states (Rajasthan in moong and arhar in Karnataka and Madhya Pradesh).

1.72 Clearly, increased supply led to large declines in prices. The puzzle is why it reduced prices so much that it depressed farm revenues. After all, in 2014 output surged in a number of crops including arhar, potatoes, and onions without yielding revenue declines. This year appears to have been atypical in the magnitude of price decline.

1.73 Two possible explanations suggest themselves. First, outlets for farmers were narrow on account of stock limits on wholesalers and retailers and there were restrictions on exports whereas imports were more liberal on some commodities. Suggestive evidence comes from the contrasting experiences of Bengal gram, on the one hand, and arhar and moong on the other. Fewer restrictions for the former may have helped shore up market prices received by farmers. Second, weaker demand than in previous years could have weighed on prices.

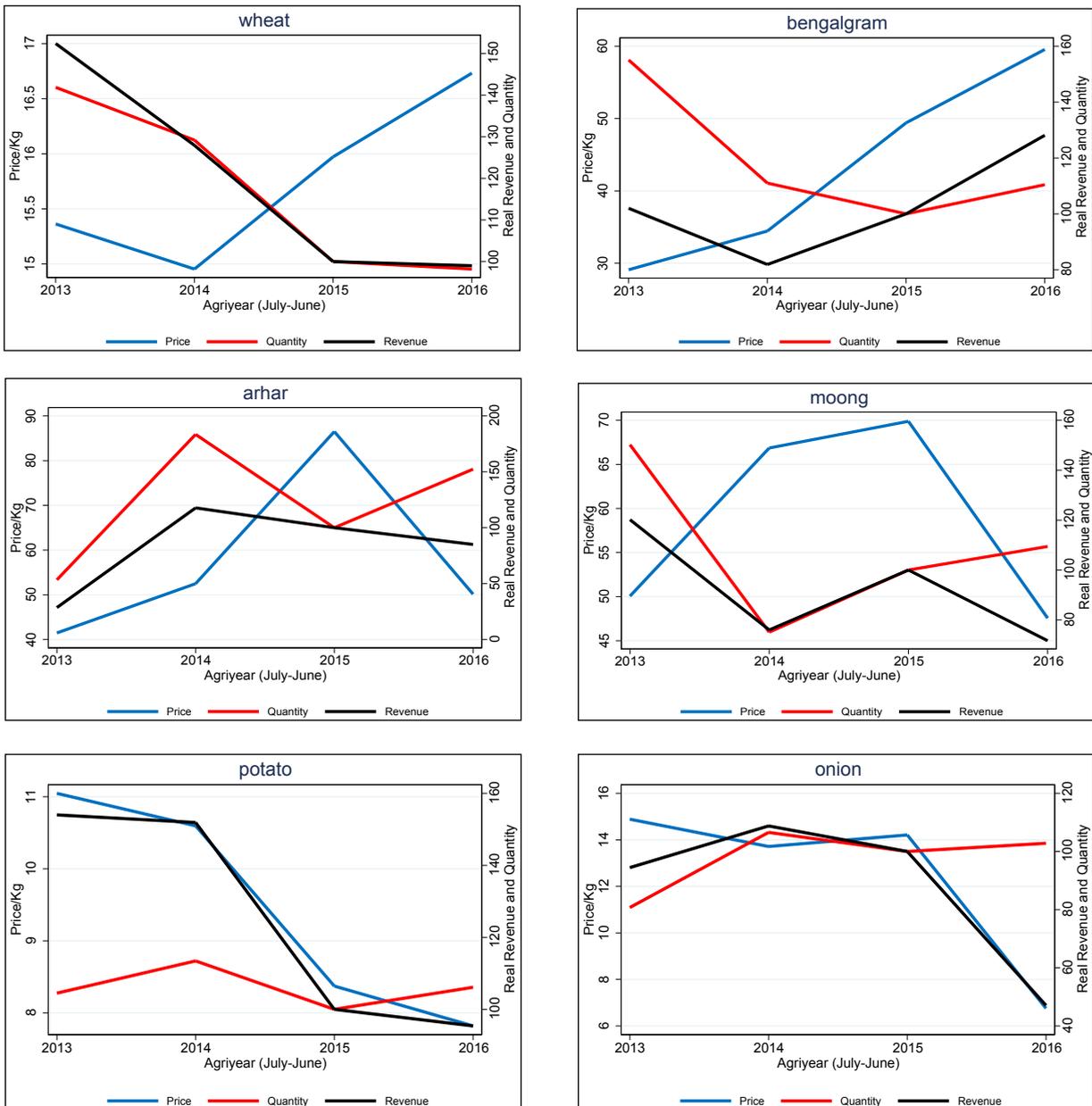
1.74 In contrast to expectations of some observers, demonetization did not reduce supply of the rabi crop. The cash shortages were particularly pronounced in the rural areas, and they were reinforced by a credit squeeze, which saw loan growth (the blue line in Figure 14) slowing from 16 percent in September to 8-9 percent in the first quarter of this year and further until end-May.

1.75 This cash and credit squeeze could have reduced acreage and the use of fertilizer. Yet rabi plantings last year—which coincided with the peak period of demonetization—and output were unscathed (growth of 5.7 percent in area

¹³ Data on arrivals do not account for all of production. Agmarknet covers 48.7 per cent of the regulated markets and covers unregulated markets as well. The coverage is, however, representative at both state and All-India levels. The estimates are based on a common sample of states across time.

¹⁴ If there is money illusion, nominal incomes would be the right measure to monitor. Since rural CPI inflation was lower in 2016-17 compared to 2015-16, declining real revenues would signal larger declines in nominal revenues.

Figure 13. Selected Agricultural Commodities: Real Revenues, Quantities and Prices



Sources: Agmarknet and Survey estimates

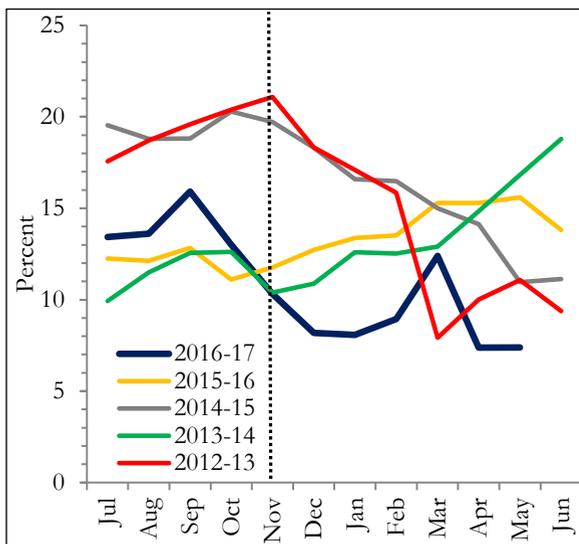
Notes: Agriculture year 2016 stands for 2016-17 and like wise others too. Prices are weighted averages. Real revenue and quantity are indexed with base agriculture year 2015-16=100

sown and 7 percent in production).

1.76 Finally, there may also be some behavioral factors at play. Increased planting of pulses last year was a response both to record high market prices as well as large increases in MSP with promises by the government of more effective procurement.

But prices at the time of marketing have been well below those last year. Despite record increases in procurement (the procurement of Kharif pulses increased from negligible levels in 2015-16 to 1.5 million tonnes on 2016-17), a significant fraction of sales of some pulses has been below MSP. Thus, the distress could have been because received

Figure 14. Credit Growth (%) - Agriculture (Scheduled Commercial Banks)



Source: RBI and Survey Calculations

prices were lower than those last year, and mostly lower than MSP prices.

VII. LONG-TERM BENEFITS AND SHORT-TERM COSTS OF DEMONETIZATION: AN UPDATE

1.77 The Economic Survey 2016-17, Volume I had discussed the potential consequences of demonetization, mostly in theoretical terms because data available at the time was limited. Six months on, there is more data to add to the discussion. The discussion is organized around a few indicators that were highlighted in Volume I.

1. Cash and Digitalization

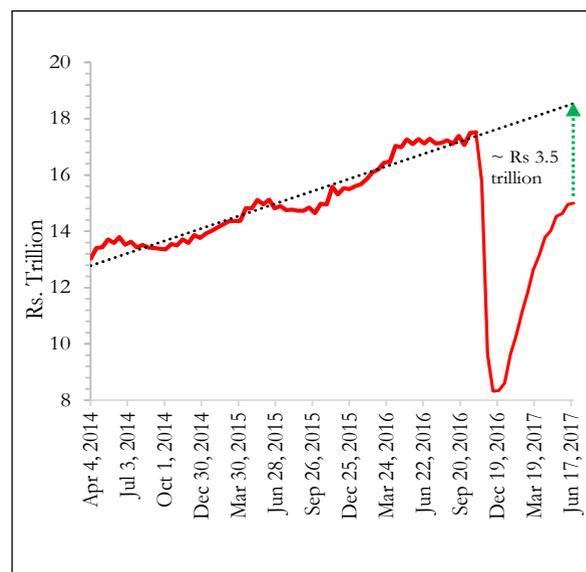
1.78 Reducing the use of cash and increasing the use of digital modes of payment were major aims of demonetization. What has been the progress so far?

1.79 As shown in the Economic Survey 2016-17, Volume-I, India relied to a greater extent on cash than comparator countries, reflected in a high cash-GDP ratio of about 12 percent and a rising cash-GDP ratio over time (Figures 2 and 3 in Chapter 3 of

Economic Survey 2016-17, Volume I). It has been nine months since demonetization went into effect. Assuming—and this is a critical assumption—that remonetization has happened fully and that the supply of cash is now fully reflective of demand, then today's level of cash can be compared with pre-demonetization levels.

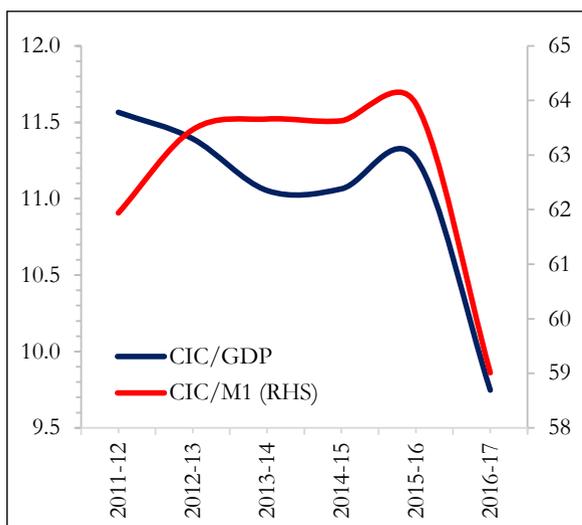
1.80 Figure 15 plots the level of cash since 2014 and also shows a trend line, pointing to where cash might have been in the absence of demonetization (it is not accurate to compare levels today with levels prevailing on Demonetization day). In levels, and as a share of GDP and money, there seems to have been a sharp and equilibrium decline in the use of cash: as of July, the holding of cash is about Rs. 3.5 lakh crore (20 percent) less than what might have been the case had pre-demonetization trends prevailed, consistent with the calculations presented in Volume I. This reduced cash holding is illustrated in Figure 16 which plots cash as a share of GDP and money (M1). The former has declined by about 1.6 percentage points down from 11.3

Figure 15. Demonetization and Cash Holdings (Rs. Trillion)



Source: RBI and Survey Calculations

Figure 16. Currency in Circulation to GDP and M1 (per cent)



Source: RBI and Survey Calculations

percent of GDP to 9.7 percent, and the latter by 5 percentage points.

1.81 Of course, a definitive judgment can only be passed if current levels of cash relative to GDP persist over time but so far, reliance on cash appears to have declined sharply. This decline suggests that a considerable portion of cash holdings was used for savings, which has now been transferred to the banking system. In addition, post-demonetization a new enforcement and compliance regime and increased digitalization have reduced the use of cash for transactions.

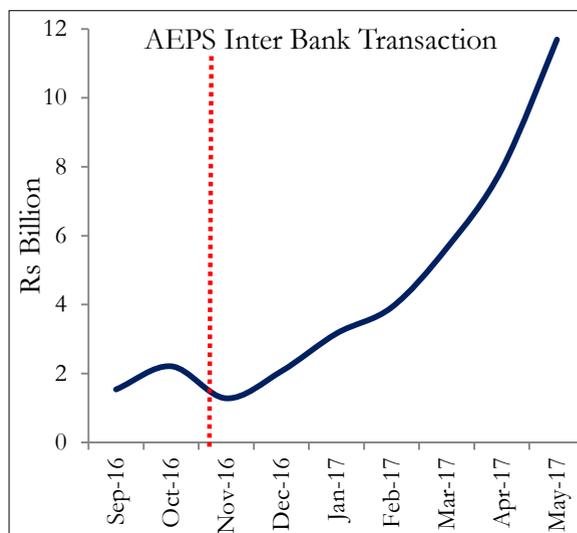
1.82 What about digitalization? Digitalization can broadly impact three sections of society: the poor, who are largely outside the digital economy; the less affluent sections, who are becoming part of the digital economy, having acquired Jan Dhan accounts and RuPay cards; and the affluent, who are fully digitally integrated via debit and credit cards. Different indicators capture the impact on each of these categories: Aadhaar enabled payments (AEPS) for the ‘digitally excluded’;

Rupay cards for the intermediate category; and credit and debit cards for the digitally connected. These Figures are presented in Figures 17-20.

1.83 It is clear that there has been a substantial increase in digitalization across all categories. And even though the immediate post-demonetization surge has moderated in some cases, the level and pace of digitalization are still substantially greater than before demonetization. This is also true for a category of large customers whose transactions are captured in Figure 20.¹⁵

1.84 Demonetization was expected to reduce black market transactions in real estate which would be manifested in reduced real estate prices (Figure 21, which depicts the weighted average price in India’s seven major cities). Even prior to demonetization, there was a deceleration in house price inflation, and there was a further reduction in prices post-demonetization. The decline has since been reversed, and prices appear to be rising again.

Figure 17. AEPS Digital Transactions (Rs Billion) for “Digitally Excluded”



Source: NPCI

Note: AEPS – Aadhaar Enabled Payment System

¹⁵ Data based on the number of digital transactions (as opposed to their value) conveys a similar picture to that shown in Figures 17-20.

Figure 18. Digital Transactions for the Less Affluent Consumers (Rs Billion)

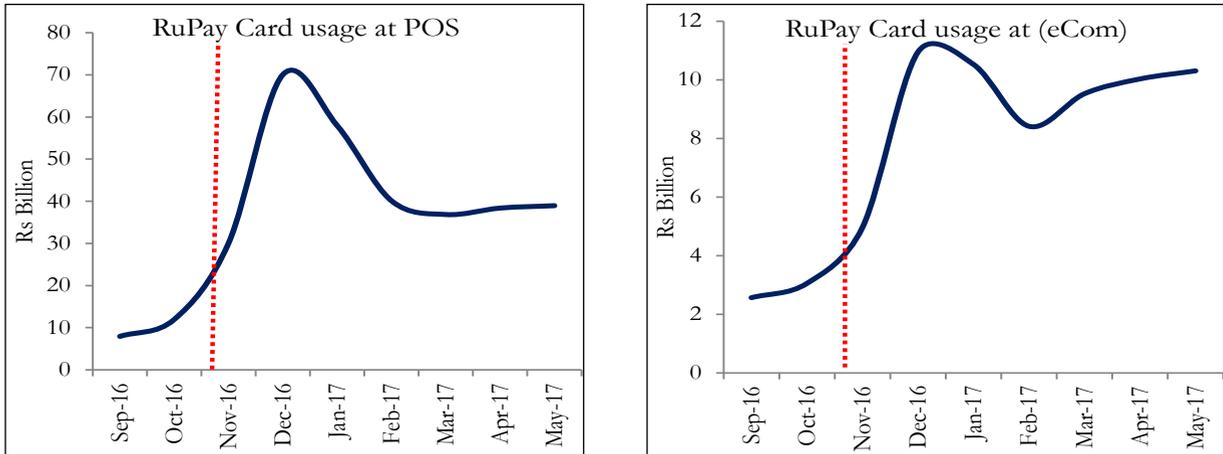


Figure 19. Digital Transactions for Affluent Consumers (Rs Billion)

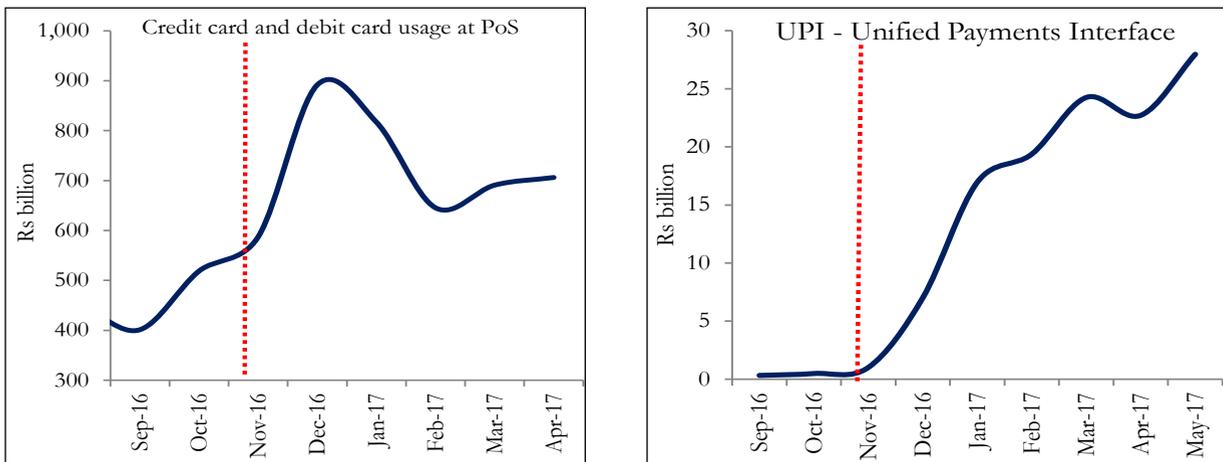
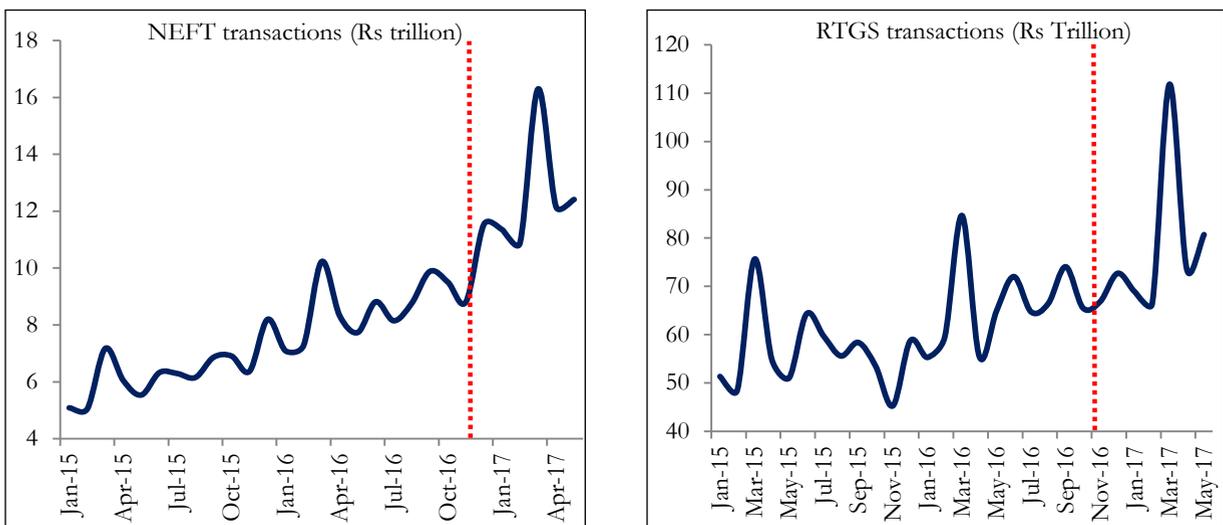
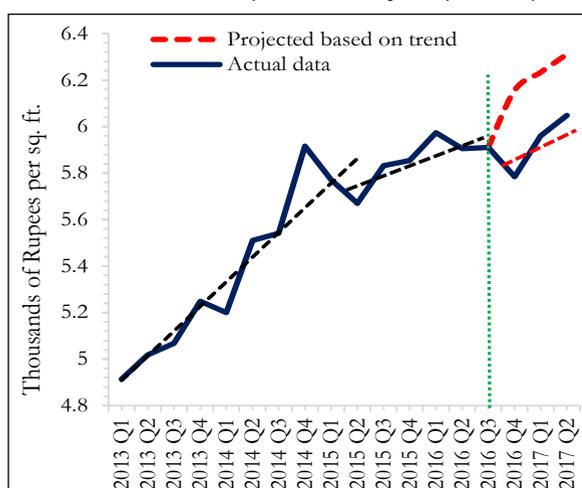


Figure 20. Digital Transactions for Large Customers (Rs Trillion)



Source: NPCI

Note: NEFT – National Electronic Funds Transfer; RTGS –Real Time Gross Settlement, BHIM- Bharat Interface for Money

Figure 21. Real Estate Prices¹⁶ in Major Indian Cities (Seasonally adjusted)

Source: Knight Frank

It remains to be seen whether the impact of demonetization on the housing market will be permanent.

2. Income Tax Compliance

1.85 Did the signaling effect of demonetization—namely that there would be decreased tolerance of tax non-compliance highlighted in the Union Budget for 2017-18—have an impact on tax compliance? According to the tax data, the number of new individual tax payers (based on returns filed) increased from 63.5 lakh in 2015-16

to 80.7 lakh in 2016-17. But all this increase cannot be attributed to demonetization because there is some natural trend increase in new taxpayers. Instead, this impact by measuring the increase in taxpayers in the post-demonetization period (Nov. 9, 2016-end-March 2017) relative to the increase in the same period the previous year is estimated.

1.86 As the Table 6 shows, the growth of taxpayers post-demonetization was significantly greater than in the previous year (45 percent versus 25 percent). The addition amounted to about 5.4 lakh taxpayers or 1 percent of all individual taxpayers in just a few months. The addition to the reported taxable income (of these new payers) was about Rs.10,600 crore. So, the tax base did expand after demonetization. It is, however, interesting that the average income reported of the new taxpayers-Rs. 2.7 lakh- was not far above the tax threshold of Rs. 2.5 lakh, so the immediate impact on tax collections was muted. The full effect on collections will materialize gradually as reported income of these taxpayers grows.

1.87 Overall, demonetization should continue to pay dividends over time, as the

Table 6. Estimate of Additional Tax Payers Post-Demonetization (Nov. 9-Mar. 31)

	FY 2015-16	FY 2016-17
Growth in New Tax Payer (%)	25.1	45.3
Possible additional taxpayers due to Demonetisation (in Lakh) (calculated as excess over previous year's growth)		5.4
Growth in Returned Income (%)	38.6	54.3
Possible addition of Returned Income (in Crore)		10,587
Average Taxable Income (in lakh)	2.5	2.7

¹⁶ The forecast trend has been derived from a triple exponential smoothing (i.e. Holt-Winters) approach applied to pre-demonetization seasonally adjusted data. The seasonal adjustment is performed using the 'seas' package in R; The data on prices is an average of real estate prices of NCR, Mumbai, Pune, Chennai, Bengaluru, Kolkata, and Ahmedabad, weighted by the value of property sales in each city.

impetus toward formalizing the economy and expanding the tax base that it has set in motion continues.

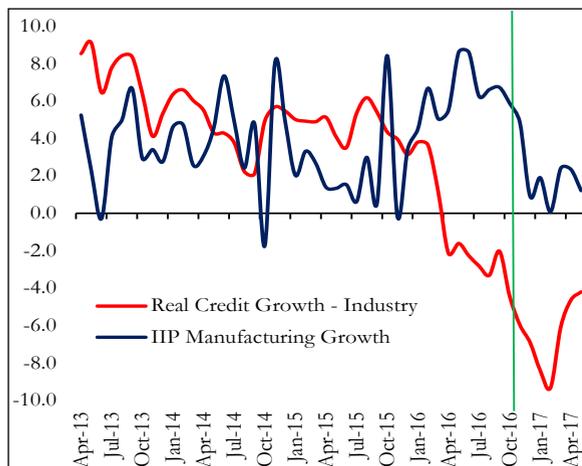
3. GDP

1.88 Real GDP growth declined from 8 percent in 2015-16 to 7.1 percent in 2016-17, as momentum slowed over the course of the fiscal year. Real GDP growth slipped from 7.7 percent in the first half of 2016-17 to 6.5 percent in the second half. Quarterly real GDP growth also shows a deceleration in the third and fourth quarters relative to the first two quarters. The slowdown in these indicators predated demonetization but intensified in the post-demonetization period.

1.89 High frequency monthly indicators—e.g., real credit growth to industry and IIP manufacturing—suggest a similar pattern. The figure also shows that in the last few months the impact seems to have bottomed out, reflected in the bounce-back of these indicators (Figure 22).

1.90 But a demonetisation puzzle is raised by the GDP estimates. While real growth decelerated, the slowdown was much smaller than expected: growth for the year as a whole was much higher than range of 6.5-6.75

Figure 22. High Frequency Macro Economic Indicators



Source: CSO

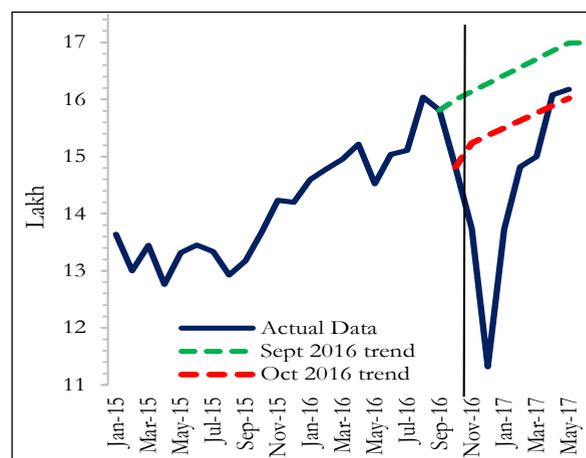
percent estimated in the Economic Survey 2016-17 Volume I. Even more striking as explained in Box 3, nominal GDP growth actually accelerated after demonetization.

4. Informal sector impact: MGNREGS

1.91 The Survey Volume I had pointed out that demonetization would impose short-term costs. Volume I also pointed out that conventional economic indicators—which source data from formal sector firms that might be more insulated from demonetization—were unlikely to capture these costs. A proxy for informal sector effects is two-wheeler sales which showed a rapid decline following demonetization but has, after more than six months, almost returned to pre-demonetization levels (Figure 23). The cumulative shortfall between actual sales and the trend lines is a proxy for the short-run informal costs.

1.92 An alternative way of capturing costs on the informal sector is to analyze data on the demand for insurance. Negatively affected households may have demanded insurance—either informal insurance from family and friends, or more formal social insurance such as that provided by government employment

Figure 23. Number of Two Wheelers Sold in the Domestic Market (Seasonally Adjusted)



Source: Society for Indian Automobile Manufacturers

Box 3. The Demonetization and Nominal GDP Puzzle

Volume I of the Economic Survey in February had argued that in assessing the short-term impact of demonetization on GDP growth, the better indicator would be nominal rather than real GDP growth: “After all, demonetization is mostly a nominal demand shock, so its effect in the first instance will be on nominal magnitudes.”

Nominal magnitudes paint an entirely different picture from real ones. Whether the comparison is annual or quarterly, the numbers suggest an acceleration in nominal GDP growth after demonetization. Annual nominal GDP growth in 2016-17 was about 1.1 percentage points greater than in 2015-16; and growth in the second half of 2016-17 was also 1.1 percentage points greater than in the second half relative to the first.

To understand how big a puzzle this is, it is worthwhile recalling the corresponding monetary shocks: on an annual basis cash growth declined from 12 percent to (-) 4 percent. So, a nearly 16 percentage point swing in cash growth led to an increase in nominal GDP growth of 1 percentage point.

Figure: Annual CIC & Nominal GDP growth (per cent)

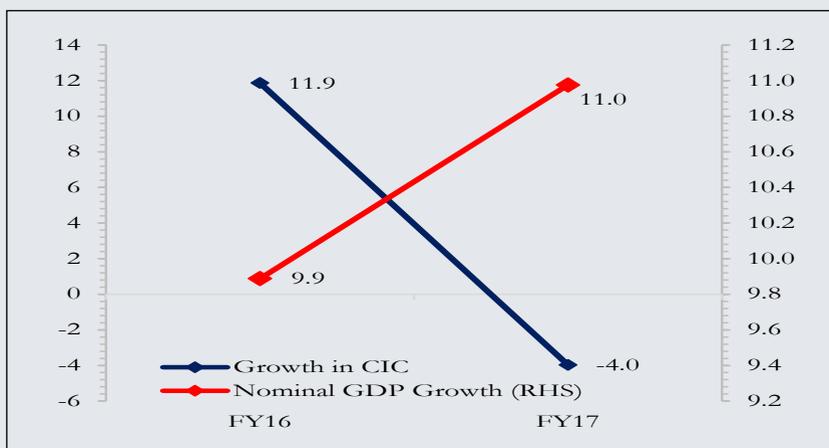


Figure : Quarterly CIC & Nominal GDP growth (per cent)

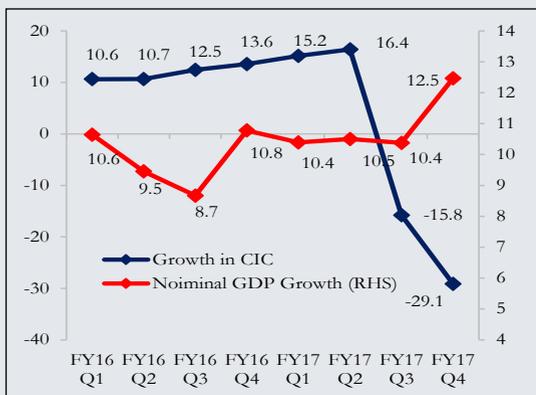


Figure : Half-Yearly CIC & Nominal GDP growth (per cent)



This acceleration sits oddly with the explanation in the previous section that demonetization depressed agricultural prices. More fundamentally, it sits oddly with monetary theory. Cash growth declined from 16 percent in H1 2016-17 to (-) 23 percent in H2 2016-17, a 39 percentage point deceleration. Even allowing for the fact that some of the cash was “idle”, any plausible version of the quantity theory of money would have predicted a reasonable decline in nominal GDP growth, even after factoring in a plausible rise in velocity. Instead, there was an acceleration. (Appendix 3 contains a detailed description of how real and nominal magnitudes are estimated in the National Income Accounts).

guarantee schemes like MGNREGS. Indeed, demand for MGNREGS work typically spikes in drought years, suggesting that it acts like a type of social insurance (Fetzer 2014)¹⁷.

1.93 So, the question is whether data on MGNREGS shows some evidence that demonetization induced greater demand for social insurance. To assess this, district-level data on MGNREGS employment in each week over the last 5 years was compiled. This data was made available by the Ministry of Rural Development.

1.94 Of interest here is whether there was increased MGNREGS employment in the weeks after November 8 relative to the weeks before November 8 – and whether this effect was particularly pronounced in 2016 (the demonetization year) relative to previous years. This is a commonly used empirical methodology known as differences-in-differences (Bertrand et. al. 2004, Appendix 4). The data was subjected to statistical analysis, controlling for factors that could have affected MGNREGS differentially this year and previous years. Details are presented in Appendix 4.

1.95 The main findings—depicted in Figures 24-27 and based on the statistical analysis—are the following. There is suggestive evidence of increased demand for insurance over the demonetization period (early November 2016-March 2017). This is especially strong for the less developed states, comprising Bihar, Chattisgarh, Rajasthan, Jharkhand, West Bengal, and Odisha (Figure 25) which witnessed about a 30 percent increase in mandays worked. These results are sensitive to the time windows used for comparison purposes and to the comparison years.

1.96 Interestingly, there were four phases

in the demonetization-MGNREGS relationship: (a) For about 4 weeks after demonetization, there was a decline in the demand for MGNREGS work; (b) this was followed by a 4-week period of recovery, and then (c) a 10-week period where demand increased substantially; and finally, (d) since the middle of March, there was once again no differential impact on MGNREGS relative to previous years.

1.97 This broad pattern is especially noticeable in the less developed states, which saw a much greater surge in the third phase (“acceleration”), with Bihar showing a particularly large increase in MGNREGS demand. In contrast, there seems to have been no such pattern in Uttar Pradesh. (Figure 27).

1.98 Two patterns are especially noteworthy. The striking absence of any demonetization effect in Uttar Pradesh seems to have been related to what happened in the beginning of the year when MGNREGS employment surged relative to previous years (Figure 27). This differential pattern is less striking elsewhere (Figures 24, 25, and 26). One explanation is that if people came close to their maximum MGNREGS allowances in the early part of the year, mechanically there would be less of a surge in employment in the latter part, including during the demonetization period. Uttar Pradesh is perhaps less suitable to a post-pre analysis because the assumption that the pre-periods are broadly similar in all years does not hold.

1.99 Second, the pattern of reduced demand in the first four weeks following demonetization is puzzling. One interpretation is that demonetization increased demand for MGNREGS employment, but this was initially offset by

¹⁷ Fetzer, T. (2014), "Social Insurance and Conflict: Evidence from India", available at www.trfetzzer.com/wp-content/uploads/JMP.pdf

Figure 24. All India

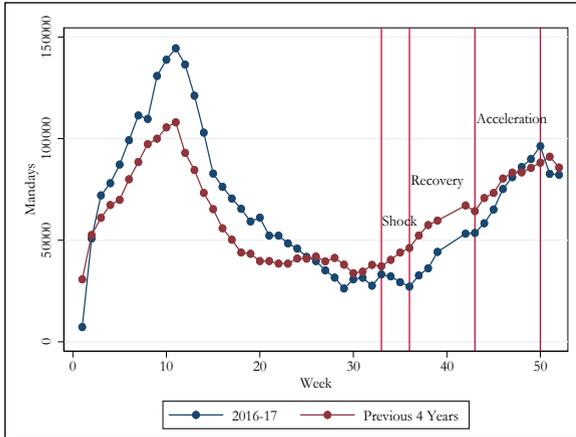


Figure 25. Less developed states

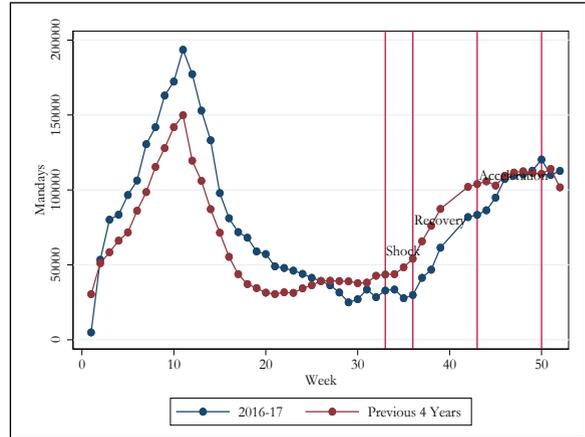


Figure 26. Bihar

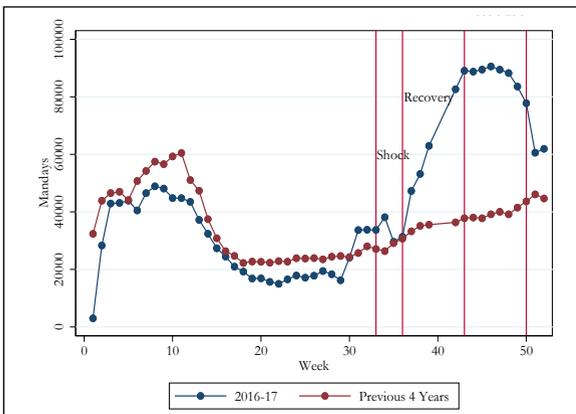
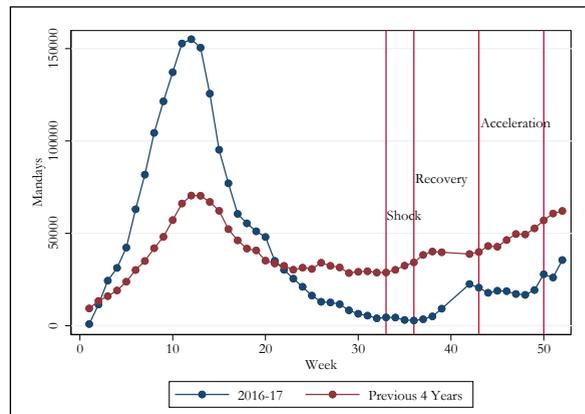


Figure 27. UP



Sources: Ministry of Rural Development and Survey Calculations.

constraints on the ability of local government to supply MGNREGS work. In this view, demonetization affected both the supply and demand for insurance, and in the first few weeks, the decrease in supply overwhelmed the increase in demand. Over time, as cash began to flow and financing constraints lifted, the demand for insurance was more clearly identifiable in the data.

1.100 Alternatively, it is possible that better agricultural performance in 2016-17, which was especially marked in those four peak-harvest weeks after demonetization, offset any demonetization impact.

1.101 In sum, three tentative conclusions suggest themselves. First, demonetization's impact on the informal economy increased demand for social insurance, particularly

in less developed states with the striking exception of Uttar Pradesh. Second, this impact peaked between December and March, and has since disappeared, consistent with the evidence on 2-wheeler sales shown in Figure 24. And, finally, that MGNREGS and its implementation by the Government have met the programme's stated role of being a social safety net during times of need.

1.102 It needs to be stressed that results are not conclusive. For example, the longer the window of pre-demonetization weeks used to measure the post-pre difference, the weaker the results become. More research is needed to disentangle all the rich and complex interactions between demonetization and its impact on the informal sector.

5. Can the current growth configuration be maintained?

1.103 In the last 2 years, real GDP growth has averaged about 7.5 percent. But this has been achieved against the context of weak investment, export volume and credit growth. This wedge between steady growth and its underlying (relatively weak) drivers raises a question and also poses a puzzle. To shed light on this a cross-country comparison was undertaken to investigate whether in the last 25 years there have been similar experiences in other emerging market countries (that is, of successive two-year periods where Indian levels of growth were achieved with such a combination of factors, i.e. Indian levels of real investment, export volume, and credit growth witnessed in 2015-16 and 2016-17). The focus is on the last 25 years because of data availability.

1.104 First, Indian performance on real investment (gross fixed capital formation), export volume and credit during the last two years (2015-16 and 2016-17) is identified.¹⁸ These were 4.5 percent (real) growth in investment, 2 percent growth in export volumes, and decline in credit-to-GDP ratio of 2 percentage points (all averages over the two years). A sample of 23 other comparable countries (listed in Appendix 5) is then considered to infer how many times this combination of investment, export volume, and credit has led to growth of at least 7 percent. The results are shown in Table 7.

1.105 Since there are three criteria, there are seven possibilities: three cases where any one of the criteria are met, three cases where any two combinations are met, and one case where all the three criteria are met. The Table shows that never in the last 25 years has there been another case of 7 percent growth with investment, exports and credit corresponding

to the current Indian combination. In fact, there have also been no cases when two of the three criteria have been met. Only in a very few cases, has 7 percent been consistent with only one of the three criteria having been met.

1.106 The next question is whether the Indian combination of investment, export volume, and credit is consistent with a weaker growth performance of 5 percent (Table 7). Again the answer is never. In fact, 5 percent real GDP growth has been consistent with two of the three criteria having been met only four percent of the time.

1.107 Therefore, the Indian experience of the last two years has been exceptional. Another way of seeing this is to note that the average investment and export volume growth in the 7 per cent sample is 13.8 and 12 percent respectively, well above India's. From a strictly accounting perspective, there is no difficulty in explaining Indian exceptionalism. By definition, consumption and, to a lesser extent, Government investment have powered the economy. But the purpose of the cross-country comparison is to move from accounting to plausible economic explanations.

1.108 One lesson is the following. While the current configuration is certainly unprecedented in cross-country experience, sustaining current growth trajectory will require action on more normal drivers of growth such as investment and exports and cleaning up of balance sheets to facilitate credit growth.

6. Banking: Declining Profitability in Power and Telecom and the Twin Balance Sheet Challenge

1.109 Significant developments have taken place in two sectors that cloud the outlook for resolving the TBS problem and hence for credit, investment and economic growth.

¹⁸ The focus is on the last two years because of the sharp divergence between WPI and CPI series that has complicated GDP estimation.

Table 7. Cross-Country Record of Current Indian Growth Configuration (1991-2015)

Criteria	Number of instances of real GDP growth $\geq 7\%$	Number of instances of real GDP growth $\geq 5\%$
		108	285
A. Percent of growth instances attained with any one criterion satisfied	16	29
B. Percent of growth instances attained with any two criteria satisfied	0	4
C. Percent of growth instances attained with all three criteria satisfied	0	0

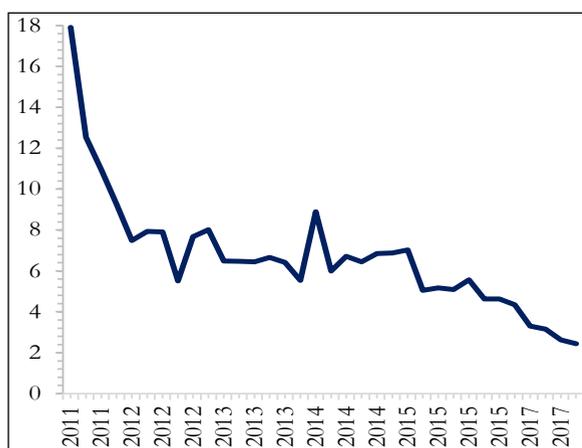
**Note:* The criteria are (for every 2-year period over 1991 to 2016): (i) Real investment growth $\leq 4.5\%$, (ii) Export volume growth $\leq 2\%$, and (iii) Fall in the credit to GDP ratio by at least 2 percentage points. The threshold for export volume growth has been assumed to be 2% even though the average growth in the same for India over FY 16 and FY 17 has been below 1%. Credit to GDP ratio data is from the World Bank and includes non-bank sources of credit.

1.110 In the power sector, a number of significant developments are affecting the short and medium term outlook. As shown in Figure 28, the price of renewables has been declining significantly. This is a positive long run development for India and the global effort to combat climate change. But it will pose a number of short-term challenges.

1.111 Figure 29 shows a rapid increase in private thermal capacity of 833 percent which accounts for 57 percent of the total increase in thermal capacity. A predominant share has been tied up via long-term power purchase

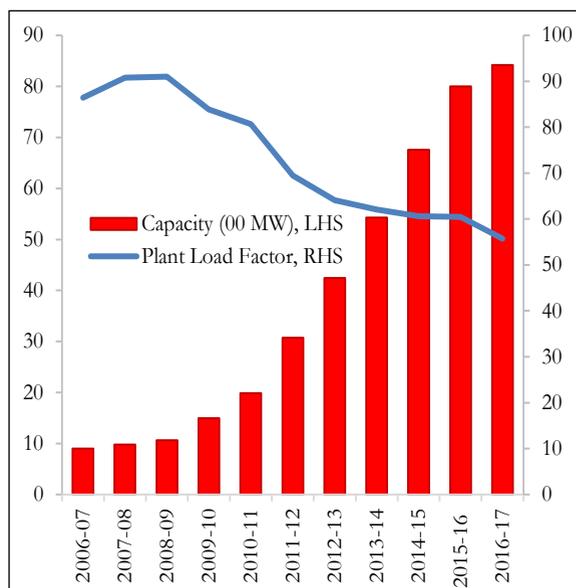
agreements (PPAs) between generators and discoms. However, demand has not kept up in part, due to the over-exuberance in building capacity and reduced demand owing to the health of discoms. Reduced demand for thermal-based power is increasingly also a result of renewables becoming more competitive. As a result, average plant load factors have declined steadily to around 60 percent (Figure 29).

Figure 28. Per Unit Electricity Prices for Solar Energy in India (Rs per KWh)



Source: Solardae.com

Figure 29. Private Sector Thermal Generation Capacity & Plant Load Factor (RHS)

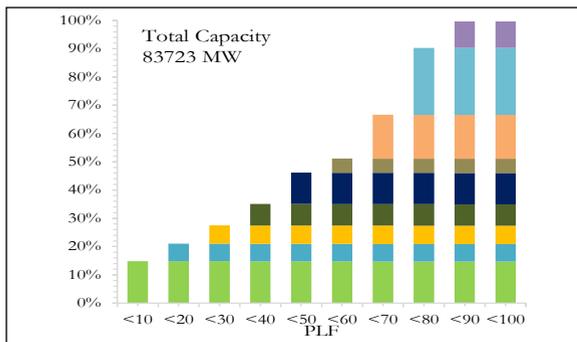


Source: Central Electricity Authority

1.112 This implies that in the current distribution of private sector thermal generation capacity, a number of plants are operating at well below viable levels of capacity utilization. If a rough benchmark of 60 percent and above is deemed viable, then Figure 30 shows that nearly 50 percent of current capacity is unviable.

1.113 Reflecting this, Credit Suisse estimates that the ratio of stressed companies in the power sector (defined as the share of debt owed by companies with an interest coverage (IC) ratio of less than 1) has been steadily rising this year, reaching 70 percent, with an associated vulnerable debt of over Rs. 3.6 lakh crore (Figure 32).

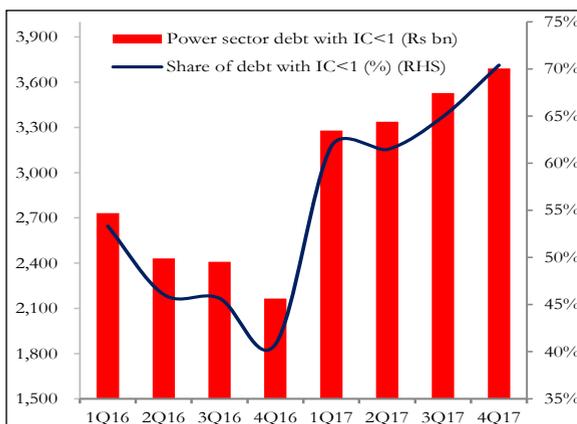
Figure 30. Private Sector Coal and Gas Generation Capacity-PLF Distribution



Source: Central Electricity Authority

Note: The different colours represent incremental additions to capacity

Figure 32. Power sector Debt with IC* <1



Source: Credit Suisse estimates.

Note: IC refers to interest coverage. If IC<1, earnings are not sufficient to cover interest obligations.

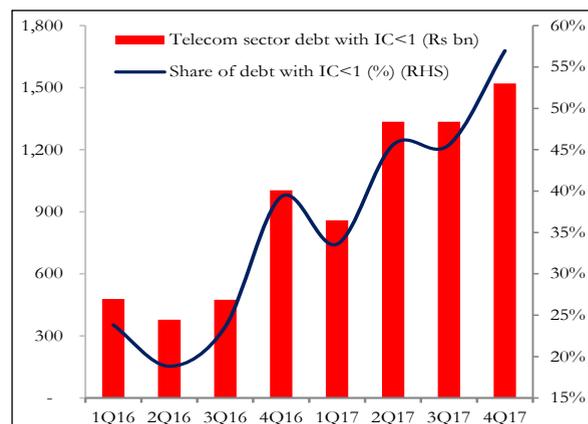
1.114 But there is also a less understood medium-term problem. As discoms realize that there are cheaper, alternative sources of power than their current PPA rates with generators, there will be a growing rush to seek to renegotiate tariffs downwards. Nascent signs are evident already as Uttar Pradesh and Rajasthan have announced that they might want to renegotiate some of their existing contracts. This makes matters more complicated especially in the context of the Supreme Court of India’s recent ruling that contracts are sacrosanct (the irony being that in this case, it was the private sector that sought to abrogate the contract and seek its renegotiation). Quite apart from the fact that India does not quite have a workable

Figure 31. Average Revenue Per User (ARPU)



Source: TRAI

Figure 33. Telecom sector Debt with IC* <1



framework for contract renegotiations, future workouts—in the direction of lower prices—might render more capacity unviable and hence more debt to be unsustainable.

1.115 The telecommunications sector has experienced its own version of the “renewables shock” in the form of a new entrant that has dramatically reduced prices for, and increased access to, data, thereby benefitting—at least in the short run—consumers¹⁹. But like with the renewables shock, the near term implications for the viability of incumbents are serious: their profitability has come down dramatically. As Figure 31 shows, after launching of services by the new entrant in September 2016, the average revenue per user (ARPU) for the industry on aggregate has come down by 22 percent vis-à-vis the long term (December 2009-June 2016) ARPU, and by about 32 percent since September 2016.

1.116 For this reason, Credit Suisse estimates that the share of telecom debt owed by companies with interest coverage (IC) < 1 has more than doubled since late 2016, climbing above 55 percent, with an associated vulnerable debt of Rs. 1.5 lakh crore (Figure 33). In the telecommunications case, not only is the banking system exposed but so too is the government to whom the companies owe a variety of fees and taxes.

1.117 The Mid-Year Economic Analysis of December 2014 first highlighted India’s Twin Balance Sheet (TBS) challenge while the Economic Survey 2016-17, Volume I examined it in great detail. Successive Surveys have emphasized that tackling this challenge will require 4 Rs: *Recognition, Resolution (which targets corporate balance sheets), Recapitalization (which targets bank balance sheets), and Reform.*

1.118 Over the past few years, the

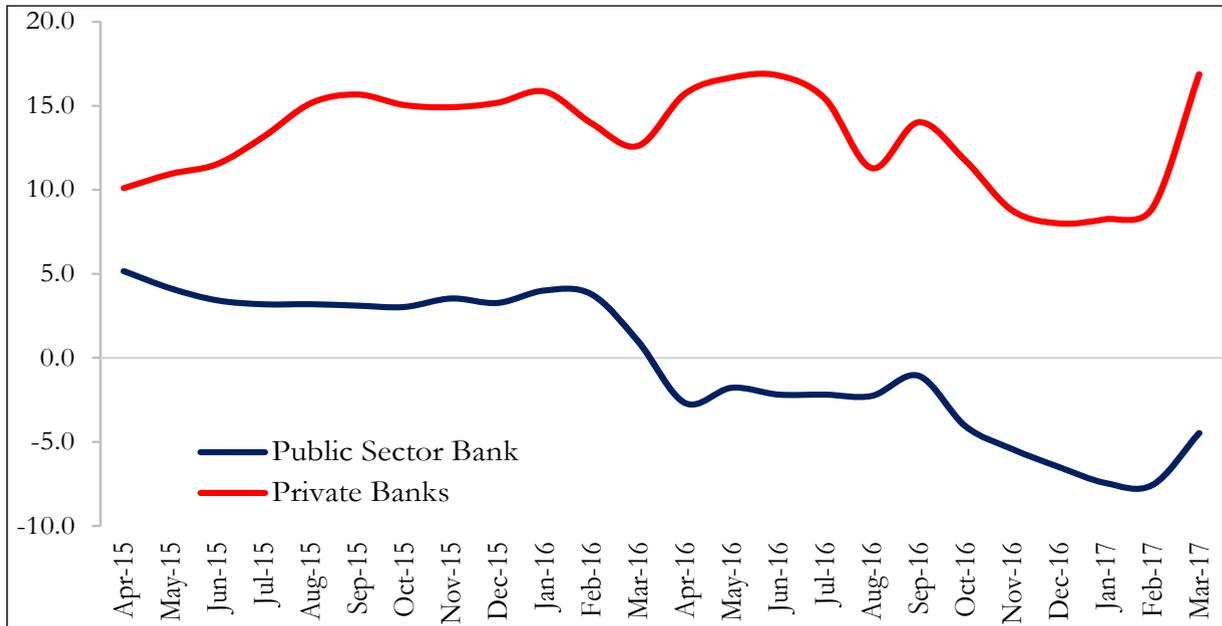
Government and RBI have moved decisively on recognition and most recently on resolution. In May 2017 the Government passed an ordinance to promote resolution. The RBI followed up decisively by identifying on June 13, 2017, 12 loan accounts to be taken up under India’s new Bankruptcy Law. Meanwhile, to facilitate reform, the RBI has placed 6 weak banks under the Prompt Corrective Action (PCA) framework, forcing these banks to start reducing the scale of their banking operations, amongst other measures.

1.119 It is to be hoped that these actions will decisively address the TBS challenge. Some doubts have been expressed by observers on the scope for delay in, and stymieing of, the resolution process because of the relatively untested procedures and the inherent difficulty in writing off debts to the private sector. Early and prominent successes will help quell these doubts and policy-makers are closely monitoring progress.

1.120 Even as the new measures aimed at resolution unfold, it is worth thinking about the other 'R's in the context of a strategic approach to the banking sector. Burdened by stressed assets and the atmosphere of uncertainty that has existed for some considerable time, banks, especially those in the public sector, have had to focus on their NPA problem than on new lending. The Figure 34 shows inadequate demand cannot be the full explanation for the credit slowdown because the growth in lending by private sector banks is robust and much greater than for the PSBs.

1.121 The problem is that public sector banks are in damage limitation mode rather than seeking out new clients and opportunities. So, how can they regain their true function

¹⁹ Average mobile data usage has increased 6.5 fold from 154 MB to 2000 MB between June 2016 and March 2017. The price per GB has fallen from Rs. 121 to Rs. 17.

Figure 34. Growth in Corporate Lending* Across Bank Groups

Source: Estimated based on extrapolating Rajan (2015) - https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=1013.

End- March 2017 numbers need to be viewed with caution because of surge in all monetary aggregates for that date.

of providing credit to support economic growth? What actions will be necessary to ensure that problems will not recur?

1.122 The most important element, surely, is the 4th R: reform. Three elements will be key to any reform package. First, rescues can be selective. The PCA framework can be invoked to ensure the worst performing banks are winnowed out of future lending and shrunk in size over time. Rescues could then be extended solely to the group of viable and near-viable banks. Second, the role of private sector discipline could be expanded, including by allowing, in some cases, majority private sector ownership. Third, these measures should be coupled with specific actions, for example recapitalizing banks and strengthening their lending procedures and risk management frameworks.

1.123 The Government and the RBI have taken important actions to address the Twin Balance Sheet challenge. It is to be hoped

that they will work expeditiously. But even as they play out, thinking about a strategy—of complementing resolution with reform and recapitalization—to create a banking sector that can help revive credit, investment, and growth must be an ongoing priority.

B. OUTLOOK AND POLICIES FOR 2017-18

1.124 This critical review has highlighted a few important points that affect the economic outlook for the rest of 2017-18, and influence the stance of macroeconomic and other policies.

1. Outlook for real activity for 2017-18

1.125 Any growth outlook must be informed by an understanding of the broader context. The latter implies a moderation of expectations about the growth recovery.

1.126 For some time now, India has been in the throes of what Carmen Reinhart

and Kenneth Rogoff have called balance sheet “recessions” (“weaker than potential growth” rather than “recessions” is a more appropriate characterization for India).

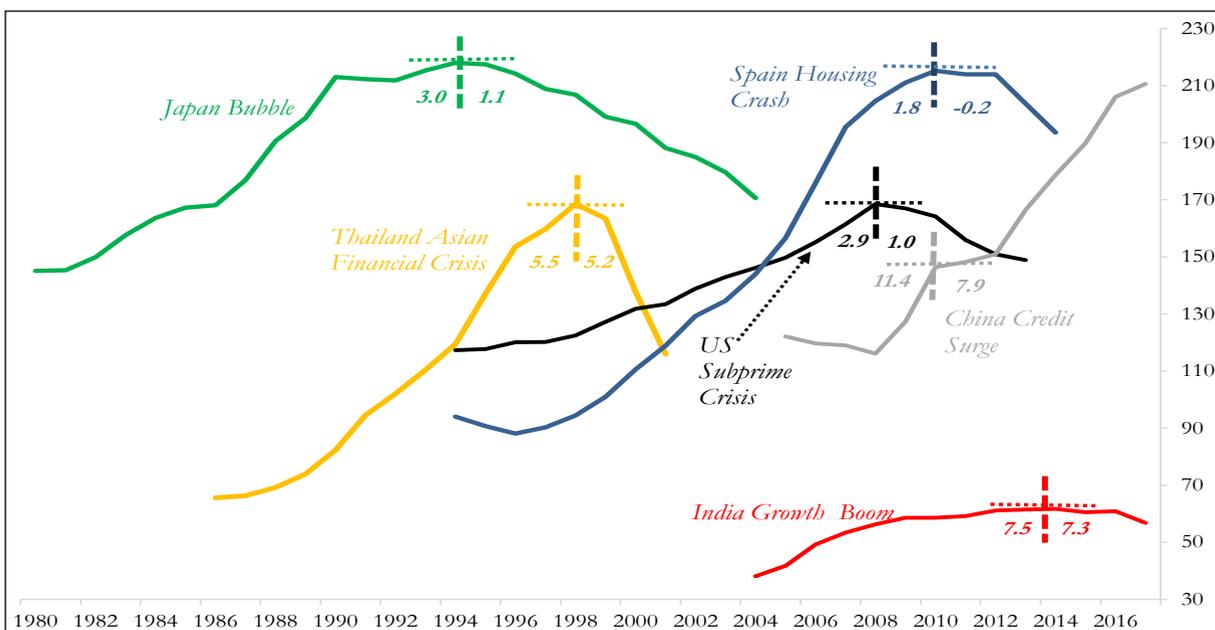
1.127 The legacy of the credit and investment part-boom-part-bubble of the mid-2000s lingers. Figure 35 provides a cross-country context. In most countries, booms are accompanied by rapid increases in credit growth, followed by deleveraging (or credit decline) after which growth can—not necessarily will—pick up. Thailand, the US, and Spain have followed this pattern to varying degrees. China has followed a different path: it has chosen to re-leverage with a vengeance in order to stave off a growth slowdown. This works in the short run, although at the expense of decreasing capital efficiency and building up financial sector vulnerabilities that could lead to dramatic growth slowdowns in the future. Interestingly, the Indian boom of the mid-2000s has not been followed by serious deleveraging. While the slow growth of bank-credit in the last two years has been a

source of concern, the question may well be not the slowdown but whether there has been enough of it. If deleveraging is a necessary condition for the resumption of rapid growth perhaps India needs less credit growth—or to be precise more debt resolution and reduction—in the short run.

1.128 As described earlier, and illustrated in Figures 43-49 in Section C, a number of indicators—GDP, core GVA (GVA excluding agriculture and Government), IIP, credit, investment and capacity utilization—point to a deceleration in real activity since the first quarter of 2016-17, and a further deceleration since the third quarter. Real GVA growth for Q4 2016-17 was 5.6 per cent. Unless potential output growth is much lower than is commonly assumed (around 7 percent or more), output gaps are expected to widen.

1.129 Looking ahead, the question is how the outlook has changed relative to that outlined in the Volume I of the Survey published nearly six months ago. Volume I had predicted a

Figure 35. Credit Peaks and Real GDP Growth



Sources: Bank for International Settlements (BIS) and International Monetary Fund.

The Figure plots the credit-GDP ratio over time; numbers in the chart refer to real GDP growth 5 years before and after the credit to GDP ratio peak, except for China and India

range for GDP growth of between 6.75 and 7.5 percent, factoring in more buoyant exports as global recovery gathered steam, a post-demonetization catch-up in consumption, and a relaxation of monetary conditions consequent upon demonetization.

1.130 Since then, all the new factors—real exchange rate appreciation, farm loan waivers, increasing stress to balance sheets in power, telecommunications, agricultural stress, and the transitional challenges from implementing the GST—impart a deflationary bias to activity.

1.131 Since February 2017, the rupee has appreciated by about 1.5 percent in real effective terms according to the RBI's 36-currency basket— and by more against a basket with higher weights for China and Asian currencies. The reason is that the Chinese Yuan has declined broadly, including against the rupee by 2.7 percent (Figure 57 & 58 in Section C).

1.132 The deflationary impact of farm loan waivers will obviously depend upon how many states imitate the actions of UP, Maharashtra, Madhya Pradesh, and Karnataka, how much relief they provide, and how this relief is phased in. On some reasonable assumptions, the deflationary impact this year could be as much as 0.35 percent of GDP (assuming that the magnitudes estimated in earlier Section are distributed over two years).

1.133 In addition, the real policy rate was tighter than anticipated in Volume I of the Survey. Under such circumstances, and assuming that the current broad (repo rate was reduced by 25 bps on August 2, 2017) stance of monetary and fiscal policies is maintained, the forecast for GDP reflects the greater risks to the downside.

1.134 On the upside, since the previous Economic Survey, the government and the RBI have taken prominent steps to address

the Twin Balance Sheet challenge. This has boosted market confidence in the short run. Deleveraging of corporate balance sheets will be necessary to restore investment and credit demand. Deleveraging of bank balance sheets will be essential to unblock the choked channels of the supply of credit. However, the substantive growth impact of the steps taken will depend on the scope, effectiveness, and timeliness of resolution of stressed assets.

1.135 There is also some upside from the GST. The removal of checkposts and the consequent easing of transport constraints can provide some short-term fillip to economic activity.

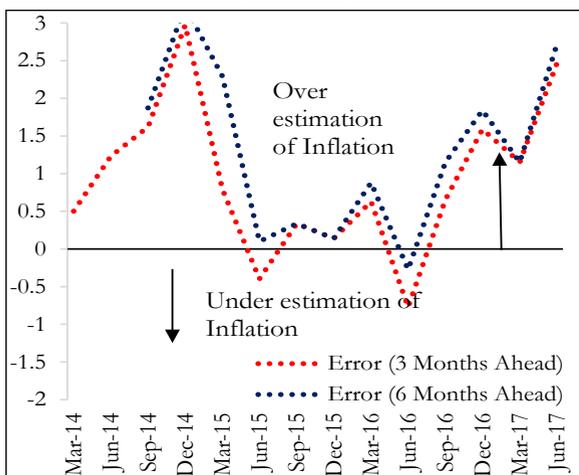
1.136 In February, the Survey (Volume I) had forecast a range for real GDP growth of 6.75 percent to 7.5 percent for FY 2018. The preceding discussion indicates that the balance of risks seem to have shifted to the downside. The balance of probabilities has changed accordingly, with outcomes closer to the upper end having much less weight than previously.

2. Outlook for prices and inflation for 2017-18

1.137 The section on 'Paradigm Shift to Low Inflation' argued that India might already be in the throes of a structural disinflationary shift, driven by more permanent developments in both the international oil market and domestic agriculture reflected in unanticipated inflation developments (Figure 36a).

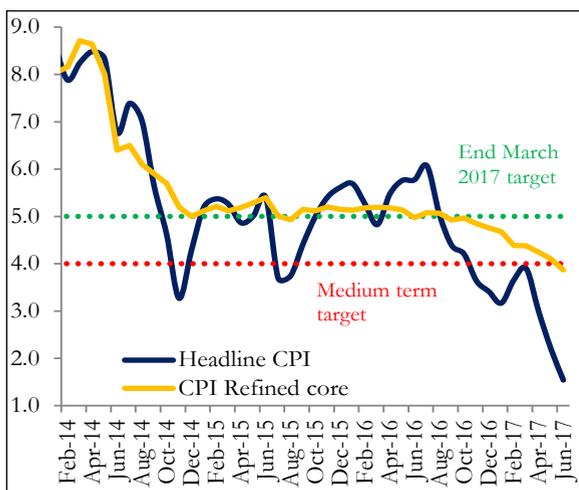
1.138 Turning to the near term, headline CPI inflation number has come down dramatically, posting a low of 1.5 per cent in June 2017, well below the medium term target of 4 per cent (Figure 36b). It was below the March 2017 target for seven months from September 2016 to March 2017 at an average of 124 bps. It is running below the March 2018 target for all 3 months of 2017-18 at

Figure 36a. CPI Inflation: Forecast Error (per cent)



Sources: RBI and Survey Calculations

Figure 36b. Headline and Refined core CPI Inflation (per cent)



Sources: MOSPI and Survey Calculations

an average of 175 bps, with the June number being 246 bps. Refined core—a measure of underlying inflationary trends stripped of the volatile oil and food components and mentioned in the February meeting of the MPC—has also declined steadily and is now at 3.9 percent, below the medium term target of 4 percent.

1.139 Against this background, the outlook for inflation in the near-term will be determined by a number of proximate factors, including:

- the outlook for capital flows and the

exchange rate which in turn will be influenced by the outlook and policy in advanced economies, especially the US;

- the recent nominal exchange rate appreciation;
- the monsoon;
- the introduction of the GST;
- the 7th Pay Commission awards;
- likely farm loan waivers; and
- the output gap

1.140 The IMF and others institutions have noted that a broad-based global recovery is under way. But the implications for policies in advanced economies—and hence for capital outflows from India and for the rupee—are unclear.

1.141 The dilemma for advanced country monetary policy is that while economic activity has picked up and volatility indicators are unusually low—portending looming financial sector risks, which calls for monetary policy normalization, inflation remains well below target (except in the UK), as it has been for a considerable period of time since the global financial crisis. Moreover, long-run yields are declining and the yield curve is flattening, signaling recessionary possibilities. So it looks for now that any monetary tightening will be modest, implying that the risks of capital flows out of India are not as pronounced as earlier this year.

1.142 Reflecting these developments, the nominal exchange rate appreciated by 2.6 percent in nominal effective terms since Volume I of the Economic Survey was published (i.e., between February and June 2017). Estimates for India suggest that a 10 percent exchange rate appreciation will reduce CPI inflation by 0.8 percent ('What is Responsible for India's Sharp Disinflation?' by Sajjid Chinoy, Pankaj Kumar & Prachi Mishra, IMF Working Paper No. WP/16/166). The downward momentum imparted to inflation

will accordingly be about 0.25 percentage points.

1.143 With respect to food prices, rainfall this year is expected to be at or above the long period average and as of July 12, both the level and its regional distribution are reassuring. Sowing data until July 21 is very encouraging. With the exception of arhar, the acreage under production is up over last year for all major crops, including rice (4.6 percent), pulses (3.4 percent), sugar cane (8.7 percent), and cotton (20.1 percent).

1.144 The GST is expected, on balance, to reduce prices because of the lower incidence of taxation compared to the combined incidence of central and state taxes previously. The Ministry of Statistics and Programme Implementation estimates that the 7th Pay Commission housing award is expected to increase inflation on average by between 0.4 and 1.2 percentage points, depending on whether just the Centre or the Centre and all the states implement the award. Moreover, this average impact will be phased over time, peaking six months after the actual award itself.²⁰ Apart from the fact that the GST and Pay Commission impacts might broadly neutralize each other in the short run, they are both one-off events affecting the price level not inflation. Monetary policy is normally expected to see through—rather than respond to—these temporary price level impacts, except to the extent that there are second-order effects on wealth and inflation expectations.²¹

1.145 As described earlier, farm loan waivers are more likely to be deflationary than inflationary and hence impart a downward

not upward bias to prices.

1.146 Output gaps are important for inflation and the earlier discussion points to a weakening economy and widening output gaps.

1.147 This assessment of the outlook, combined with the previous analysis pointing to a structural shift in the underlying inflation dynamics, in addition to the fact that current inflation is running well below the 4 percent target, suggests that inflation by March 2018 is likely to be below the RBI's medium term target of 4 percent.

3. Policy Stance

1.148 These GDP and inflation forecasts are, of course, conditional, and conditional especially on monetary and fiscal policies. The question is their appropriate stance given the economic outlook.

Monetary Policy

1.149 Three key features have characterized monetary policy since the Survey Volume I was released. Real policy interest rates are currently high, there has been unusual volatility in G-sec rates, and a glut of liquidity in banks has persisted for about nine months. The latter two are discussed in greater detail in Chapter 3.

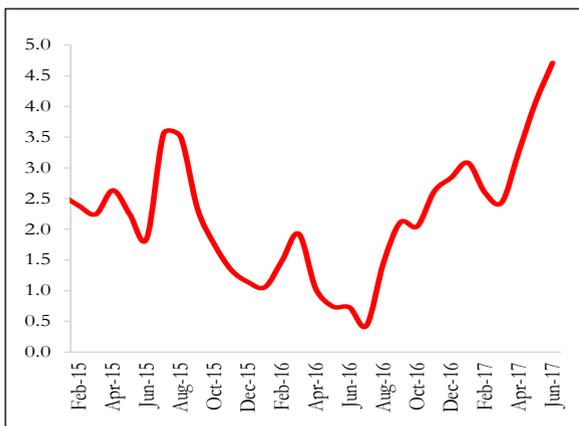
1.150 Figures 37a and 37b provide two indicators of the monetary policy stance. Real interest rates (based on current inflation) at 4.7 percent are high, the highest they've been in the recent past (Figure 37a).²² Rates are also substantially higher than in comparable emerging market countries (Figure 38).

²⁰ These inflation impacts are purely statistical, rather than economic

²¹ This differential response to transient versus permanent factors has been expressed recently by several members of the Monetary Policy Committee.

²² Real interest rates can be computed based on both current and expected inflation rates. In the current circumstance (Figure 37a), it is appropriate to use current inflation rates.

Figure 37a. Real Interest Rate (per cent)



Source: RBI and Survey Calculations

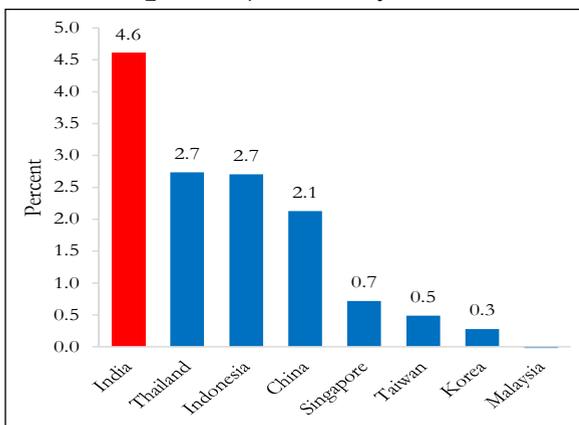
Note: Real interest rate is obtained by subtracting inflation from the nominal repo rate;

*- MCI for every month is plotted by adding the percentage change in the Real Effective Exchange Rate (one-third weightage) as calculated by the RBI and the percentage point change in the real policy rate (two-third weightage) with April 2014 as the base.

Figure 37b. Real Monetary Conditions Index (MCI)*

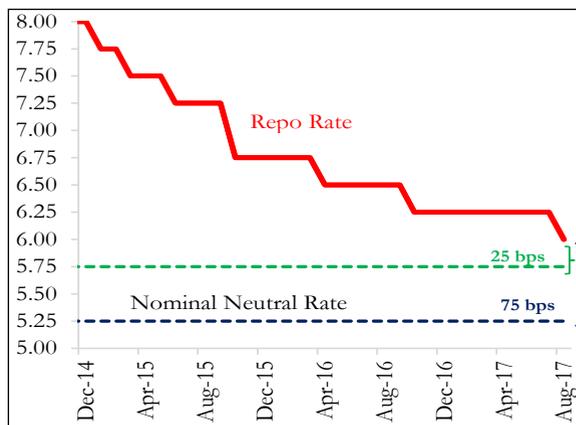


Figure 38. Cross-country Real Bond Yield (per cent) as of May 2017



Source: Bloomberg

Figure 39. Repo Rate and Nominal Neutral Rate



Source: RBI, Survey Calculations

1.151 Another indicator, real monetary conditions²³—which also factors in exchange rate developments, because they impact foreign demand for domestic goods and services— have also been steadily rising and stand at their highest level for a long time (Figure 37b).

1.152 High real interest rates do not per se imply an excessively tight policy stance.

After all, the inflation targeting-cum-MPC framework is new, and establishing credibility for it is imperative. So, it is important that inflation be kept close to its target level. The question, then, is whether the current level of interest rates are truly needed to ensure that this occurs. Economic theory suggests that the answer to this question depends on the economic outlook. Broadly, if cyclical

²³ For example, Monthly Bulletin (June 2002) of the European Central Bank (page 23 at the link www.ecb.europa.eu/pub/pdf/other/mb200206_focus03.en.pdf?fa2f62fae8f6b163749307cfa99ff6c824d) argues for the relevance of using such a real Monetary Conditions Index.

conditions are strong, real interest rates should be higher than “normal”, while if conditions are weak, they should be lower. But what is “normal” and are current conditions weak or strong?

1.153 Normal or neutral interest rates are those that prevail when inflation is close to target and real GDP close to potential. Neutral rates are not easy to measure but for India there are several estimates of neutral real interest rates from the RBI. These are shown in Table 8. Broadly, real neutral interest rates hover around 1.25-1.75 percent. That implies neutral nominal rates (assuming a target inflation of 4 percent) of 5.25-5.75 percent. Today’s rate is 6.00 percent or about 25-75 basis points above neutral rates (Figure 39).

1.154 How should cyclical conditions be factored in? According to the so-called Taylor rule, the key indicators of the cycle is the inflation gap, or how far away current inflation is from target and the output gap, how far current GDP growth is from

potential. If expected inflation and growth are greater than their equilibrium levels, nominal interest rates should be higher than normal, and vice versa.

1.155 The discussion of the outlook suggested that in fact both expected inflation and GDP are subdued relative to their equilibrium levels. Current inflation, at 1.5 percent, is running well below the 4 percent target, with the domestic economy lacking the dynamism to push this back toward the target. For example, average capacity utilization for the economy as a whole at 72.7 percent in Q3 2016-17 is indicative of sizable slack in the economy.

1.156 Cyclical conditions, then, suggest that the policy rate should actually be below—not 50-100 basis points or so above—the neutral rate. The conclusion is inescapable that the scope for monetary easing is considerable, more than that suggested by comparison with neutral interest rates. Also, the earlier the easing, complemented with other reform actions especially to address the

Table 8. Estimates of Neutral Interest Rates for India

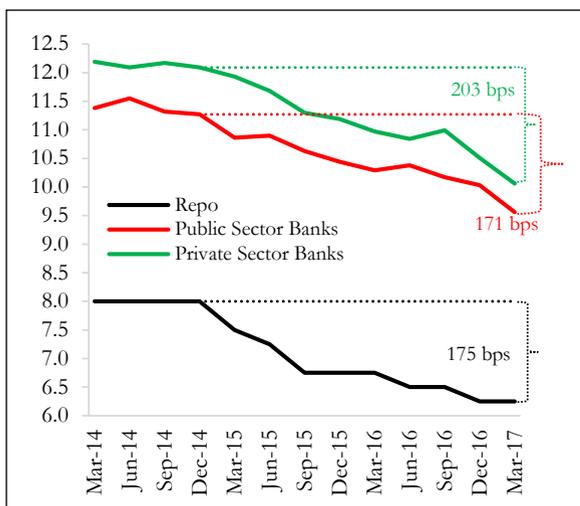
Study	Type of Monetary Policy Rule	Period	Real ‘Neutral’ rate	‘Neutral’ nominal rate with inflation target of 4%	Space for cut vis-à-vis current policy rate (6%)
1. Speech by Executive Director, RBI (2013)	Standard Taylor Rule & Taylor Rule with smoothing	2012-13Q3	0.5-0.9 percent	4.5-4.9 percent	110-150 bps
2. RBI Working Paper No. 05/2015 (2015)	Standard Taylor Rule & Structural Taylor Rule	2014-15Q4	1.6-1.8 percent (core estimates)	5.6-5.8 percent	20-40 bps
3. RBI Post Policy Conference Call with Media (February 2015)	---	2014-15	1.5-2 percent	5.5-6.0 percent	0-50 bps
4. MPC: RBI Post-Policy Conference Call with Media (October 2016)	---	2016-17Q3	~1.25 percent	~5.25 percent	~75 bps

TBS challenge, the quicker the economy can approach its full potential.

1.157 Moreover, it is worth remembering that the real rates that affect decisions for consumers and investors are yearly averages not those prevailing at certain points in time. In 2016-17, the average real policy interest rate was 1.8 percent. Even if inflation reaches 4 percent by end-March 2018, the average inflation for 2017-18 will likely be around 3 percent. The resulting average real policy rate would then be substantially greater than suggested by the target inflation rate.

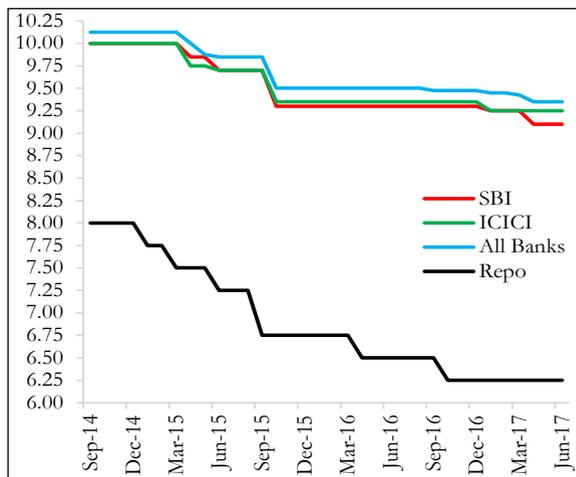
1.158 One argument against monetary easing is weak passthrough: why should policy rates be cut if lending rates are not going to decline? It is true that base rates have not declined commensurately with policy rate reductions (80 versus 175 basis points, Figure 40) but passthrough at private banks has been much higher than at public ones, conferring a competitive advantage that should be encouraged. Also, for all banks passthrough has been high for new loans (Since April 1, 2016 all rupee loans are Marginal Cost of Funds based Lending Rate linked). Figure 41 shows that for these loans

Figure 40. Repo Rate and Bank Group-wise Weighted Average Lending Rates on Fresh Rupee Loans



Source: RBI, Survey Calculations

Figure 41. Repo Rate and Base Rate (per cent)



Source: RBI, Survey Calculations

lending rates have declined by as much as policy rates and these reductions have been greater for private (200 bps) than public sector banks (175 bps). These reductions benefit all borrowers, including small and medium enterprises (SMEs).

1.159 Moreover, even if passthrough is inadequate as some argue, there are financial stability benefits from cutting policy rates, since the reduction in the cost of funds without a commensurate decline in lending rates will help restore banks' profitability. Lower rates will also facilitate the TBS problem resolution process.

Fiscal policies

1.160 The budget for 2017-18 targeted a fiscal deficit of 3.2 percent of GDP which represented a steady rather than sharp fiscal consolidation. This choice was in the spirit of the alternative not majority view proposed in the FRBM Review Committee report (Box 2 in Chapter 2 provides a comparison of the majority and alternative views).

1.161 The fiscal outlook for this year is uncertain. Downside risks (beyond those expected at the time of the Budget) include:

- Reduced tax revenues from slower nominal growth than anticipated;

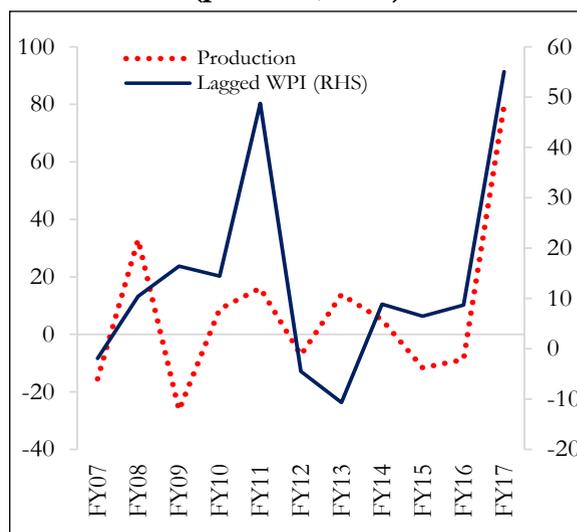
- reduced GST collections on account of the lower GST rates compared with the pre-GST taxes, and transitional challenges from GST implementation;
- reduced spectrum receipts on account of the structural jolt to the viability of incumbent firms; and
- higher expenditures from the 7th Pay Commission estimated at Rs. 30,000 crore.

1.162 There is also upside potential to revenues both from the compliance benefits of the GST and the compliance possibilities opened up by demonetization. Accordingly, the magnitude and pace of final consolidation relative to the commitments made may need to be assessed going forward.

Other policies

1.163 Agricultural stress will need appropriate policy responses. Given that 2017 will also be a year of surplus rather than scarcity, and to the extent that firming up prices will be essential to boost agricultural incomes, it is imperative to learn the lessons from the experience of 2016. One such lesson—highlighted in the Pulses Report²⁴ of September 2016 — is that farmers respond to prices. Lower prices in one year affect sowing and prices in the next, which creates a cobweb cycle. Figure 42 highlights this for the case of tur, where production is highly correlated with prices received in the previous year. Policy must be driven by the recognition that, over longer horizons, there is no necessary opposition between farmer and consumer interests: remunerative and stable minimum support prices (and the procurement to back them), as well as access to export markets, that help farmers can obviate the risks of production swings and price spikes that are painful for consumers.

Figure 42. The Cobweb: Arhar Production and Lagged Inflation (per cent, YoY)



Sources: CSO, Ministry of Agriculture.

1.164 Hence, all the impediments that come in the way of realizing better prices for farmers—stock limits imposed under the Essential Commodities Act, export restrictions, impediments to the implementation of e-NAM—need to be removed.

1.165 Conditions of continuing surplus may well be an opportune moment to revisit the archaic Essential Commodities Act that was enacted decades ago to cope with conditions of severe scarcity when markets were less well developed. The time is also ripe to consider whether direct support to farmers can be a more effective way to boost farm incomes over current indirect, ineffective, and inefficient forms of support.

C. REVIEW OF DEVELOPMENTS IN 2016-17

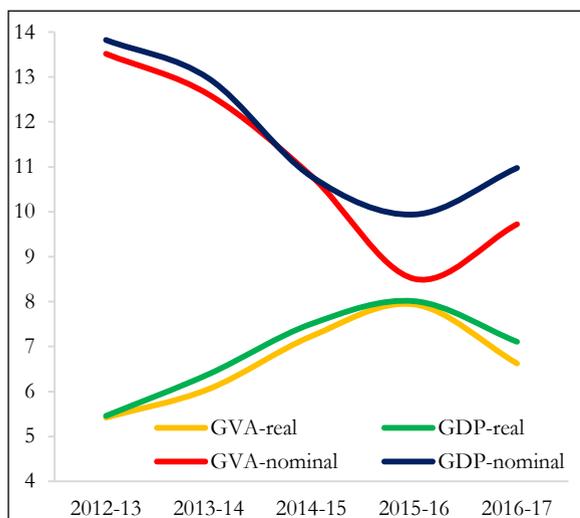
1. GDP

1.166 According to the Central Statistics Office (CSO) May 2017 estimates, real GDP

²⁴ “Incentivising Pulses Production Through Minimum Support Price (MSP) and Related Policies”, September 16, 2016 - http://finmin.nic.in/sites/default/files/Pulses_report_16th_sep_2016.pdf

grew by 7.1 per cent in 2016-17 compared with 8 percent the previous year. This performance was higher than the range predicted in the Economic Survey (Volume I) in February (Figure 43). This growth suggested that the economy was relatively resilient to the large liquidity shock of demonetization which

Figure 43. Annual growth in real and nominal GVA and GDP



Source: CSO

reduced cash in circulation by 22.6 percent in the second half of 2016-17. The apparent resilience was even more marked in nominal growth magnitudes because both nominal GVA and GDP growth accelerated by over 1 percentage point in 2016-17 compared with 2015-16.

1.167 Apart from the favorable monsoon which propelled agricultural growth, government also made a significant contribution, registering growth of 11.3 percent (Table 9), reflecting the impact of salary increases awarded by the Seventh Pay Commission (Table 9). These sectors contributed nearly one-third of the total GVA growth as against their contribution of about one-sixth of the GVA growth in the period FY 2013 to FY 2016.

1.168 While suggesting resilience, the latest GDP figures—in addition to a number of other indicators—also raised concerns about the growth trajectory during the course of FY2017. Real GDP and GVA growth

Table 9. Growth in value added and GDP (per cent, constant prices)

Sector	2013-14	2014-15	2015-16	2016-17
Agriculture, forestry & fishing	5.6	-0.2	0.7	4.9
Mining & quarrying	0.2	11.7	10.5	1.8
Manufacturing	5.0	8.3	10.8	7.9
Electricity, gas and water supply	4.2	7.1	5.0	7.2
Trade, hotel, transport, communication etc	6.5	9.0	10.5	7.8
Financial, real estate and prof. services	11.2	11.1	10.8	5.7
Public Administration, defence and others	3.8	8.1	6.9	11.3
GVA	6.1	7.2	7.9	6.6
Core GVA	6.6	9.0	9.8	6.2
GDP	6.4	7.5	8.0	7.1

Source: CSO and Survey Calculations

Note: Core GVA=Aggregate GVA - GVA of agriculture & allied, and, public administration, defence and other services

declined for four consecutive quarters. The growth in core GVA—total GVA excluding agriculture and allied sectors and public administration, defence and other services—decelerated by 3.6 percentage points from FY 2016 to FY 2017 (Table 9) and by 6.8 percentage points between Q4 FY 2016 to Q4 FY 2017 (Figure 44 & 45). Manufacturing GVA growth started declining from Q4 FY 2016 and the new and revised IIP numbers showed a similar decelerating trend (Figure 46).

1.169 The growth in real fixed investment

was low since the second half of FY 2013 and declined steeply after a temporary spurt in the second half of FY 2016, shored up to some extent by public investment (Figures 47, & 48). As per Survey calculations private investment growth is estimated to be negative in 2016-17. The only demand boost came from consumption, which accounted for about 96 per cent of GDP growth in FY 2017.

2. Inflation

1.170 The economy has undergone a dramatic

Figure 44. GVA and GDP growth (per cent in constant prices)

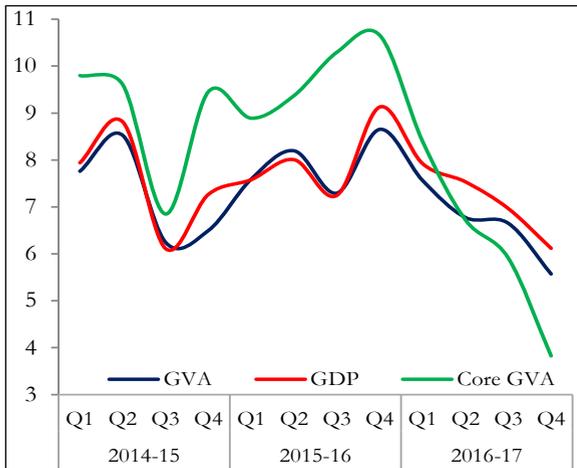


Figure 46. Growth in manufacturing (in per cent)- GVA and IIP

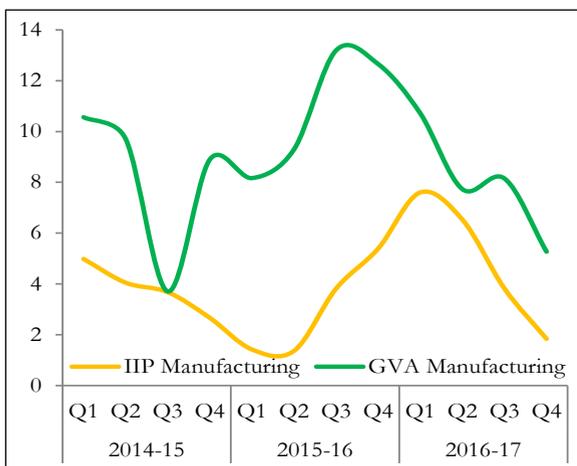


Figure 45. GVA and GDP growth (per cent in current prices)

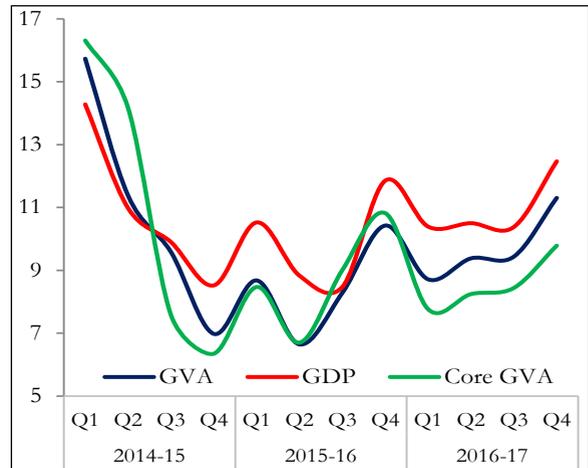
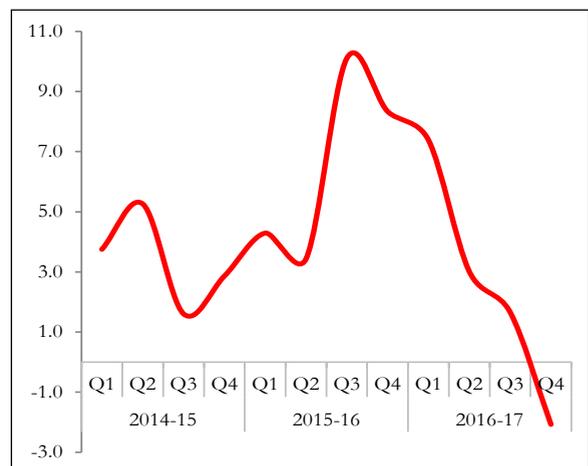
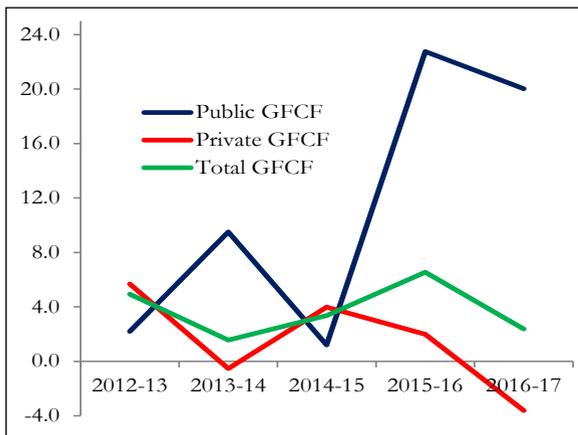


Figure 47. GFCF growth at constant prices



Sources for Figures: CSO and Survey Calculations

Figure 48. Growth in fixed capital formation (per cent, constant prices)



Sources for Figures: CSO, RBI and Survey Calculations

transition from high to low inflation (Section below); Annual inflation averaged 5.9 per cent in 2014-15 and has since declined to 4.5 per cent in FY 2017. More dramatic have been developments during 2016-17. Perhaps reflecting in part the growth deceleration, inflation declined sharply from 6.1 percent in July 2016 to 1.5 percent in June 2017. Food inflation had hardened during the first few months of FY 2017 due to upward pressure on prices, mainly of pulses and vegetables, but softened subsequently with improvement in seasonal availability and particularly after demonetization.

1.171 Headline CPI inflation has now

Figure 50. Headline CPI inflation (per cent)

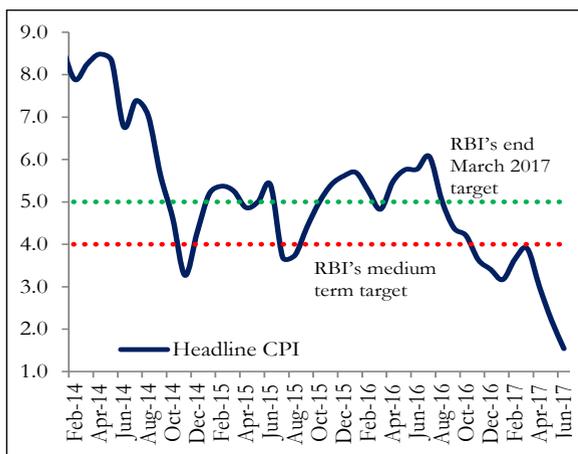
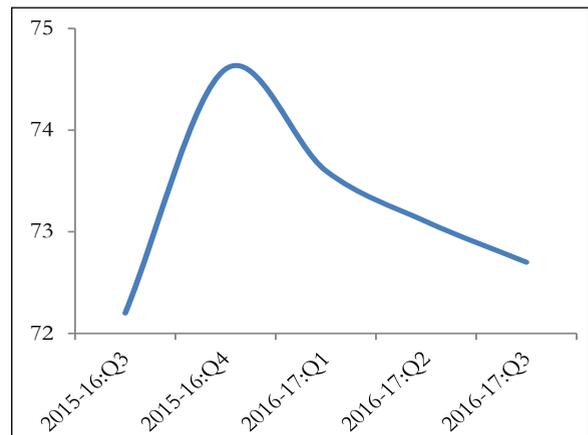


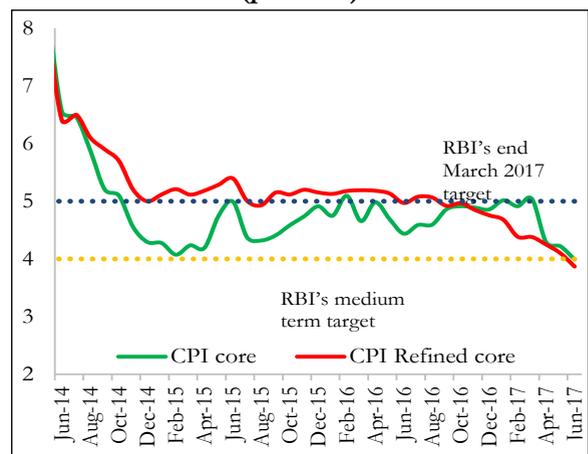
Figure 49. Capacity Utilisation in manufacturing (per cent)



been below the RBI's 2017 target for ten consecutive months by about 1.7 percentage points on average (Figure 50). Not only headline but refined core inflation—which strips out agriculture and oil as well as the oil-component in transportation services—declined steadily from over 5 percent in June 2016 to 3.9 percent in June 2017 (Figure 51).

1.172 The sharp dip in WPI inflation in late FY 2015 and throughout FY 2016 owed to the deceleration in global commodities prices, especially crude oil prices. With global commodity prices recovering and the 'base effect' (low inflation in the previous year) giving an upward push, wholesale

Figure 51. Core and Refined core CPI inflation (per cent)



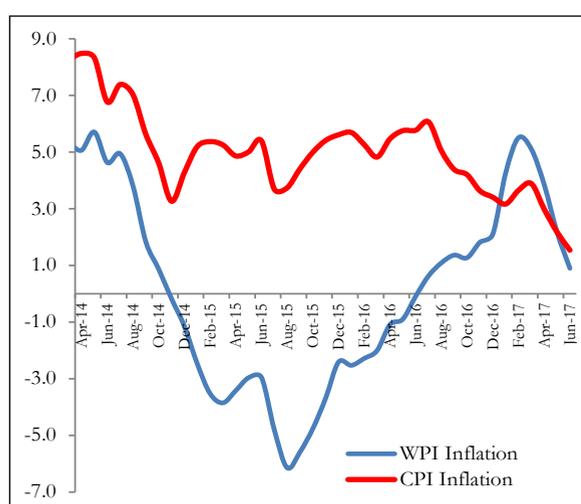
inflation perked up during FY 2017. The vast divergence between the retail and wholesale inflation that, *inter alia*, led to serious measurement challenges in the national accounts, especially in FY 2016, has now been eliminated (Figure 52). (Appendix 3 summarizes how national income estimates are constructed in each of the major sub-sectors, clarifying the indicators and deflators used as well as procedures for nominal and real calculations).

3. External Sector

1.173 With the green shoots slowly becoming visible in merchandise trade, and robust capital flows, the external position appears robust, reflected *inter alia* in rising reserves and a strengthening exchange rate.

1.174 The current account deficit narrowed in 2016-17 to 0.7 per cent of GDP, down from 1.1 per cent of GDP the previous year, led by the sharp contraction in trade deficit which more than outweighed the decline in net invisibles (Figures 53 and 54). With both net services and net private transfers declining, net invisibles receipts at US\$ 97.1 billion fell by 10.0 per cent in FY 2017. Subdued activity in source countries, particularly in the Gulf

Figure 52. WPI and CPI inflation (per cent)



Source: MOSPI

Figure 53. Exports and Imports (US \$ billion) & trade balance (US \$ billion and per cent of GDP)

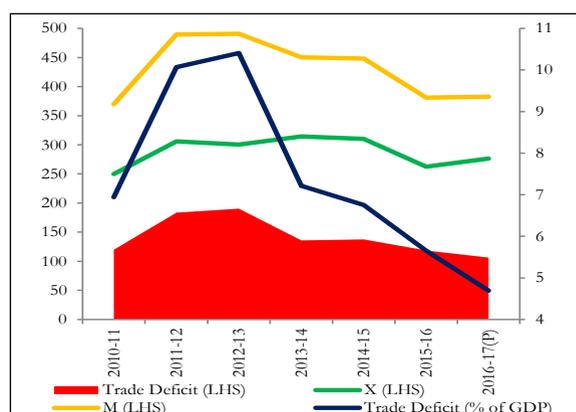
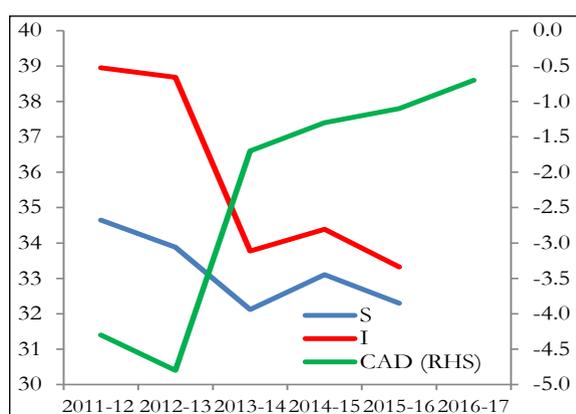


Figure 54. Saving (S) and Investment (I) rates and Current Account Balance (CAD) as per cent of GDP



region, reduced the flow of net remittances to India substantially, from US\$ 63.1 billion in 2015-16 to US\$ 56.6 billion in 2016-17.

1.175 Export growth turned positive after a gap of two years and imports contracted marginally, so that India's trade deficit narrowed to 5.0 per cent of GDP (US\$ 112.4 billion) in FY 2017 as compared to 6.2 per cent (US\$ 130.1 billion) in the previous year. After many quarters, volume growth in exports remained consistently positive since February 2016, while import volume growth became positive in October 2016. Gold imports have been surging since August 2016, possibly representing a shifting forward of purchases by jewelers ahead of expected

increases in the tax on gold and jewelry under the GST (Figure 60).

1.176 Net capital inflows were slightly lower at 1.6 per cent of GDP (US\$ 36.8 billion) in FY 2017 compared to 1.9 per cent of GDP (US\$ 40.1 billion) in the previous year, mainly due to decline in NRI deposits, reflecting the sizeable redemption of FCNR (B) deposits in late 2016 (Figure 55). Net FDI, however, remained strong at US\$35.6 billion in FY2017 and comfortably financed the current account deficit.

1.177 The capital account surplus exceeding the current account deficit led to reserve accumulation (on BoP basis) to the extent of US\$ 21.6 billion in 2016-17 which was

Figure 55. Trends in Major Components of Capital Inflows (US\$ billion)

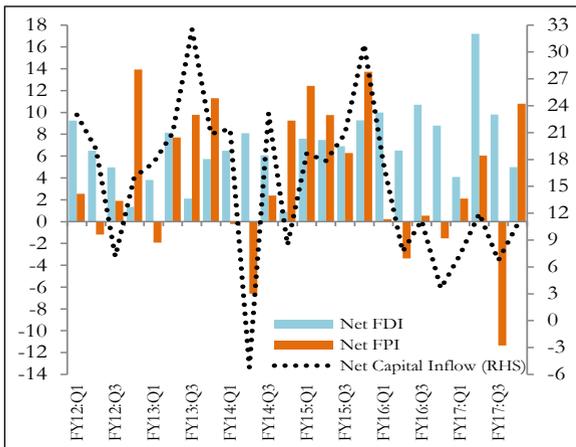
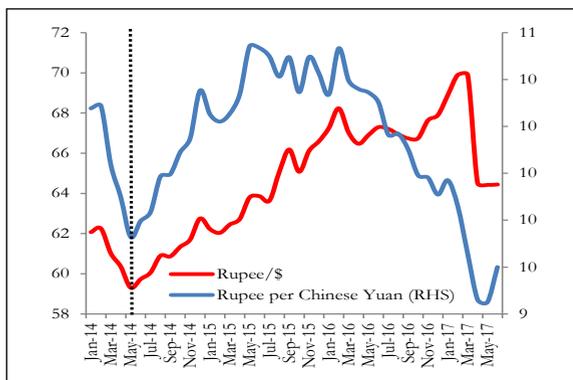


Figure 57. Exchange Rate: Rupee Dollar & Rupee Yuan



higher than the increase of US\$ 17.9 billion in FY 2016. Spot foreign exchange reserves stood at US\$ 370 billion at the end of March 2017 as compared to 360.2 billion as at end March, 2016 (Figure 56). As on July 7, 2017 the foreign exchange reserve reached US\$ 386.4 billion. As a result, most reserve-based external sector vulnerability indicators have improved. Extensive forward market intervention (which is effectively sterilized) reflected the RBI's attempt to manage excess liquidity in the wake of demonetization (Figure 61).

1.178 There was a transitory downward pressure on the Indian rupee following the uncertainty related to US presidential election

Figure 56. Foreign Exchange Reserves (US \$ billion)

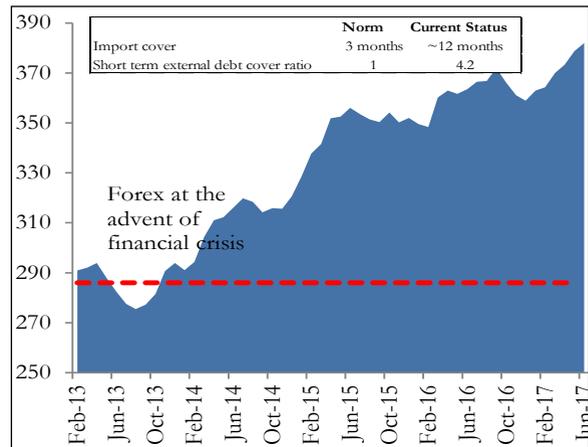


Figure 58. Nominal Effective Exchange Rate & Real Effective Exchange Rate: (2014=100)

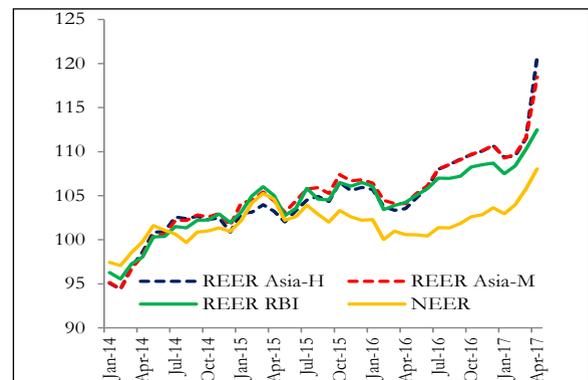


Figure 59. Export and Import Growth (per cent) (3 month moving average)

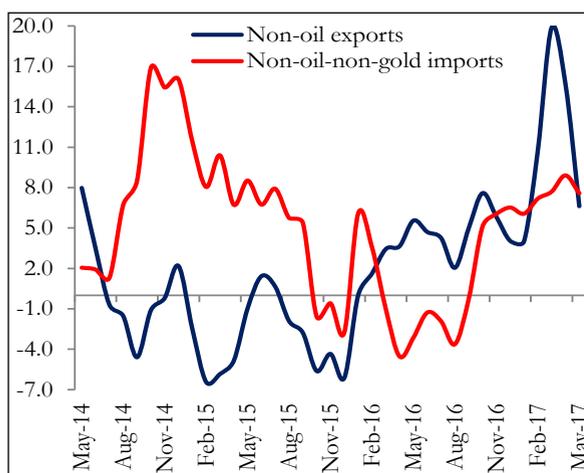
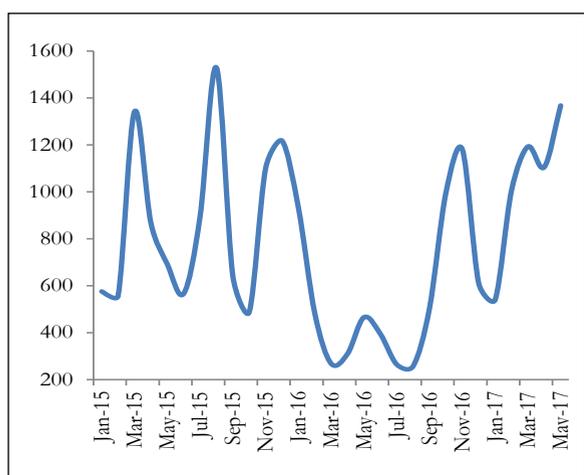
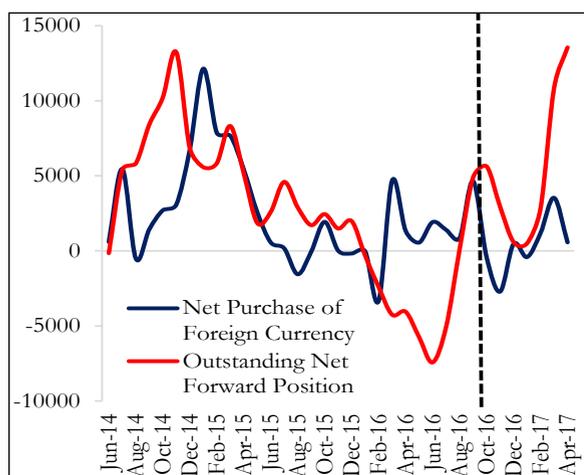


Figure 60. Gold imports ('00 kg)



Sources for Charts: RBI, CSO, DGCIS and Survey Calculations

Figure 61. Sales and Purchase of Foreign Currency by the RBI (US \$ million, thousands)



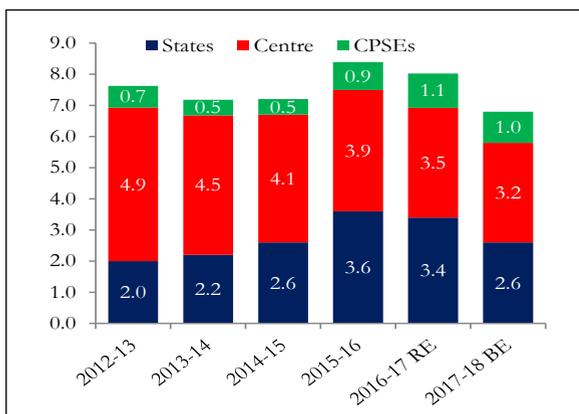
results that triggered sizable depreciation in currencies around the world. The rupee recovered quickly since December 2016 and strengthened further since February 2017 as portfolio inflows turned positive with receding global risk aversion, changed perception of US policies, and confidence in government policies and political stability in the wake of the Uttar Pradesh (UP) elections. The rupee remained in a range of Rs. 65.9 to Rs. 68.1 per US dollar during FY 2017, and on an average depreciated by 2.4 per cent between 2015-16 and 2016-17. In terms of real effective exchange rate, the rupee appreciated indicating that exports became slightly less competitive (Figure 58). The magnitude of this appreciation is greater relative to Asian currencies on account of the decline in the Chinese yuan (Figure 57).

IV. Fiscal Developments

1.179 Despite the expenditure compulsions on account of implementation of the Seventh Pay Commission and the Defence One Rank One Pension Scheme, the Union Budget 2017-18 aimed to consolidate its fiscal position. At the end of the year, the government adhered to its fiscal deficit target (Figure 62), despite spectrum auction and disinvestment receipts falling short of the targets.

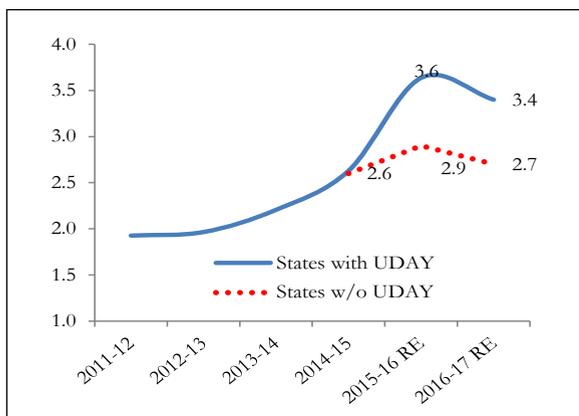
1.180 Overall, the fiscal outcome of the Central Government in FY 2017 was marked by robust growth in tax revenue—stemming largely from excise taxes on petroleum—and consolidation of non-salary/pension revenue expenditure and of borrowing. The efforts of mobilizing additional tax resources from excise duty and service tax considerably helped buoyant collections in the last two years. The collections from Swachh Bharat Cess and Krishi Kalyan Cess accounted for more than one-third of the growth in service tax collections. The growth in collections from petroleum products contributed more

Figure 62. Borrowings by the Centre, States and CPSEs (per cent of GDP)



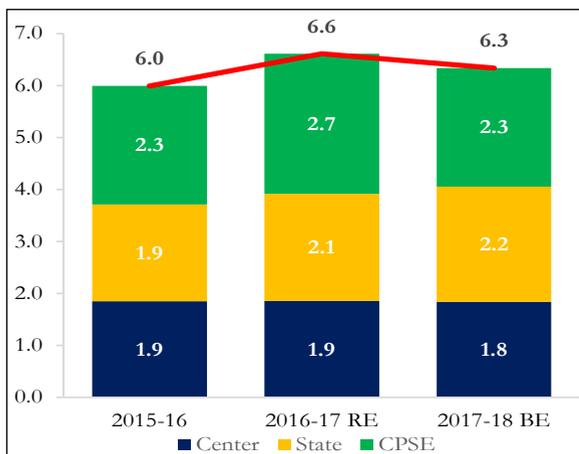
Source: Budgets of Centre and States, RBI

Figure 63. Fiscal deficit of States (per cent of GDP)



Source: RBI

Figure 64. Capital spending by Centre, States and CPSEs (per cent of GDP)



Source: Survey Calculations

than two-thirds of the growth in total excise collections.

1.181 The deficit position of the States deteriorated, reflecting their assuming the DISCOM liabilities under the UDAY program in the last two years. During FY 2016, the consolidated fiscal deficit of the States increased by about 1 percentage point (Figure 63). However, including UDAY, consolidated state fiscal deficit moderated by 0.2 percentage points, from 3.6 per cent in FY 2016 to 3.4 per cent of GDP in FY 2017. UDAY bonds approximately accounted for 0.7 per cent of GDP in FY 2016 and FY 2017.

1.182 Public investment—approximated by investment by Centre, States plus CPSEs—improved on the back of accelerated efforts by CPSEs in 2016-17 (Figure 64). The Survey calculations show that, but for relatively high level of public investment growth, the decline in the fixed investment rate would have been steeper (Figure 48). The investment spending of the general government, relative to GDP, is likely to decline in 2017-18 as per available Budget information.

1.183 The Union Budget for 2017-18 introduced a number of procedural reforms. First, discontinuing the practice since 1924, the Railway Budget was integrated with the Union Budget, bringing railway finances into mainstream budgeting. Second the date of the Union Budget was advanced to February 1, almost by a month, to help Central ministries and State governments plan and spend their full budget from the beginning of the financial year, whereas previously they had to wait till well into the financial year (typically end-May) for the Budget to secure legislative passage. Third, the classification of expenditure into ‘plan’ and ‘non-plan’ was eliminated to allow focus on the more economically meaningful capital-revenue distinction. Fourth, the Medium Term

Expenditure Framework Statement was restructured to give projected expenditures (revenue and capital) for each demand for the next two financial years.

1.184 The Union Budget for 2017-18 opted for a steady consolidation path. Thus, the fiscal deficit is expected to decline to 3.2 percent of GDP in FY2018 compared with the outcome of 3.5 percent of GDP in FY2017. The consolidation path adopted by

the Central Government prudently balanced competing objectives. On the one hand, there were the requirements of a cyclically weakening economy, afflicted by the Twin Balance Sheet problem and manifested in declining investment and credit growth, arguing for counter-cyclical policy. And, on the other, the imperatives of maintaining credibility, especially in the wake of potential disruptions to state government finances, warranted continuing consolidation.

APPENDIX 1. FARMER INDEBTEDNESS: BASIC FACTS

What is known about the magnitude and distribution of farm loans?

To answer this question the 2012-13 Situation Assessment Survey of Agricultural Households of the National Sample Survey Office which provides detailed estimates of the composition of outstanding loans in agriculture is used.²⁵

An agricultural household is defined as a household receiving an annual value of produce greater than Rs.3000 from agricultural activities—including allied activities—and having at least one member self-employed in agriculture either in the principal status or in subsidiary status during the last 365 days.

Tables 1 and 2 below summarize the estimates for farm loans by state and land holding for 2016-17. The 2012-13 numbers are inflated by CPI inflation for the period 2012-13 to 2016-17. A few facts stand out.

For India as a whole, total farm loans amount to about Rs. 5.5 lakh crore, of which Rs. 3.25 lakh crore (60 percent) is owed to formal institutions and the rest to informal ones. About Rs. 2.4 lakh crore or nearly 75 percent of all formal loans are owed by small farmers (holdings less than 2.5 hectares). But nearly 85 percent of all informal loans are also owed by small farmers. In other words, small farmers depend much more on the informal sector than the larger farmers for whom informal loans account for only 25 percent of total loans.

The states with the largest formal sector farm loans (in absolute terms) are Uttar Pradesh, Maharashtra, Kerala, Tamil Nadu, Karnataka, and Rajasthan. Perhaps surprisingly, Punjab and Haryana are not amongst the states with the highest farm loans. Punjab, however, does have high farm debt levels relative to GSDP, along with Kerala and Andhra Pradesh.

The states with the highest informal lending operations in farming are Andhra Pradesh, Rajasthan, Uttar Pradesh, and Telangana. On average, less developed states tend to have a higher volume of informal sector lending. For example, for these four states, informal loans, at close to 1 lakh crore, account for 56% of overall indebtedness of farmers: official farm loan waivers will still leave them with a lot of debt.

²⁵ There is an alternative and more current source of data from the RBI, but it does not disaggregate by farm size or capture informal sector lending. The RBI numbers on agricultural loans are higher than those from the NSSO study because the latter is sample-based. However, as discussed in the Economic Survey 2014-15, Chapter 5, Box 5.2, a substantial share of RBI-defined agricultural loans do not appear to go to the agricultural sector.

Appendix Table 1

Estimated Outstanding Loans by Land Holding Size and Source of Loan for 2016-17 (Rs Crore)

	No land and Small Farmer			Medium			Large			Grand Total		
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Uttar Pradesh	32,246	24,061	56,308	5,376	356	5,732	1,662	111	1,773	39,284	24,529	63,813
Andhra Pradesh	18,727	25,872	44,599	3,439	3,949	7,388	2,986	2,556	5,542	25,152	32,377	57,529
Tamilnadu	26,649	16,619	43,269	3,144	682	3,826	1,380	250	1,631	31,174	17,552	48,726
Rajasthan	14,948	27,597	42,544	6,221	2,649	8,870	4,626	3,215	7,841	25,795	33,461	59,255
Karnataka	24,949	16,230	41,179	4,943	2,773	7,716	3,815	737	4,552	33,706	19,740	53,447
Kerala	32,529	3,901	36,429	1,900	32	1,932	407	53	461	34,835	3,986	38,821
Maharashtra	22,292	8,352	30,645	8,426	2,129	10,554	7,777	1,372	9,149	38,495	11,853	50,348
Telangana	9,075	17,925	27,000	991	1,565	2,556	555	642	1,197	10,620	20,133	30,753
Madhya Pradesh	9,094	7,627	16,720	4,064	1,693	5,756	1,951	528	2,480	15,109	9,848	24,957
Odisha	4,811	10,020	14,830	1,009	22	1,030	419	161	579	6,238	10,202	16,440
Bihar	3,912	10,511	14,423	295	63	358	129	100	229	4,336	10,675	15,010
West Bengal	8,295	6,034	14,329	116	50	166	107	41	148	8,518	6,125	14,643
Punjab	8,167	4,480	12,647	5,643	1,183	6,825	1,829	522	2,351	15,638	6,185	21,823
Haryana	9,023	3,588	12,611	1,526	1,192	2,718	605	141	746	11,154	4,922	16,075
Gujarat	8,707	3,586	12,293	3,766	438	4,204	2,905	19	2,925	15,378	4,044	19,422
Uttarakhand	3,522	639	4,161	331	4	335	228	165	393	4,081	808	4,889
Himachal Pradesh	2,548	485	3,033	74	8	83	58	28	87	2,681	522	3,202
Chhattisgarh	1,762	1,242	3,004	284	35	319	71	2	73	2,116	1,280	3,396
Jharkhand	416	1,173	1,588	37	6	43	5	-	5	458	1,178	1,636
TOTAL	41,670	189,942	31,612	51,583	18,829	70,412	31,515	10,645	42,160	324,768	219,417	544,185

Source: Estimated from Unit level data on Situation Assessment Survey of Agriculture Households 2012-13.

Note: (1) Land holding categories are based on "Land Owned" and includes homestead land.

(2) Estimates for 2016-17 is based on 2012-13 number. The 2012-13 number are inflated by CPI inflation.

(3) Formal loans includes loans from Bank, Cooperative societies and Government.

Definition of Land Size:

No land and Small - upto 2.5 hectare

Medium - 2.5-5.5 hectare

Large - >5.5 hectare

Appendix Table 2

Estimated Outstanding Loans by Land Holding Size and Source of Loan for 2016-17 (% of 2017-18 GSDP)

	No land and Small Farmer			Medium			Large			Grand Total		
	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total	Formal	Informal	Total
Uttar Pradesh	2.3	1.7	4.0	0.4	0.0	0.4	0.1	0.0	0.1	2.8	1.7	4.5
Andhra Pradesh	2.4	3.4	5.8	0.4	0.5	1.0	0.4	0.3	0.7	3.3	4.2	7.5
Tamilnadu	1.8	1.1	2.9	0.2	0.0	0.3	0.1	0.0	0.1	2.1	1.2	3.2
Rajasthan	1.8	3.3	5.1	0.8	0.3	1.1	0.6	0.4	0.9	3.1	4.0	7.2
Karnataka	1.9	1.3	3.2	0.4	0.2	0.6	0.3	0.1	0.4	2.6	1.5	4.2
Kerala	4.3	0.5	4.9	0.3	0.0	0.3	0.1	0.0	0.1	4.7	0.5	5.2
Maharashtra	0.9	0.3	1.2	0.3	0.1	0.4	0.3	0.1	0.4	1.5	0.5	2.0
Telangana	1.2	2.4	3.6	0.1	0.2	0.3	0.1	0.1	0.2	1.4	2.7	4.1
Madhya Pradesh	1.2	1.0	2.3	0.6	0.2	0.8	0.3	0.1	0.3	2.1	1.3	3.4
Odisha	1.2	2.4	3.6	0.2	0.0	0.2	0.1	0.0	0.1	1.5	2.5	4.0
Bihar	0.6	1.7	2.3	0.0	0.0	0.1	0.0	0.0	0.0	0.7	1.7	2.4
West Bengal	0.8	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	1.4
Punjab	1.6	0.9	2.5	1.1	0.2	1.4	0.4	0.1	0.5	3.1	1.2	4.3
Haryana	1.5	0.6	2.0	0.2	0.2	0.4	0.1	0.0	0.1	1.8	0.8	2.6
Gujarat	0.7	0.3	1.0	0.3	0.0	0.3	0.2	0.0	0.2	1.2	0.3	1.5
Uttarakhand	1.6	0.3	1.8	0.1	0.0	0.1	0.1	0.1	0.2	1.8	0.4	2.2
Himachal Pradesh	1.8	0.3	2.2	0.1	0.0	0.1	0.0	0.0	0.1	1.9	0.4	2.3
Chhattisgarh	0.6	0.4	1.1	0.1	0.0	0.1	0.0	0.0	0.0	0.8	0.5	1.2
Jharkhand	0.1	0.4	0.5	0.0	0.0	0.0	0.0	-	0.0	0.2	0.4	0.5
TOTAL	1.5	1.2	2.7	0.3	0.1	0.4	0.2	0.1	0.3	2.0	1.4	3.4

Source: Estimated from Unit level data on Situation Assessment Survey of Agriculture Households 2012-13.

Note: (1) Land holding categories are based on "Land Owned" and includes homestead land.

(2) Estimates for 2016-17 is based on 2012-13 number. The 2012-13 number are inflated by CPI inflation.

(3) Formal loans includes loans from Bank, Cooperative societies and Government.

Definition of Land Size:

No land and Small - upto 2.5 hectare

Medium - 2.5-5.5 hectare

Large - >5.5 hectare

APPENDIX 2. DETAILS OF DATA USED FOR ESTIMATING PRICES, QUANTITIES, AND REVENUES FOR SELECTED CROPS

The data for Figure 13 in the section on agrarian stress has been obtained from the Ministry of Agriculture and Farmers' Welfare's Agricultural Marketing Information Network (AGMARKNET). The data links important agricultural produce markets spread all over the country and the State Agriculture Marketing Boards and Directorates and provides different price and arrivals trend analysis for important markets in respect of major agricultural commodities transacted. The coverage is representative at both state and All-India levels.

Price and arrival data for Indian states and union territories are used. To maintain a balanced panel of states, those states for which data are available for all the years are included. States for which arrival data for a product are missing for even one year are dropped from the sample of that product. Table 1 lists the states that are excluded from each product.

Product	States Excluded
Onion	Andaman and Nicobar, Arunachal Pradesh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep, Meghalaya, Sikkim, Tamil Nadu, Tripura.
Potato	Andaman and Nicobar, Arunachal Pradesh, Bihar, Chandigarh, Goa, Lakshadweep, Nagaland, Puducherry, Sikkim, Tamil Nadu.
Moong	Andaman and Nicobar, Arunachal Pradesh, Bihar, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, National Capital Territory of Delhi, Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Lakshadweep, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry, Punjab, Sikkim, Tamil Nadu, Tripura, West Bengal.
Tur	Andaman and Nicobar, Andhra Pradesh, Arunachal Pradesh, Bihar, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Kerala, Lakshadweep, Meghalaya, Mizoram, Nagaland, Puducherry, Punjab, Sikkim, Tamil Nadu, Telangana, Tripura.
Wheat	Andaman and Nicobar, Andhra Pradesh, Arunachal Pradesh, Bihar, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Goa, Tamil Nadu, Himachal Pradesh, Jammu & Kashmir, Lakshadweep, Manipur, Meghalaya, Mizoram, Nagaland, Puducherry, Sikkim, Tamil Nadu, Tripura.

The requirement of a balanced panel does not distort results due to missing data. The states excluded from the sample constitute only a negligible portion of the total arrivals in each product. For example, Bihar has been dropped from the sample for wheat as there is no data for Bihar for two years. However, even for the year 2013, for which data for Bihar is available for wheat, the percentage of total arrivals in Bihar for that year only account for 0.009% of the total. Similarly, Bihar has also been dropped from the sample for potatoes but arrivals in Bihar only account for 0.027% of the total arrivals for the year 2014 for which the data was available.

APPENDIX 3. METHODOLOGY FOR ESTIMATING QUARTERLY AND ANNUAL ADVANCE ESTIMATES OF GVA AND GDP

The table below lists the methodology of estimation of Quarterly and Advanced Annual Estimates of National Accounts, with the indicators and deflators or reflators used for sectors/subsectors.

Sector	GVA share	Key Indicator used	Whether indicator is nominal or real?	Deflator for converting nominal to real/Reflator for converting real to nominal
Agriculture	13.3	Production data -crops and livestock (egg, milk and meat)	Real	WPI - crops and WPI -livestock products
Forestry	1.3	Past growth trends	Real	WPI - Industrial wood, Fodder
Fishing	0.8	Production of inland and marine fish	Real	WPI - Fish (Inland and Marine)
Mining & quarrying	3.1	Coal production , Production of crude and natural gas, IIP-mining	Real	Weighted average WPI of Coal, crude petroleum and Natural Gas, metallic & other minerals, mineral oils
		Private corporate growth from listed companies (BSE/NSE)	Nominal	
Manufacturing	13.7	Private corporate growth from listed companies (BSE/NSE)	Nominal	WPI-manufactured products (compilation category wise)
	4.1	IIP-Manufacturing for quasi corporate and unorganised Sector	Real	WPI-manufactured products
Electricity	1.6	IIP-Electricity	Real	WPI - Electricity
Gas and water supply	0.4	Past growth trends	Real	
Construction	8.4	For pucca construction: Production of cement , consumption of steel, IIP -other non- metallic mineral products; For kuccha construction, past growth trends	Real	Aggregate WPI
Trade and Repair services	10.9	Indicators used for annual estimates are (a) Private corporate growth from listed companies (BSE/NSE) for the private corporate sector (b) sale of motor vehicles and service tax (for repair services) and sales tax (for whole sale and retail trade) for the unorganized sector. Indicators used for quarterly estimates are private corporate growth from listed companies (BSE/NSE) and sales tax.	Nominal (corporate growth, taxes) and Real (sale of motor vehicles)	WPI of traded commodities

Sector	GVA share	Key Indicator used	Whether indicator is nominal or real?	Deflator for converting nominal to real/Reflator for converting real to nominal
Hotels & Restaurants	1.1	Private corporate growth from listed companies (BSE/NSE)	Nominal	WPI of traded commodities
Rail Transport	0.8	Net tonne km and passenger km	Real	CPI Transport and Communication (CPI-TC)
Other transport	4.2	Cargo handled (for water transport), passenger traffic and cargo handled (air transport) and number of commercial vehicles on road estimated using data on sale of commercial vehicles (road transport)	Real	CPI-TC
Communication & broadcasting	2.0	Indicators use for compiling Annual estimates are Private corporate growth from listed companies (BSE/NSE), Minutes of usage(for telecommunication) and service tax (courier and cable services). The annual estimates are quarterized using growth in number of subscribers.	Nominal (corporate growth, taxes) and Real (Minutes of usage)	CPI-TC
Banking	5.5	Growth in Aggregate credits and deposits at the end of quarter	Nominal	Non-financial sector GVA deflator
Insurance	0.9	Net premiums collected for life/ non-life policies	Nominal	Non-financial sector GVA deflator
Real estate	0.9	Private corporate growth from listed companies (BSE/NSE)	Nominal	CPI (Misc)/Aggregate WPI (Private corporate sector)
Ownership of dwellings	6.5	Annual estimates are compiled using growth in number of rural and urban dwellings; distributed equally in the four quarters	Real	Relevant CPI
Professional services	8.1	Private corporate growth from listed companies (BSE/NSE)	Nominal	CPI (Misc)/Aggregate WPI (Private corporate sector)
Public administration and defence	5.4	Union and State Government Expenditure net of interest payments and subsidies	Nominal	CPI General Index (Combined)

Sector	GVA share	Key Indicator used	Whether indicator is nominal or real?	Deflator for converting nominal to real/Reflator for converting real to nominal
Other services	6.8	(a) For the Private sector, annual estimate is compiled using inter-survey growth in consumer expenditure on education, health and non-food items from NSS Consumer Expenditure Surveys and service tax. This annual estimate is distributed equally in four quarters (b) For public sector the indicator is same as that used for Public Administration and Defence.	Nominal	Relevant CPI
Indirect Taxes		Monthly data on tax revenue of centre and states.	Nominal	Constant price estimates of taxes on products are compiled by volume extrapolation. Volume extrapolation is done separately for different product taxes. Indicators used for extrapolation are growth in volume of output of manufacturing, services (excluding public administration and defence) and imports.
Subsidies		Expenditure on major subsidies available from Union Government accounts is used as an indicator.	Nominal	GVA deflator

Note: 1. MCA (Ministry of Corporate Affairs) database is used for First Revised estimates and not for Advance and quarterly estimates.

APPENDIX 4. METHODOLOGY FOR ESTIMATING THE IMPACT OF DEMONETIZATION ON MGNREGA AND REGRESSION RESULTS

The impact of demonetization on man-days generated under the MGNREGS is being measured as a test of the hypothesis that demonetization led to increased demand for social insurance. To do so, a difference-in-difference strategy is used.²⁶ The MGNREGS man-days in weeks before vs after Nov 8 is compared, and whether this difference was especially large in 2016-17 as compared to previous years is studied. Any competing explanation for the change in man-days pre- and post-demonetization in 2016-2017 should explain why this occurred differentially in 2016-17 compared to previous years. These regressions also control for confounding factors that differentially affect districts across months and years.

Formally, the regression run is:

$$\text{Log}(\text{Man-days})_{d,w} = \alpha_1(\text{Post}) + \alpha_2(\text{Post} * \text{Demonetization}) + \alpha_3 \text{FE}_{d,m} + \alpha_4 \text{FE}_{d,y} \quad (1)$$

Where Log(Man-days) indicates the log value of man-days generated in any given week in a district; d, w, m, and y subscripts refer respectively to district, weeks, months, and years. Post is a dummy that takes the value of 1 for all weeks after week 33 (irrespective of year). Demonetization is a dummy that takes the value of 1 for all weeks after week 33 (when demonetization occurred) in 2016-17 and 0 otherwise. FE_{d,m} indicates district-month fixed effects. FE_{d,y} indicates district-year fixed effects. The standard errors are clustered at the district-month level to control for errors being correlated.

The coefficient of interest is 2α which is the average effect across the demonetization period.

The pre-window includes the 8 weeks prior to demonetization. This was chosen because man-days generated in week 25 in 2016-17 is exactly equal to the man-days generated across the previous four years. Intuitively, this research design relies on what is known as the parallel trends assumption. This says that in the absence of demonetization, trends would have looked similar in 2016-17 compared to previous years. The 8-week cut-off appears to meet this criterion. But the results where this window is both expanded and compressed is also presented. Further, visual inspection of Figures 24-27 suggest that the parallel trends assumption does not seem to hold for Uttar Pradesh, where there was much more use of MGNREGA in the early part of the year in 2016-17 compared to previous years. So robustness is checked for with and without UP.

The following regression is also run:

$$\text{Log}(\text{Man-days})_{d,w} = \alpha_1(\text{Post}) + \alpha_{21}(4 \text{ weeks-Post} * \text{Demonetization}) + \alpha_{22}(5-10 \text{ weeks-Post} * \text{Demonetization}) + \alpha_{23}(\text{Beyond 10 weeks-Post} * \text{Demonetization}) + \alpha_3 \text{FE}_{d,m} + \alpha_4 \text{FE}_{d,y} \quad (2)$$

In this specification, the post-demonetization period is broken down into three windows to assess whether there were different impacts over time.

Tables 1 and 2 formally present the results of our regressions for specifications 1 and 2, respectively.

²⁶ Bertrand, M., Duflo, E., Mullainathan, S., "How much should we trust in difference-in-difference estimates?", Quarterly Journal of Economics (2004), 249-275. http://www.utdallas.edu/~d.sul/Econo2/Marianne_etal_QJE_04.pdf

In the baseline, which covers the entire country, it is found that demonetization increased the demand for MGNREGS employment by 10 percent (Column 1). Restricting the sample to the less developed states (Column 2), shows a larger impact of demonetization on MGNREGS of 39 percent. In Column (3), the sample is restricted to Uttar Pradesh and no effect is found. In columns (4) and (5), the pre-window is changed, narrowing it to 4 weeks in Column (4) and expanding it to 12 weeks in Column (5). The results become stronger and weaker respectively. In Column (6), the observations for the first weeks after demonetization are dropped and it is found that the result of a positive impact holds. In Column (7), the two drought years from the sample are dropped to restrict the comparison to similar agricultural years and the effects become statistically insignificant.

Table 2 is similar to Table 1 except for breaking down the demonetization period. There is evidence of three distinct periods: the "shock" period featuring the first 4 weeks when demand for MGNREGS declines (by 25 percent in the baseline), the "recovery" phase covering the following six weeks in which there is no discernible demand for MGNREGS; and the final "acceleration" phase covering the subsequent 10 weeks when there is a surge in demand for MGNREGS by 27 percent.

Table 1. Possible Impact of Demonetization on MGNREGS Employment

	(1) Baseline	(2) Less developed States	(3) UP only	(4) Week 29 onwards	(5) Week 21 onwards	(6) Dropping weeks 33-36	(7) Dropping drought years
Demonetization Effect	0.10*** (0.02)	0.39*** (0.03)	0.04 (0.07)	0.23*** (0.03)	-0.05** (0.02)	0.20*** (0.02)	0.02 (0.02)
R-Squared	0.81	0.81	0.77	0.83	0.8	0.82	0.84
# Observations	82607	28631	9688	69844	95397	69874	49425

Table 2. Possible impact of Demonetization on MGNREGS Employment: Across Demonetization Windows

	(1) Baseline	(2) Less developed States	(3) UP only	(4) Week 29 onwards	(5) Week 21 onwards	(6) Dropping drought years
First 4 weeks Demonetization effect	-0.25*** (0.03)	-0.09** (0.04)	-1.11*** (0.10)	-0.12*** (0.03)	-0.39*** (0.03)	-0.28*** (0.03)
Weeks 5-10 Demonetization effect	0.00 (0.03)	0.25*** (0.04)	-0.27*** (0.09)	0.13*** (0.03)	-0.14*** (0.03)	-0.06** (0.03)
Beyond 10 weeks Demonetization effect	0.27*** (0.02)	0.63*** (0.04)	0.60*** (0.07)	0.41*** (0.03)	0.13*** (0.02)	0.19*** (0.03)
R-Squared	0.81	0.82	0.8	0.83	0.8	0.85
# Observations	82607	28631	9688	69844	95397	49425

The results are suggestive not dispositive. But the broad results are both interesting and complex, warranting further research to disentangle the demonetization-MGNREGS links.

Notes to Tables 1 & 2: Outcome measured is the log of man-days per week per district. All regressions are run for all districts. Standard errors are in brackets. Weeks 25-52 of every financial year are the only ones considered in the baseline specification in column (1). This is done because in week 25, the average spending in current year and the average across past years was exactly the same. Weeks 40 and 41 are dropped from all the regressions because they feature an inexplicable dip in mandays for all pre-2016 years. Demonetization occurred on week 33. Hence the Post-demonetization variable indicates the differential impact on log of mandays for the period during and after week 33 in year 2016. Column (2) includes only districts in the states of Bihar, Madhya Pradesh, Chattisgarh, Jharkhand, Odisha, West Bengal and Rajasthan. Column (3) runs the regressions for districts in U.P. alone. Column (4) includes all weeks between 29-52. Column (5) includes all weeks between 21-52. Column (6) in Table 1 drops weeks 33-36 to account for the unusual dip in mandays in the 4 weeks after demonetization. Column (7) in Table 1 and Column (6) in Table 2 drop the two drought years of 2014-15 and 2015-16 so that the comparison is restricted to good monsoon years. All regressions include district-year and district-month fixed effects. All standard errors are clustered at the district-month level to control for errors being correlated.

** $p < 0.01$, ** $p < 0.05$, *** $p < 0.01$*

APPENDIX 5. SAMPLE OF EMERGING MARKET ECONOMIES FOR THE GROWTH CONFIGURATION EXERCISE IN SECTION VI.5

1.	Argentina
2.	Korea
3.	Bolivia
4.	Chile
5.	India
6.	Brazil
7.	Indonesia
8.	Malaysia
9.	Mexico
10.	Philippines
11.	South Africa
12.	Thailand
13.	Turkey
14.	Vietnam
15.	Colombia
16.	China
17.	Poland
18.	Romania
19.	Peru
20.	Bangladesh
21.	Egypt
22.	Israel
23.	Mauritius
24.	Singapore

Fiscal Developments

The Central Government finances went through considerable degree of consolidation in the last three years, aided by buoyant tax revenues that largely sprang from additional revenue measures and subsidy reduction related to reduced petroleum prices. The quality of spending improved with a gradual tilt towards capital expenditure. The fiscal outcome in 2016-17 was marked by robust growth in tax revenue—stemming largely from excise taxes on petroleum—and consolidation of non-salary/pension revenue expenditure and of borrowing. The Union Budget for 2017-18 opted for a gradual rather than the sharp consolidation path recommended by the FRBM Review Committee, prudently balancing the requirements of a cyclically weakening economy and the imperative of maintaining credibility, especially in the wake of disruptions to state government finances, reflecting their absorption of the DISCOM liabilities under the UDAY programme. The Centre is watchful about its finances in the first year of GST. State finances now face stresses from potential farm loan waivers. And with public sector enterprises tending to consolidate, public investment growth in 2017-18 may moderate.

2.1 The Union Budget 2016-17 was presented against the background of constrained global demand conditions, yet an improving external current account, flagging inflation and stable domestic macro-economic prospects. The Budget recognized the need to rely on domestic demand to firewall against the global demand slowdown, while maintaining macro-economic stability and adhering to prudent fiscal management. Affected by the twin balance sheet challenges, private investment was sluggish. Specific to the year were the concerns to raise resources to implement the recommendations of the 7th Central Pay Commission and the Defence One-Rank-One-Pension. The higher tax devolution to the States, mandated under the

Fourteenth Finance Commission, was to be sustained as well. The fiscal policy for 2016-17 had, thus, to confront a mixed bag of objectives, amidst guarded optimism about the economy.

2.2 This chapter, reviewing the fiscal developments in India with a focus on the year 2016-17, is organized in four sections—Central Government finances, State finances, the General Government, and the Outlook for 2017-18 and beyond.

CENTRAL GOVERNMENT FINANCES

2.3 Despite pressing expenditure concerns and conflicting views about the FRBM roadmap, the Budget for 2016-17 decided to consolidate fiscal, revenue and primary

deficits from the levels of the previous year (Table 1). Overall, the fiscal outcome of the Central Government in 2016-17 was marked by strong growth in tax revenue, sustenance of the pace of capital spending and a consolidation of non-salary/pension revenue expenditure. This combination allowed the Government to contain the fiscal

deficit from 3.9 percent of GDP in 2015-16 to 3.5 per cent of GDP in 2016-17, despite shortfall in non-tax revenue and non-debt capital receipts relative to its budgeted level. The fiscal consolidation that started in 2012-13 from the unacceptably high levels of 2011-12, continued in 2016-17.

2.4 The most important changes that

Table 1. Central Government's Fiscal Indicators

Indicators	2014-15	2015-16	2016-17BE	2016-17 PA	2017-18 BE
(₹ in lakh crores)					
Revenue receipts	11.01	11.95	13.77	13.76	15.16
Gross tax revenue	12.45	14.50	16.31	17.17	19.12
Net tax revenue	9.04	9.44	10.54	11.02	12.27
Non-tax revenue	1.98	2.51	3.23	2.74	2.89
Non-debt capital receipts(*)	0.51	0.63	0.67	0.64	0.84
Non-debt receipts	11.53	12.58	14.44	14.40	16.00
Total expenditure	16.64	17.91	19.78	19.75	21.47
Revenue expenditure	14.67	15.38	17.31	16.85	18.37
Capital expenditure	1.97	2.53	2.47	2.90	3.10
Fiscal deficit	5.11	5.33	5.34	5.35	5.47
Revenue deficit	3.66	3.43	3.54	3.08	3.21
Primary deficit	1.08	0.91	0.41	0.55	0.23
<i>Memo Item</i>					
GDP at current prices	124.45	136.82	150.65	151.84	168.47
(as per cent of GDP)					
Revenue receipts	8.9	8.7	9.1	9.1	9.0
Gross tax revenue	10.0	10.6	10.8	11.3	11.3
Net tax revenue	7.3	6.9	7.0	7.3	7.3
Non-tax revenue	1.6	1.8	2.1	1.8	1.7
Non-debt capital receipts(*)	0.4	0.5	0.4	0.4	0.5
Non-debt receipts	9.3	9.2	9.6	9.5	9.5
Total expenditure	13.4	13.1	13.1	13.0	12.7
Revenue expenditure	11.8	11.2	11.5	11.1	10.9
Capital expenditure	1.6	1.8	1.6	1.9	1.8
Fiscal deficit	4.1	3.9	3.5	3.5	3.2
Revenue deficit	2.9	2.5	2.3	2.0	1.9
Primary deficit	0.9	0.7	0.3	0.4	0.1

Source: Union Budget Documents and CGA

PA=Provisional Actual ; BE=Budget Estimates;

* includes disinvestment proceeds

occurred in the Central finances during the past three years include:

- Significant improvement in the tax to GDP ratio, aided by efforts at additional resources mobilization (detailed later);
- Gradual tilt in expenditure towards investment spending and consolidation of revenue expenditure that led to the progressive reduction in revenue and fiscal deficits, relative to GDP (Table 1).

2.5 The growth rates of fiscal parameters are presented in Table 2. The steady improvement in non-debt receipts vis-à-vis expenditure is reflected in the table.

A. Revenue generation plans and outcomes

2.6 The non-debt receipts (NDR) of the Central Government consist of its tax revenue net of devolution (net tax revenue), non-tax revenue consisting *inter alia* of receipts from spectrum auction and dividends and profits, and non-debt capital receipts, predominantly the proceeds from disinvestment in public sector enterprises. The Budget 2016-17 targeted a significant growth in non-debt receipts of the Government with improved growth in net

tax revenue and robust growth in non-tax revenue that was to be driven by proceeds of spectrum auction, and an optimistic target of disinvestment. The aggregate outcome in NDR more or less conformed to the target, but with its components contributing substantially differently from the corresponding budgeted targets. The growth in tax revenue outstripped the target and compensated for the shortfalls in non-tax revenue and disinvestment proceeds.

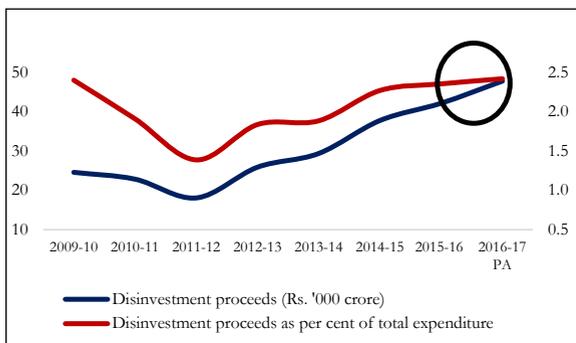
2.7 The non-tax revenue fell much short of budgeted targets, mostly on account of the shortfall of proceeds from spectrum auction. Likewise, the non-debt capital receipts were lower than the budgeted figures, because the proceeds from disinvestment (including divestment of strategic holdings and income from management of SUUTI investment) was ₹46,247 crore during the period 2016-17, as opposed to the budget target of ₹56,500 crore and the revised estimate of ₹45,500 crore. Though the disinvestment proceeds trailed behind the budgetary targets, both the absolute amount realized from disinvestment and its ability to finance Central Government expenditure--reached a historic high in 2016-17 (Figure 1). As percentage of total non-debt receipts, it stood at 3.2 per cent, more

Table 2. Growth Rate of Fiscal Indicators (in per cent)

Indicators	2014-15	2015-16	2016-17 PA	2017-18 BE
Revenue receipts	8.5	8.5	15.2	10.1
Net tax revenue	10.8	4.4	16.8	11.3
Non-tax revenue	-0.5	27.0	9.1	5.3
Non-debt capital receipts (*)	23.0	22.3	0.9	33.0
Non-debt receipts	9.1	9.1	14.5	11.1
Total expenditure	6.7	7.6	10.3	8.7
Revenue expenditure	6.9	4.8	9.5	9.0
Capital expenditure	4.8	28.6	14.7	6.7

Source: Union Budget Documents and CGA

PA: Provisional Actual ; **BE:** Budget Estimates (*) includes disinvestment proceeds

Figure 1. Disinvestment proceeds

Source: Union Budget

than a percentage point higher than the corresponding average of previous five years.

2.8 The growth in gross tax revenue in 2016-17 was the highest in the last six years mainly on account of buoyant revenue collection from excise duty. The major tax measures taken during 2016-17 are appended to this Chapter. On the direct tax front, the implementation of the recommendations of the Seventh Pay Commission contributed to collections from personal income tax (Table 3) and, most likely continue to do so in the current fiscal too.

2.9 The efforts of mobilizing additional tax resources (ARM) from excise duty and

service tax considerably helped buoyant collections in the last two years (Table 3). Two specific initiatives, i.e., Swachh Bharat Cess, a collection introduced with effect from November 2015 to contribute to Swachh Bharat initiatives, and Krishi Kalyan Cess, introduced with effect from June 2016 to finance improvements in agriculture and farmer's welfare, accounted for more than one-third of the robust growth in service tax collections in 2016-17. Likewise, the growth in excise collections from petroleum products contributed more than two-thirds of the growth in total excise collections. As noted in the Volume I of the Economic Survey, the consumption of petroleum products stood largely unaffected by demonetization because of special payment arrangements for these products during the period of cash crunch. The increase in consumption of petroleum products coupled with efforts at additional resource mobilization explained the 40 per cent increase in excise collections from petroleum products in 2016-17. Reflecting the buoyancy in excise and service tax collections in the last two years, the ratio of

Table 3. Major Tax Revenues of the Centre

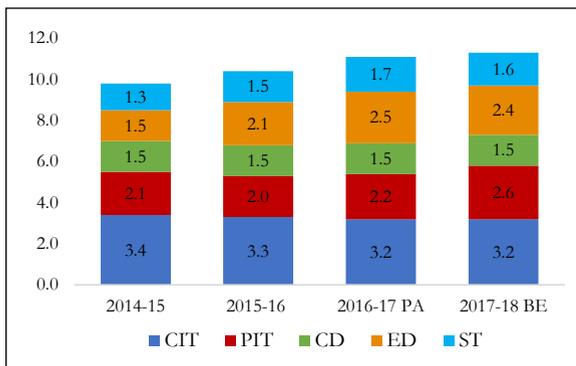
Taxes	2014-15	2015-16	2016-17	2017-18	2014-15	2015-16	2016-17	2017-18
	PA				BE			
(₹ in lakh crore)				(growth in per cent)				
Gross tax revenue	12.45	14.50	17.17	19.12	9.8	16.5	18.4	11.3
Corporation tax	4.29	4.53	4.85	5.39	8.7	5.7	7.0	11.1
Personal income tax	2.58	2.80	3.41	4.41	8.6	8.5	21.5	29.6
Customs duty	1.88	2.10	2.26	2.45	9.3	11.9	7.4	8.4
Excise duty	1.90	2.87	3.81	4.07	12.1	51.2	32.7	6.8
Service tax	1.68	2.11	2.55	2.75	8.5	25.9	20.4	8.0

Source: Union Budget Documents and CGA

PA=Provisional Actual ; BE=Budget Estimates

indirect taxes to GDP increased significantly (Figure 2).

Figure 2. Taxes as per cent of GDP

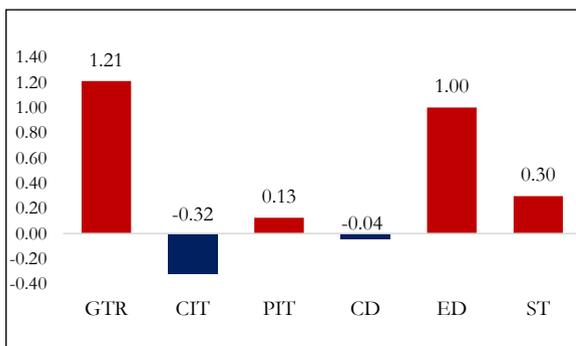


Source: CGA

CIT=Corporation tax; PIT=Personal income tax; CD=Custom duty; ED=Excise duty; ST=Service tax

2.10 Most of the fiscal space created by improvement in tax collections during 2013-14 to 2016-17 was on account of excise duties, service tax and personal income tax, in that order of importance (Figure 3). The indirect taxes—excise and custom duties and service tax—together improved by 1.3 percentage points of GDP during the last three years. The tax gain on account of cumulative tax policy changes amounted to more than 0.8 per cent of GDP during the last three years. Going forward, hence,

Figure 3. Change during 2013-14 to 2016-17 in tax collections as per cent of GDP



Source: CGA

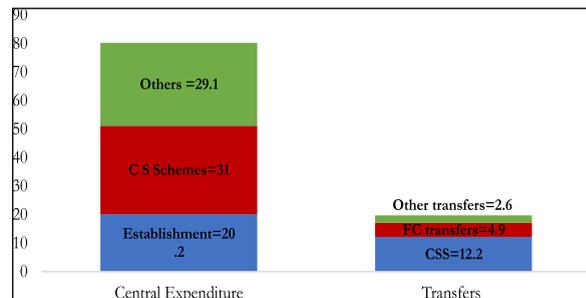
GTR=Gross tax revenue; CIT=Corporation tax; PIT=Personal income tax; CD=Custom duty; ED=Excise duty; ST=Service tax

sustaining improvement in tax collections will depend on the revenue buoyancy of GST which will subsume both excise duties and service tax apart from other cesses and taxes (details in Box 1). On the contrary, the corporate tax collection has declined by 0.3 percentage point, perhaps on account for current balance sheet stress in companies across the board.

B. Expenditure trends

2.11 The aggregate budgetary expenditure of the Central Government can be broadly divided into Central Government expenditure and transfers. In 2016-17 (RE), the Central Government expenditure accounted for 80.3 per cent of the total budgetary expenditure and the remaining 19.7 per cent were transfers (Figure 4).

Figure 4. Aggregate shares in budgetary expenditure in 2016-17 RE (per cent)



Source: Union Budget 2017-18

RE=Revised Estimates

C S schemes=Central Sector Schemes; FC transfers=Finance Commission transfers;

CSS=Centrally Sponsored Scheme

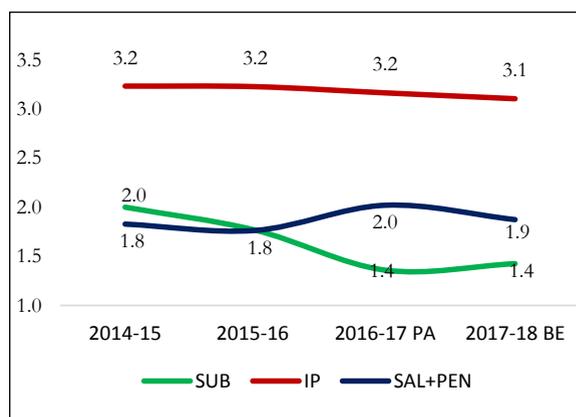
2.12 Faced with the liabilities of the 7th Pay Commission on the revenue expenditure front and constrained by FRBM commitments, the Budget 2016-17 targeted modest capital spending (Table 1). However, the additional tax resources generated the room for sustaining capital expenditure and in implementing recommendations of the Seventh Pay Commission on salaries and pensions, without an expansionary borrowing programme.

2.13 Two important factors drove the growth of revenue expenditure in 2016-17. The first was the increase in expenses on salaries and pensions in the last year that largely reflected the increase in the incomes of employees and pensioners during the year on account of the Pay Commission. Stripped of the spending on salaries and pensions, the growth in revenue expenditure was much lower in 2016-17 (Tables 4 & 5 and Figure 5).

2.14 Major subsidies, including those on food, petroleum and fertilizers, as percentage of the GDP has been consistently declining from 2012-13 (Figure 5). This happened despite the food subsidy remaining high following the implementation of the National Food Security Act.

2.15 The second reason for the increase in revenue expenditure in 2016-17 is the increase of 26.4 per cent in the grants for creation of capital assets (GCCA). All grants given to the State Governments and Union Territories are treated as revenue expenditure, but a part of

Figure 5. Major items of revenue expenditure as % of GDP



Source: CGA

PA=Provisional Actual ; BE=Budget Estimates

IP=Interest payment; SUB=major subsidies; SAL=Pay & allowances; PEN=Pensions

these grants are used for creation of capital assets. The investment push that the Central Government expenditure provides to the economy can be approximated by subtracting GCCA from revenue expenditure and adding it to the capital expenditure. This adjustment

Table 4. Major Items of Revenue Expenditure (₹ in lakh crore)

Items	2014-15	2015-16	2016-17 PA	2017-18 BE
Interest payments	4.0	4.4	4.8	5.2
Major subsidies	2.5	2.4	2.1	2.4
Pensions	0.9	1.0	1.3	1.3
Salaries	1.3	1.4	1.8	1.8

Source: Union Budget Documents and CGA

PA=Provisional Actual ; BE=Budget Estimates

Table 5. Growth in major components of revenue expenditure (in per cent)

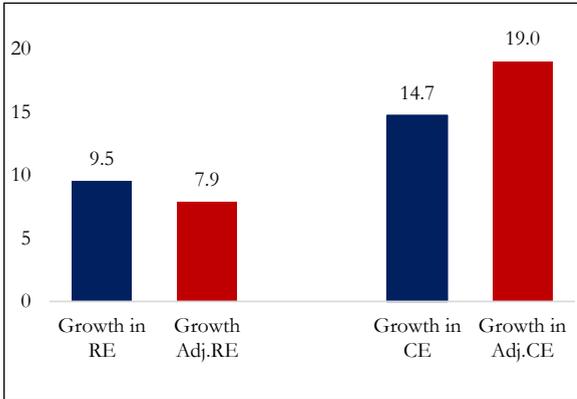
	2015-16	2016-17 BE	2016-17 PA
Revenue expenditure	4.8	12.6	9.5
Interest payments	9.7	11.5	8.8
Major subsidies	-2.9	-4.2	-14.6
Pensions	3.4	27.5	33.4
Salaries & allowances	7.9	27.2	23.1
NSP-RE	4.6	9.8	6.3

Source: Union Budget and CGA

NSP-RE=Non-salary/non-Pensions Revenue Expenditure

increases the growth in capital expenditures in the year significantly (Figure 6).

Figure 6. Growth in revenue expenditure (RE) and capital expenditure (CE) in 2016-17 (per cent)

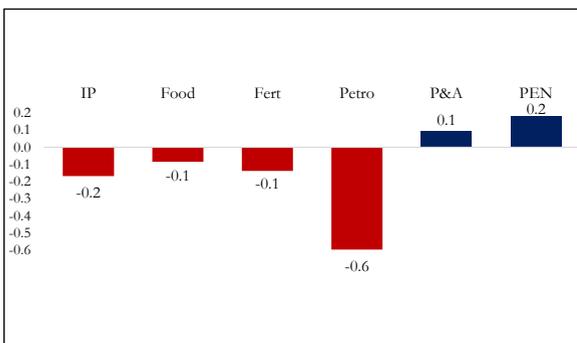


Source: CGA

Adj.=Adjusted

2.16 During 2013-14 to 2016-17, the total budgetary expenditure of the Central Government declined by 0.9 percentage points of the GDP—revenue expenditure by 1.1 percentage points, while capital expenditure increased by 0.1 percentage point. The recent expenditure trends show improved expenditure quality, with the gradual tilt towards capital expenditure (Tables 1&2). Figure 7 shows that more than half of the

Figure 7. Changes from 2013-14 to 2016-17 in selected components of revenue expenditure as per cent of GDP



Source: Union Budget

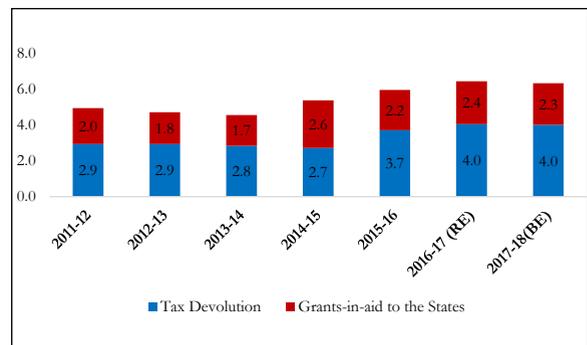
IP=Interest payment; Food=Food subsidy; Fert=Fertiliser subsidy; Petro=Petroleum subsidy; P&A=Pay & allowances; PEN=Pensions

fiscal space created by the compression of revenue expenditure owes to the reduction in petroleum subsidy. This represents a confluence of decline in international crude prices, decontrol of prices and avoidance of leakages through direct benefit transfer of subsidies.

C. Devolution

2.17 The devolution from the Centre to the States consists of tax devolution and grants. Till 2013-14, the funds for centrally sponsored schemes (CSS) were routed through two channels—the Consolidated Funds of the States and directly to the State implementing agencies. In 2014-15, direct transfers to State implementing agencies was discontinued and all transfers to States including for the CSS were started to be routed through the Consolidated Funds of the States (Table 6). Hence, the spike in total devolution to the States seen in 2014-15 (Figure 8) was largely the result of the shift in the pattern of devolution.

Figure 8. Transfers to States as percentage of GDP



Source: Department of Expenditure, Ministry of Finance

RE=Revised Estimates ; BE=Budget Estimates

2.18 Tax devolution to the States increased by 1 percentage point of GDP in 2015-16, following the implementation of the recommendation of the Fourteenth Finance Commission to devolve 42 per cent of the divisible pool of taxes to the States, up

Table 6. Central Transfers to States (₹ in lakh crore)

	2014-15	2015-16	2016-17 (RE)	2017-18(BE)
Tax devolution	3.38	5.06	6.08	6.75
Grants-in-aid	3.30	3.06	3.59	3.88
Total	6.68	8.12	9.67	10.63

Source: Department of Expenditure, Ministry of Finance

RE=Revised Estimates ; BE=Budget Estimates

from 32 per cent thereto. The total transfers to States also increased, but by a lesser proportion—by 0.5 percentage points of the GDP—because the increase in untied tax devolution was also associated with some reduction in tied transfers (Figure 8). The tax devolution as percentage of GDP increased in 2016-17 (Figure 8) reflecting the corresponding change in gross tax revenue of the Centre, relative to the GDP (Table 1).

D. Central Government Debt

2.19 With steady fiscal consolidation, the ratio of Central Government liabilities to GDP has been declining, but for a marginal increase in 2015-16 (Table 7). In the last 14 years, there are only two years when the Central liabilities grew faster than nominal GDP—2011-12 and 2015-16. Of this, the first was a year of unusual fiscal expansion—

the fiscal deficit as percentage of GDP climbing by 1.1 percentage points from the previous year. In 2015-16, the Government reduced fiscal deficit from the previous year. Yet, the growth in liabilities at 10.6 per cent outstripped the nominal GDP growth of 9.9 per cent, because the latter was dragged down by almost a percentage point from the previous year, because of the steep decline in inflation (Figure 9). The trend got reversed conspicuously in 2016-17.

2.20 The other distinct trends on the debt front are the increasing reliance on fixed interest rate market borrowings and the declining importance of external borrowings on the debt portfolio of the Government of India. The steady decline in external debt as percentage of the GDP (Table 7) also indicates lower currency risk of India's debt

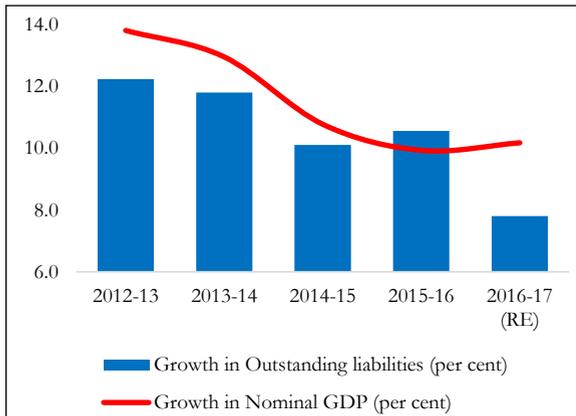
Table 7. Outstanding liabilities of the Central Government as per cent of GDP

(As per cent of GDP)	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 RE	2017-18 BE
Internal liabilities	49.8	49.2	48.8	48.6	48.9	47.9	45.8
Internal debt	37.0	37.9	37.8	38.1	38.8	38.0	36.7
Market borrowings	28.8	30.0	30.6	31.3	31.4	30.8	29.7
Others	8.2	7.8	7.1	6.8	7.4	7.2	7.0
Other internal liabilities	12.8	11.4	11.1	10.5	10.1	9.8	9.2
External debt (outstanding)*	1.9	1.8	1.6	1.6	1.5	1.5	1.4
Total outstanding liabilities	51.7	51.0	50.5	50.2	50.4	49.4	47.3

Source: Union Budget

* external debt is expressed in historical exchange rates

Figure 9. GDP growth and growth in the Outstanding liabilities of the Centre

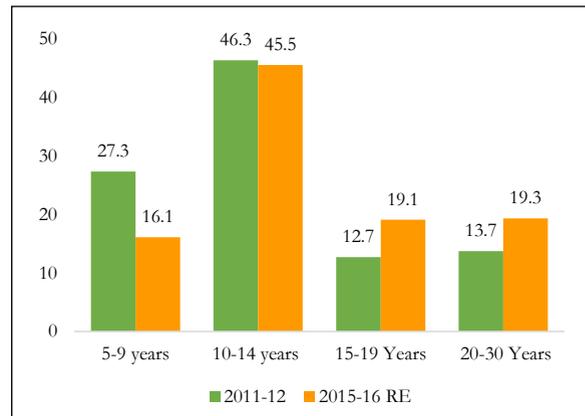


Source: Union Budget

stock and waning impact of Government's borrowing programme on the balance of payments situation. The Central Government does not borrow directly from international capital markets; more than two-thirds of its external debt stock is from multilateral institutions, largely on concessional terms.

2.21 The gradual elongation of the maturity profile of the Government's debt (Figure 10) has reduced the rollover risk. The weighted residual average maturity of outstanding dated securities of the Government of India increased from 9.7 years at end-March 2010 to 10.5 years at end-March 2016.

Figure 10. Maturity Profile of Central Government Dated Securities issued in 2011-12 and 2015-16 (as % of Total)

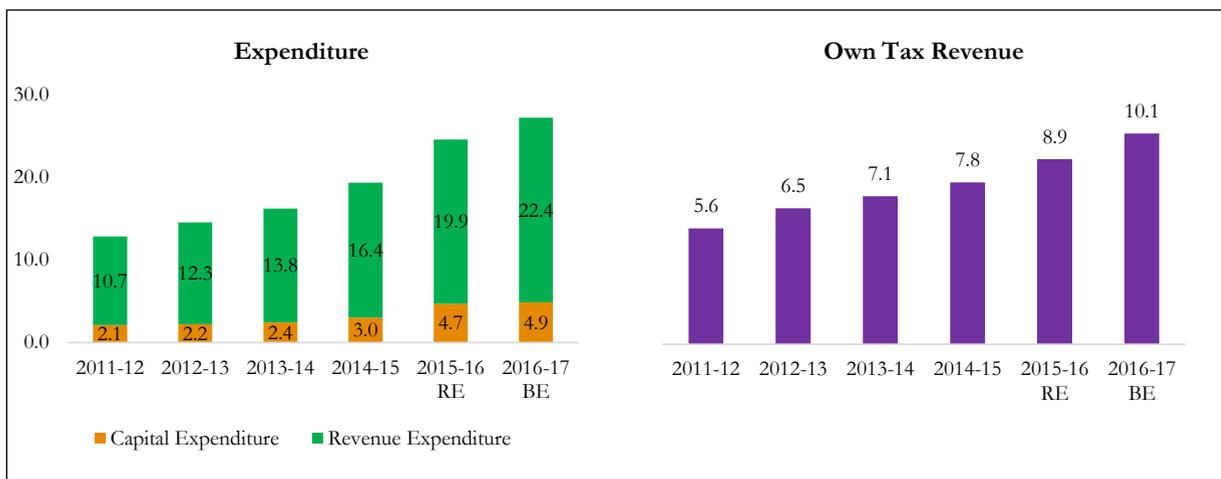


Source: Status Paper on Debt, Ministry of Finance

STATE FINANCES

2.22 The State budgets expanded considerably in 2015-16, both on account of increase in current and capital spending (Figures 11 A & B and Table 8). Capital expenditure consists of capital outlay and loans and advances by the State Governments. The loans and advances increased sharply in 2015-16. The capital expenditure of the States (combined) increased by 56.1 per cent in 2015-16, but net of UDAY, this growth was only about 23 per cent.

Figures 11 A & B. Fiscal indicators of States (combined) (₹ in lakh crore)



Source: State Finances: A Study of Budgets, RBI

RE=Revised Estimates ; BE=Budget Estimates

Table 8. Fiscal indicators of States (combined) as per cent of GDP

	2012-13	2013-14	2014-15	2015-16 RE	2016-17 BE
Own tax revenue	6.6	6.3	6.3	6.6	6.7
Own non tax revenue	1.2	1.2	1.2	1.2	1.3
Capital expenditure*	2.2	2.2	2.4	3.5	3.2
Revenue expenditure	12.4	12.3	13.2	14.7	14.8
Total expenditure	14.6	14.5	15.6	18.1	18.1

Source: State Finances: A Study of Budgets, RBI

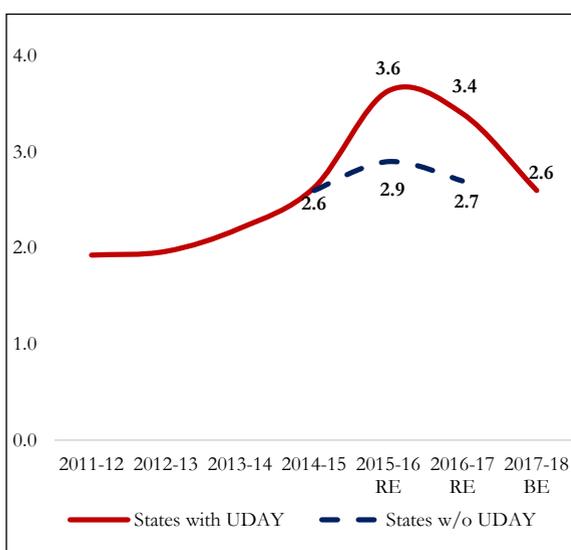
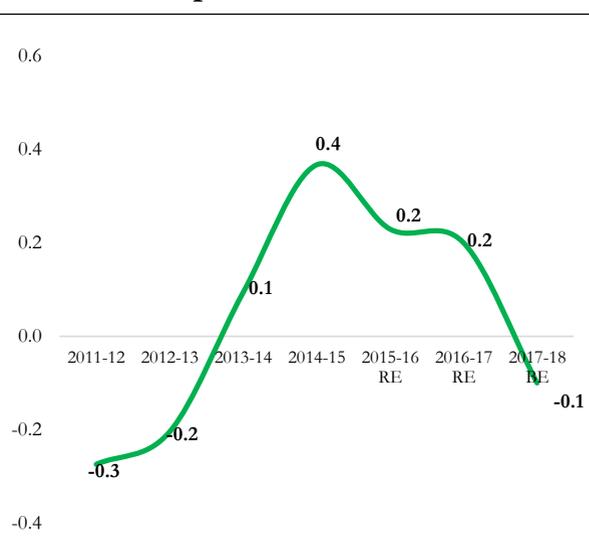
RE=Revised Estimates ; BE=Budget Estimates

* Capital expenditure does not include repayment of internal debt/loans to Centre, which are included in Capital disbursements

2.23 The UDAY-related borrowings raised by the State Governments have been exempted from the fiscal deficit targets during 2015-16 and 2016-17. While this could be the case with individual States, it would be important to understand the combined fiscal deficit of all States including the UDAY liabilities, as these liabilities add to the debt of the States.

2.24 The RBI Study on State Finances points to the worsening of the fiscal deficit

to GDP ratio on account of the increase in capital outlay and loans and advances to power projects-around ₹98960 crore was borrowed under UDAY by eight states during 2015-16. Net of UDAY bonds, consolidated state fiscal deficit moderates by 0.7 percentage point to 2.9 per cent (Figure 12). Thus with UDAY, as per the available information, the combined fiscal deficit of States crossed the FRBM benchmark of 3.0 per cent. Based on information on 25

Figure 12. Fiscal Deficit of States as per cent of GDP**Figure 13. Revenue Deficit of States as per cent of GDP**

Source: State Finances: A Study of Budgets, RBI

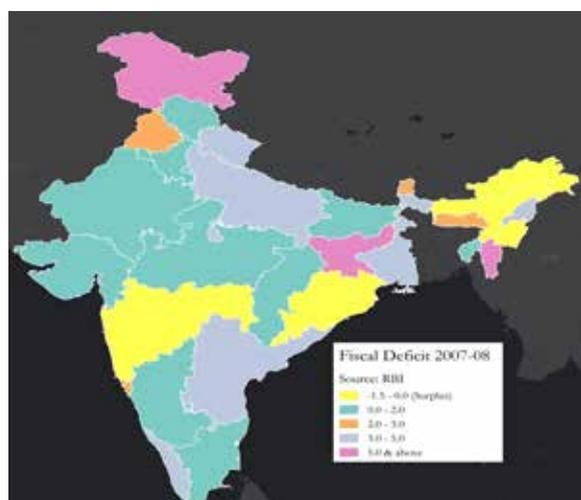
RE=Revised Estimates; BE=Budget Estimates; " - " indicates surplus

Note: The numbers for 2016-17 RE and 2017-18 BE are based on data available for 25 states

States, the combined fiscal deficit of States in 2016-17 (RE) would be 3.4 per cent after including the UDAY liabilities while it would be 2.7 per cent without the UDAY liabilities (Figure 12). As per information from the RBI, in 2015-16, eight States (Uttar Pradesh, Rajasthan, Chhattisgarh, Punjab, Jammu & Kashmir, Bihar, Jharkhand, Haryana) borrowed under UDAY, while in 2016-17, thirteen States (Uttar Pradesh, Maharashtra, Haryana, Punjab, Rajasthan, Bihar, Jammu & Kashmir, Andhra Pradesh, Tamil Nadu, Himachal Pradesh, Telangana, Madhya Pradesh, Meghalaya) borrowed under UDAY.

2.25 Figures 14 and 15 present two snapshots of the fiscal deficits of the State—2007-08 when the combined fiscal deficit to GDP ratio reached its lowest since the FRBM and 2015-16 when the ratio became the highest.

Figure 14. Distribution of States according to Fiscal deficit / GDP ratio: 2007-08



Source: State Finances: A Study of Budgets, RBI

Five States ran fiscal surpluses in 2007-08 and none in 2015-16.

2.26 There was an uptick in State fiscal deficit during 2013-14 and 2014-15 without any worsening of the combined debt position of the States, relative to the GDP (Figures 12 & 16). However, in 2015-16, the liabilities to GDP ratio of States steeply increased owing to the combined effect of a considerable increase in deficits and the reduction in nominal GDP growth (Table 9).

GENERAL GOVERNMENT

2.27 From 2011-12 to 2014-15, the outstanding liabilities of the Central and state governments, relative to the GDP, declined steadily (Table 10). With the State Government's position of deficit and outstanding liabilities worsening in 2015-

Figure 15. Distribution of States according to Fiscal deficit/GDP ratio: 2015-16 (RE)

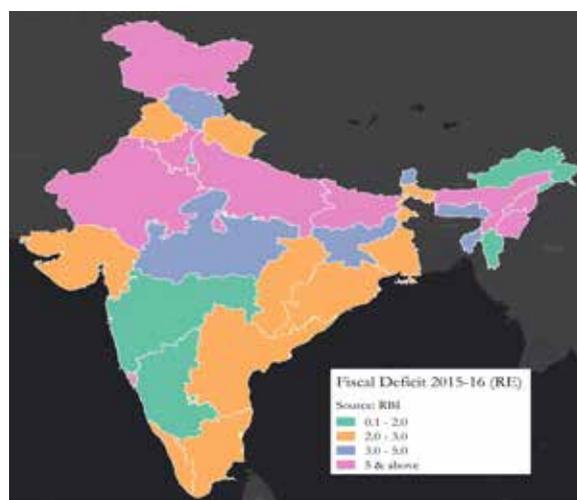


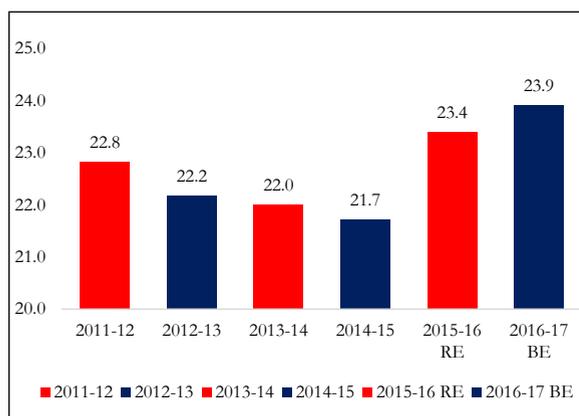
Table 9. Outstanding Liabilities of the State

	2012-13	2013-14	2014-15	2015-16 RE#	2016-17 BE#
Liabilities of States (₹ in lakh crore)	22.1	24.7	27.0	31.7	36.0
Liabilities of States (% growth)	10.6	12.0	9.4	17.4	13.5

Source: State Finances: A Study of Budgets, RBI

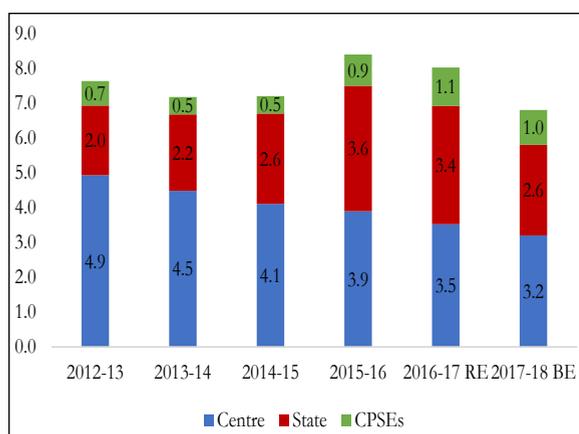
RE=Revised Estimates; BE=Budget Estimates

with UDAY

Figure 16. Outstanding Liabilities of the State (as per cent of GDP)

Source: State Finances: A Study of Budgets, RBI
RE=Revised Estimates; BE=Budget Estimates
with UDAY

16, the total borrowings by the General Government and the debt position of the Centre and States combined also deteriorated (Figure 17 & Table 10). The indications from the budgeted levels of borrowings of States as per cent of GDP in 2017-18 were that they are consolidating (Figure 17). Given the recent trends in fiscal deficits of the Centre

Figure 17. Borrowings by the Centre, States (with Uday) and CPSEs (per cent of GDP)

Source: Union Budget and State Budgets
RE=revised estimates; BE=Budget estimates; CPSEs: Central Public Sector Enterprises
Note: 2016-17 RE and 2017-18 BE numbers are as per information available for 16 states constituting about 79 per cent of GDP

and the clear consolidation roadmap laid out by it in the Medium Term Fiscal Policy Statement 2017-18 (Figure 19), it seems that the General government is consolidating further.

2.28 Public investment—approximated by investment by Centre, States plus CPSEs—improved on the back of accelerated efforts by CPSEs in 2016-17 (Figure 18). The national accounts show that the fixed investment rate in the economy declined from 29.3 per cent in 2015-16 to 27.1 per cent in 2016-17. The Survey calculations show that, but for the improved public investment, the decline in the fixed investment rate would have been steeper (Figure 6 in Chapter 1). The differential trend in the investment spending of the General Government (including CPSEs) between the period 2015-16 to 2016-17 and the period 2016-17 to 2017-18 may be perused from Figure 18.

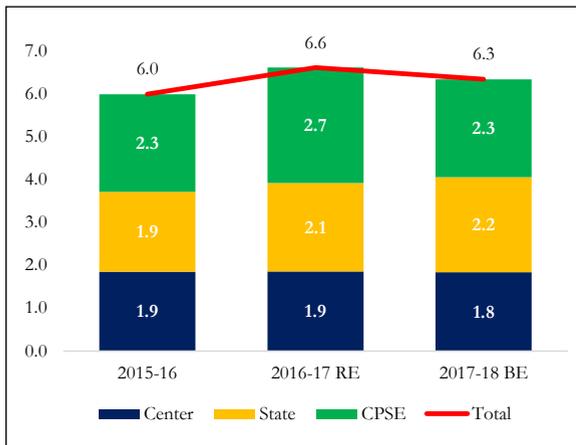
Table 10. Outstanding Liabilities of the Centre and States as per cent of GDP

Year	Liabilities of the Centre	Liabilities of the States	Combined liabilities of the Centre & States
2009-10	56.3	25.5	70.6
2010-11	52.2	23.5	65.6
2011-12	53.5	22.8	67.4
2012-13	52.5	22.2	66.6
2013-14	52.2	22.0	67.1
2014-15	51.5	21.7	66.9
2015-16 RE	52.3	23.4	69.3
2016-17 BE	50.7	23.9	68.6

Source: Reserve Bank of India and Survey calculations based on State Finances: A Study of Budgets, RBI
RE=revised estimates; BE=Budget estimates

Note: The figures of the outstanding liabilities of the Centre as per cent of GDP presented in Table 10 do not match with those in Table 7, because external debt is assessed in historical exchange rates in Table 7, whereas the same is assessed in current exchange rate in this table.

Figure 18. Capital spending by Centre, States and CPSEs (per cent of GDP)



Source: Union Budget and State Budgets

Note: 2016-17 RE and 2017-18 BE numbers are as per information available for 16 states constituting about 79 per cent of GDP

FRBM REVIEW COMMITTEE

2.29 Taking stock of the experience of the FRBM era, the Budget 2016-17 had acknowledged that there are different strands of thought on fiscal responsibility roadmap—fixed deficit targets versus range-based targets, fiscal expansion and contraction that respond to credit and economic cycles, etc. These issues were left to be analyzed by an FRBM Review Committee.

2.30 The Government constituted a five-member FRBM Review Committee in May 2016 with Shri N K Singh as Chairman. The members of the Committee were: Shri Sumit Bose, Dr. Urjit Patel, Dr. Rathin Roy and Dr. Arvind Subramanian. The Committee submitted their Report to the Government in January 2017. The Government has still not taken a view on any of these recommendations.

FISCAL POLICY FOR 2017-18 AND BEYOND

2.31 The Union Budget for 2017-18 introduced a number of procedural reforms.

First, discontinuing the practice since 1924, the Railway Budget was integrated with the Union Budget, bringing railway finances to the mainstream. Second, the date of the Union Budget was advanced to February 1, almost by a month, to help ministries and State governments plan and spend their full budget from the beginning of the financial year, whereas previously they had to wait till well into the financial year (typically end-May) for the Budget to secure legislative passage. Third, the classification of expenditure into ‘plan’ and ‘non-plan’ was eliminated to allow focus on the more economically meaningful capital-revenue distinction. Fourth, the Medium Term Expenditure Framework Statement was restructured to give projected expenditures (revenue and capital) for each demand for the next two financial years.

2.32 Overshadowing these otherwise significant fiscal policy initiatives is the introduction of the Goods and Services Tax with effect from the 1st day of July 2017, encompassing a plethora of the Central and State level indirect taxes, paving the way for a dramatic transformation of the Indian markets and the economy (Box 1).

2.33 The budget for 2017-18 opted for a gradual consolidation. Thus, the fiscal deficit is expected to decline to 3.2 percent of GDP in 2017-18 compared with the outcome of 3.5 percent of GDP in 2016-17 (Table 11). The consolidation path adopted by the Central Government prudently balanced competing objectives. On the one hand, there were the requirements of a cyclically weakening economy, afflicted by the Twin Balance Sheet and manifested in declining investment and credit growth, arguing for counter-cyclical policy. And, on the other, the imperatives of maintaining credibility, especially in the wake of potential disruptions to state government

Table 11. Major Fiscal Indicators for 2017-18

Items	Per cent of GDP		Growth rate (per cent)	
	2016-17 PA	2017-18 BE	2016-17 PA	2017-18 BE
Revenue receipts	9.1	9.0	15.2	10.1
Gross tax revenue	11.3	11.3	18.0	11.3
Direct taxes	5.4	5.8	11.4	18.7
Indirect taxes	5.7	5.5	21.4	7.6
Net tax revenue	7.3	7.3	16.8	11.3
Non-tax revenue	1.8	1.7	9.1	5.3
Non-debt capital receipts	0.4	0.5	0.9	33.0
Non debt receipts	9.5	9.5	14.5	11.1
Total expenditure	13.0	12.7	10.3	8.7
Revenue expenditure	11.1	10.9	9.5	9.0
Capital expenditure	1.9	1.8	14.7	6.7
Memo Items				
Fiscal deficit	3.5	3.2		
Revenue deficit	2.0	1.9		
Primary deficit	0.4	0.1		

Source: Union Budget

PA=Provisional Actual ; BE=Budget Estimates

Box 1. Historic Tax Reform: The Goods and Services Tax (GST)

The launch of the GST represents an historic economic and political achievement, unprecedented in Indian tax and economic reforms, summarized in Table 2. Here we clarify some misconceptions and highlight some of the relatively unnoticed benefits while pointing to the way ahead.

Table 1. Taxes subsumed under GST

Central Taxes	State Taxes
<ul style="list-style-type: none"> • Central Excise Duty • Duties of excise (medicinal and toilet preparations) • Additional Duties of excise (goods of special importance & textile and textile products) • Additional Duties of customs • Special Additional Duty of Customs • Service tax • Cesses and surcharges related to supply of goods or services 	<ul style="list-style-type: none"> • State VAT • Central sales tax • Purchase tax • Luxury tax • Entry tax (all forms) • Entertainment tax (not levied by the local bodies) • Taxes on advertisements • Taxes on lotteries, betting and gambling • State cesses and surcharges

While subsuming State level taxes, the Central government has guaranteed all state governments 14 per cent annual growth in revenues for the next five years, a compensation that will be financed by cesses on demerit goods (tobacco, luxury cars, aerated beverages, etc). Here we clarify some misconceptions and highlight some of the relatively unnoticed benefits while pointing to the way ahead.

Table 2. Key Benefits of the GST

1. Furthering cooperative federalism	<ul style="list-style-type: none"> Nearly all domestic indirect tax decisions to be taken jointly by Centre and states
2. Reducing corruption and leakage	<ul style="list-style-type: none"> Self-policing: invoice matching to claim input tax credit will deter non-compliance and foster compliance. Previously invoice matching existed only for intra-state VAT transactions and not for excise and service taxes nor for imports
3. Simplifying complex tax structure and unifying tax rates across the country	<ul style="list-style-type: none"> 8-11 central excise duty rates times 3-5 State VAT rates itself applied differentially across states to be consolidated into the GST's 6 rates, applied uniformly across states (one good, one Indian tax) Other taxes and cesses of the states and the Centre subsumed in the GST
4. Creating a common market	<ul style="list-style-type: none"> Will eliminate most physical restrictions and taxes on inter-state trade
5. Furthering 'Make in India' by eliminating bias in favour of imports ("negative protection")	<ul style="list-style-type: none"> Will make more effective and less leaky the domestic tax levied on imports (IGST, previously the sum of the countervailing duty and special additional duty), which will make domestic goods more competitive
6. Eliminating tax bias against manufacturing/ reducing consumer tax burden	<ul style="list-style-type: none"> By rectifying breaks in the supply chain and allowing easier flow of input tax credits, GST will substantially eliminate cascading (paying taxes at each stage on value added and taxes at all previous stages, such as with the Central Sales Tax)
7. Boosting revenues, investment, and medium-term economic growth	<ul style="list-style-type: none"> Investment will be stimulated, because scope of input tax credit for capital purchases will increase Tax base will expand through better compliance Embedded taxes in exports will be neutralized

1. Increased complexity of tax structure?

Much of the commentary has suggested that the GST has a complicated tax structure, implicitly comparing the new system with an ideal GST tax structure while implying that the comparison is with the past. It is inaccurate to suggest that the GST is more complicated than the system it replaced, for two related reasons.

Previously, every good faced an excise tax levied by the Centre and a state VAT. There were at least 8-10 rates of excises and 3-4 rates of state VATs, the latter potentially different across states. So, a structure of multiple rates (as much as 10 times 4 times 29 states) has been reduced to a structure of 6 rates.

More important, uniformity or the principle of “one good, one tax” all over India is now a reality. Previously, different states could impose different taxes on any given product and these could be different from that levied by the Centre.

So, relative to the past, there is now uniformity rather than multiplicity as well as considerably less complexity.

2. Additional compliance burden?

Goods

It is true that there will be additional documentation requirements on all those who are now part of the GST net. But the filing requirements will comprise filling one set of forms per month (not three as has been alleged because filling the first automatically fills the two others). This will not be an additional burden because similar, sometimes more onerous, requirements existed under the previous state VAT and central excise regimes (Table 3). For example, as the Table below shows, under the pre-GST regime, three separate returns to three different authorities had to be filed in respect of the three major taxes that are now subsumed under the GST.

Services

Previously, since only the Centre imposed the service tax, agents had to register with, and hence file to, only one authority. Now, agents will have to register in all states that they operate in and file in each of them. In the discussions in the GST Council, attempts were made to preserve the previous, simpler system, but states were nearly unanimous in insisting for multiple registration as a way to ensure that they receive their due share of revenues. That said, the increased compliance requirements will be faced only by a small number of agents with a pan-India presence and whose ability to comply will be commensurately greater. Going forward, there is scope for more centralized procedures to minimize the compliance burden.

Table 3. Number and Frequency of returns to be filed: before and after GST

<i>Before GST</i>	<i>GST structure</i>	
State VAT	1 per month plus 1 annual	1 per month plus 1 annual
Service Tax	2 per year plus 1 annual	
Central Excise	1 per month plus 1 annual	

Small Traders

Much has been made of the additional compliance burden on small traders and agents. This overlooks some important changes in the other direction. The GST has significantly raised turnover thresholds for inclusion in the tax net, as Table 4 shows. As a result, out of about 87 lakh agents that were previously in the tax net (states VAT, central excise and service tax) about 70 lakhs remain in the GST net. A significant number of small traders with turnover less than ₹ 20 lakhs may have opted out. Moreover, even though the new threshold is ₹ 20 lakhs, agents with a turnover of up to ₹ 75 lakhs can choose to pay a small tax on their turnover (not valued added), which they can file every quarter instead of every month with fewer documents having to be submitted.

On the concerns about the anti-profiteering provisions might lead to over-zealous administration, the Government has indicated that they will be sparingly used. In any case, a sunset clause was introduced to ensure that the provisions will expire no later than two years.

Table 4. Turnover threshold for inclusion in the tax net: before and after GST

<i>Before GST</i>		<i>GST structure</i>
State VAT	₹ 5-10 lakhs	• Minimum ₹ 20 lakhs
Service Tax	₹ 10 lakhs	• ₹ 20-75 lakhs subject to lower compliance burden
Central Excise	₹ 1.5 crores	

3. Hidden benefits

One important hidden benefit of the GST is that the textile and clothing sector is now fully part of the tax net. Previously, some parts of the value chain, especially fabrics, were outside the tax net, leading to informalisation and evasion. Some anomalies favoring imports of fabrics over domestic production will need to be rectified but overall the tax base has expanded.

Similarly, one segment of land and real estate transactions has been brought into the tax net: “works contracts”, referring to housing that is being built. This in turn would allow for greater transparency and formalization of cement, steel, and other sales, which tended to be outside the tax net. The formalization will occur because builders will need documentation of these input purchases to claim tax credit.

Third, the GST will rectify the inadequacies of the previous system of domestic taxes levied on imports—the countervailing duty to offset the excise tax and the Special Additional Duty (SAD) to offset the state VAT. For example, the SAD was levied at 4 percent, even though the standard VAT was 12.5 percent in most states; while in principle firms that paid VAT on inputs could reclaim the tax, in practice there were difficulties getting the tax credits. Under the GST, the full taxes on domestic sales levied by the Centre and the states (the IGST) will be levied when imported goods first arrive into the country with full tax credits available down the chain to a greater extent than previously. This will lead to more transparent and more effective taxation of imports.

There are early signs of tax base expansion. Between June & July 2017, 6.6 lakh new agents previously outside the tax net have sought GST registration. This is expected to rise consistently as the incentives for formalization increase. Preliminary estimates point to potentially large increases in the tax base as a consequence.

Another benefit will be the impact of GST and the information it throws up on direct tax collections. This could be substantial. In the past, the Centre had little data on small manufacturers and consumption (because the excise was imposed at the manufacturing stage), while states had little data on the activities of local firms outside their borders. Under the GST, there will be seamless flow and availability of a common set of data to both the Centre and states, making direct tax collections more effective.

The longer-term benefits include the GST’s impact on financial inclusion. Small businesses can build up a real time track record of tax payments digitally, and this can be used by lending institutions for credit rating and lending purposes. Currently, small businesses are credit-constrained because they cannot credibly demonstrate their financial capability.

Finally, even within the first few days of the GST’s launch there are reports of elimination of inter-state check-posts. So far, 24 states have abolished these check-posts while others are in the process of eliminating them. If this trend continues, the reduction in transport costs, fuel use, and corruption could be significant.

There is ample evidence to suggest that logistical costs within India are high. For example, one study suggests that trucks in India drive just one-third of the daily distance of trucks in the US (280 km vs

800 km). This raises direct costs (especially in terms of time to delivery), indirect costs (firms keeping larger inventory), and location choices (locating closer to suppliers/customers instead of the best place to produce). Further, only about 40 per cent of total travel time is spent driving; while one quarter is taken up by check points and other official stoppages. Eliminating check point delays could keep trucks moving almost 6 hours more per day, equivalent to additional 164 kms per day – pulling India above global average and to the level of Brazil.

Overall, logistics costs (broadly defined, and including firms' estimates of lost sales) are 3-4 times the international benchmarks. Studies show that inter-state trade costs exceed intra-state trade costs by a factor of 7-16, thus pointing to clear existence of border barriers to inter-state movement of goods¹. The passage of the GST will dramatically reduce these costs and give a boost to inter-state trade in the country.

4. Challenges ahead

Table 5 shows the structure of GST taxes and sectors that are outside the GST net. The rate structure and the exclusions from the base shown in Table 5 have scope for improvement. Alcohol, petroleum and energy products, electricity, and some of land and real estate transactions are outside the GST base but are taxed by the Centre and/or states outside the GST. Health, and education are outside the tax net altogether, exempted under the GST and not otherwise taxed by the Centre and states.

Keeping electricity out undermines the competitiveness of Indian industry because taxes on power get embedded in manufacturer's costs, and cannot be claimed back as input tax credits. Inclusion of land and real estate and alcohol in GST will improve transparency and reduce corruption; keeping health and education completely out is inconsistent with equity because these are services consumed disproportionately by the rich. Moreover, the tax on gold and jewelry products—items that are disproportionately consumed by the very rich—at 3 percent is still low.

The multiplicity of rates was a response to meeting a variety of objectives, including the need to keep rates down for a number of essential items to protect poorer sections from price rises.

Table 5. GST Rates and Exclusions from Base

<i>IGST (%)</i>			<i>Number of Goods categories*</i>	<i>Major Goods outside the GST</i>
<i>CGST (%)</i>	<i>SGST (%)</i>	<i>Total (%)</i>		
0	0	0	88	<ul style="list-style-type: none"> • Alcohol • Petroleum and energy • Electricity • Land and real estate • Education • Healthcare
1.5	1.5	3	Gold	
2.5	2.5	5	173	
6	6	12	200	
9	9	18	521	
14	14	28	229	

Cesses (multiple)

IGST is the sum of the GST taxes by the Centre (CGST) and the states (SGST).

*Measured as number of Harmonized System (HS) lines defined under the tariff code

The GST Council—a remarkable institutional innovation in the governance of cooperative federalism, and one that has proven to be so already in its first months of existence—will need to take up these challenges in the months ahead to take India from a good GST to an even better one.

¹ See the Subramanian Committee Report on the Revenue Neutral Rate: <http://www.cbec.gov.in/resources//htdocs-cbec/gst/cea-rpt-rnr-new.pdf>

finances, warranted adherence to a path of consolidation.

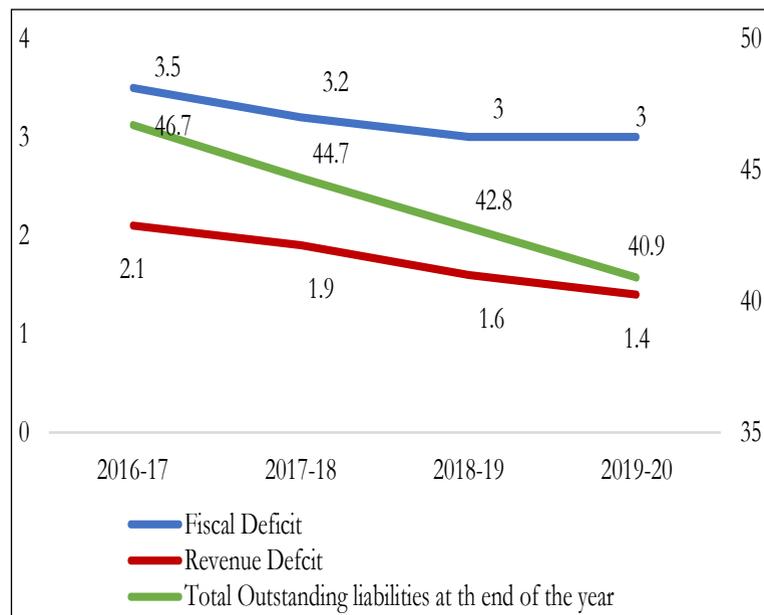
2.34 The Budget for 2017-18 assumed a moderation in indirect tax revenue growth (Table 11), possibly for two reasons. There are no significant measures for additional resource mobilization in the current year. This, and the expected transition to the GST regime, explains the more conservative budget numbers in excise duties and service tax, and broadly in indirect taxes, for the current fiscal. In the aftermath of demonetisation, direct taxes are budgeted to achieve greater momentum. The compulsions of the recommendations of the 7th Pay Commission made it difficult to compress revenue expenditure significantly.

2.35 The fiscal deficit target of 3 per cent of GDP under the FRBM framework is

projected to be achieved in 2018-19. The deficit consolidation plan also implies a reduction in the outstanding liabilities of the Central Government by almost 2 percentage points in each of the next three years starting 2017-18 (Figure 19).

2.36 As per the fiscal roadmap rolled out by FFC for the States, the States that have zero revenue deficit and fiscal deficit within 3 per cent of GSDP have additional borrowing options upto 0.5 per cent of GSDP, over and above the normal 3 per cent limit, subject to conditions (Box 2). The fiscal space of the State Governments to implement the loan waiver is examined in Box 3. The implementation of farm loan waiver by different States of different magnitudes may do well to operate within these limits to ensure that the debt sustainability of the general government is not compromised.

Figure 19. Fiscal targets as percent of GDP



Source: Union Budget 2017-18

Note: The outstanding liabilities of the Centre for 2016-17 presented here do not match with the figure in table 4 because the former is net of investment in special State Government securities

Box 2. State-wise Fiscal Assessment of Loan waivers

What is the fiscal ability of states to implement the farm loan waivers? Assessing this requires estimating the potential cost of the waivers, quantifying the fiscal space for the states relative to their FRL limits, and comparing the two. The analysis is shown in Table below.

State Specific Fiscal Space for Farm Loan Waiver

State	GSDP current MP (2017-18)	FD without UDAY in 2017-18 (BE)	Fiscal Ceiling post FFC	Fiscal Space	FD without UDAY in 2017-18 (BE)	Fiscal Ceiling post FFC	Fiscal Space
	Lakh crore	In Thousand	Rupee Crore		Per cent of GSDP		
Andhra Pradesh	7.7	23.1	23.1	0.0	3.0	3.0	0.0
Uttar Pradesh	14.2	42.6	42.6	0.0	3.0	3.0	0.0
Rajasthan	8.3	24.8	24.8	0.0	3.0	3.0	0.0
Kerala	7.5	25.8	22.4	0.0	3.4	3.0	-0.4
Himachal Pradesh	1.4	4.9	4.2	0.0	3.5	3.0	-0.5
Odisha	4.1	14.4	14.4	0.0	3.5	3.5	0.0
Chhattisgarh	2.8	9.7	9.7	0.0	3.5	3.5	0.0
Maharashtra	25.4	38.8	76.2	37.4	1.5	3.0	1.5
West Bengal	10.8	19.4	32.4	13.1	1.8	3.0	1.2
Gujarat	12.8	23.2	38.3	15.1	1.8	3.0	1.2
Jharkhand	3.0	6.9	9.1	2.2	2.3	3.0	0.7
Haryana	6.2	16.2	18.6	2.4	2.6	3.0	0.4
Karnataka	12.8	33.4	44.8	11.5	2.6	3.5	0.9
Tamilnadu	15.0	42.0	45.1	3.2	2.8	3.0	0.2
Uttarakhand	2.3	6.6	6.8	0.2	2.9	3.0	0.1
Punjab	5.0	14.6	15.1	0.5	2.9	3.0	0.1
Bihar	6.3	18.1	22.1	4.0	2.9	3.5	0.6
Madhya Pradesh	7.4	21.1	25.7	4.7	2.9	3.5	0.6
Telangana	7.6	26.1	26.6	0.5	3.5	3.5	0.0
TOTAL	160.6	411.6	502.2	94.6	2.6	3.1	0.6

Notes: Fiscal ceiling is calculated based on the 14th Finance Commission (FFC) recommendations. The necessary condition for being allowed to use additional fiscal space is a zero revenue deficit in the current and preceding years. Then, 0.25% of GSDP worth of fiscal space is available if the interest payment to revenue receipt ratio is less than or equal to 10 %; and an additional 0.25% of GSDP if the debt to GDP ratio is less than 25% of GSDP. The fiscal deficit number for Uttar Pradesh, Punjab and Uttarakhand is for 2016-17 BE.

States are ranked by the extent of fiscal space. The fiscal limit for most states is 3 percent of GSDP. However, six states (Odisha, Chhattisgarh, Telangana, Madhya Pradesh, Karnataka, and Bihar) have higher limits of 3.5 percent of GSDP because they have strong overall fiscal positions, as deemed by the Fourteenth Finance Commission's (FFC's) criteria.

Comparing limits with the BE estimates for 2017-18, we find that only seven states have fiscal space exceeding 0.5 percent of GSDP. The states with the most space in rupee terms are Maharashtra, Gujarat, West Bengal, Karnataka and Madhya Pradesh. In relative terms, Jharkhand also has considerable space, amounting to 0.7 percent of GSDP. States with no additional deficit capacity include Uttar Pradesh, Telangana, Rajasthan, Andhra Pradesh, and Odisha

For the country as a whole, additional fiscal space amounts to about ₹ 95,000 crores or 0.6 percent of GDP. If this space were to be used for loan waivers, the impact on aggregate demand would come from the interest cost of financing that amount—about ₹ 6,350 crores.

APPENDIX 1. MAJOR TAX MEASURES TAKEN DURING 2016-17

(a) Major Measures Under Direct Taxes

- Lowering tax rate to 29% for companies with turnover \leq ₹ 5 crores.
- Manufacturing companies incorporated on or after 1.3.2016 have been given an option to be taxed at 25% without claiming any deductions.
- 100% Deduction to developers of affordable housing projects
- Deduction allowable in respect of rents increased to ₹ 60,000 from ₹ 24,000 for the individual taxpayers who don't get any house rent allowance.
- Presumptive taxation scheme for professionals having receipts \leq ₹ 50 lakhs introduced and threshold for presumptive taxation scheme for business increased from ₹ 1 crore to 2 crore.
- Exemption of long term capital gains for investment in a start-up fund and on sale of residential property for investment in the shares of Start-up company. 100% profit linked deduction for three consecutive years out of five years.
- New Dispute Resolution Scheme introduced to reduce the backlog of litigation.
- Income Disclosure Scheme, 2016 introduced to provide an opportunity to the persons who have failed to pay tax in past.
- Tax-free withdrawal upto 40% of the balance in NPS has been provided at the time of superannuation of employee .
- Introduction of equalization levy of 6% to bring certain off-shore digital transactions within the purview of direct taxation in line with International standard.
- Additional deduction of interest on home loan up to ₹ 50,000 for individual tax payers.
- Pradhan Mantri Garib Kalyan Yojana, 2016, was introduced, wherein an opportunity has been provided to a person having undisclosed income in the form of cash/ bank deposit to declare the same by paying tax, surcharge and penalty of 49.9% of such income along with mandatory deposit of 25% of such income.

(b) Major Measures Under Excise and Customs Duties

i. 'Make In India' Incentives For Domestic Industry

Customs

- Export duty on iron ore fines and lumps with Fe content below 58% and chromium ores and concentrates was fully exempted, and on bauxite was reduced from 20% to 15%.
- BCD(BCD) on coal, lignite, peat, and 'Oils and other products' of the distillation of high temperature coal tar was rationalized at 2.5% and BCD at 5% for Coke and semi-coke of coal, of lignite or of peat; Coal gas, water gas, producer gas and similar gases, other than petroleum gases and other gaseous hydrocarbons;
- BCD on all acyclic hydrocarbons and all cyclic hydrocarbons other than para-xylene and styrene was rationalized at 2.5%.
- Additional duty of customs levied under section 3(5) of the Customs Tariff Act (commonly known as SAD) on orthoxylene for manufacture of phthalic anhydride was reduced from 4% to 2%.
- BCD on Wood in chips or particles for manufacture of paper, paperboard and news print were exempted.
- BCD on specified fibres, filaments/yarns reduced from 5% to 2.5% .
- Manufacturer or merchant-exporter may also be registered with the Cotton Textiles Export Promotion Council, in addition to Apparel Export Promotion Council or the Synthetic and Rayon Textile Export Promotion Council and may seek certification for the purposes of availing duty free import entitlement.
- BCD on brass scrap and silica sands was reduced from 5% to 2.5%.
- BCD on primary aluminium and zinc alloys was increased from 5% to 7.5% and on other aluminium products from 7.5% to 10%. 1) BCD on Imitation jewellery was increased from 10% to 15%.
- BCD on polypropylene granules / resins for the manufacture of capacitor grade plastic films was reduced from 7.5% to Nil subject to actual user condition.
- BCD on E-Readers was increased from Nil to 7.5% and BCD on raw materials / parts of E-readers was increased to 5%, subject to actual user condition.

- BCD, CVD and SAD exemption on charger /adapter, battery and wired headsets /speakers for manufacture of mobile phones was withdrawn.
- Inputs, parts and components, subparts for manufacture of charger /adapter, battery and wired headsets / speakers of mobile, subject to actual user condition, was exempted from BCD, CVD and SAD.10) Exemption from BCD on Magnetic - Heads (all types), Ceramic / Magnetic cartridges and stylus, Antennas, EHT cables, Level meters/level indicators/ tuning indicators/ peak level meters/ battery meter/VC meters / Tape counters, Tone arms, Electron guns. They will now be chargeable to BCD of 7.5%/10% was withdrawn.
- BCD exemption on preforms of silica for manufacture of telecom grade optical fibre /cables was withdrawn and 10% BCD imposed.
- Specified capital goods and inputs for use in manufacture of Micro fuses, Sub-miniature fuses, Resettable fuses, and Thermal fuses were exempted.
- Exemption from SAD on populated PCBs for manufacture of personal computers, mobile phone/ tablet computer (laptop or desktop) and impose SAD on such populated PCBs was withdrawn.
- BCD on industrial solar water heater was increased from 7.5% to 10% and BCD of 5% was imposed on solar tempered glass.
- Concessional 6% CVD and Nil BCD on electric and hybrid vehicles was extended without any time limit.
- BCD on golf cars was increased from 10% to 60%.
- BCD on Aluminium Oxide for use in the manufacture of Wash Coats, subject to actual user condition, was reduced from 7.5% to 5%.
- BCD on specified capital goods and parts of capital goods falling under 96 Tariff Items was increased from 7.5% to 10%.
- Tariff rate of the BCD on specified capital goods and parts of capital goods falling under 115 Tariff Items was increased from 7.5% to 10%. The effective rate of BCD on these goods will be retained at 7.5%.
- Tools and tool kits were exempted from BCD, CVD and SAD when imported by MROs [registered with the Directorate General of Civil Aviation], for maintenance, repair, and overhauling of aircrafts.
- The restriction of one year for utilization of duty free parts for maintenance, repair and overhaul of aircraft was removed.
- The existing conditions of stay of aircrafts for MRO activity [60 days], so as to provide for stay up to 6 months, and provide for further extension by DGCA, as deemed fit was further relaxed.
- BCD on natural latex rubber made balloons was increased from 10% to 20%.
- BCD on import of Medical Use Fission Molybdenum-99 by Board of Radiation and Isotope Technology (BRIT) for manufacture of radio pharmaceuticals was fully exempted.
- Concessional BCD of 2.5% on Pulp of wood when used for the manufacture of sanitary pads, napkins & tampons [other than adult diapers, for which BCD on pulp is already Nil] was provided.
- Concessional BCD of 5% on Super Absorbent Polymer when used for the manufacture of sanitary pads, napkins & tampons was provided.
- The concessional rate of BCD of 5% to 12 specified items required for medical, surgical, dental or veterinary use and the concessional rate of BCD of 2.5% was restricted to raw materials, parts and accessories required for manufacture of specified goods.
- SAD was restricted to 12 specified items required for medical, surgical, dental or veterinary use.

Excise

- Excise duty on branded readymade garments and made up articles of textiles of retail sale price of ₹ 1000 per piece or more was changed from 'Nil without ITC' to '2% without ITC' irrespective of their composition.
- The tariff value of readymade garments and made up articles of textiles was changed from 30% of the retail sale price to 60% of retail sale price.
- Excise duty on Unsaturated Polyester Resin (polyester based infusion resin and hand layup resin), Hardeners/Hardener for adhesive resin, Vinyl Ester Adhesive (VEA) and Epoxy Resin used for

manufacture of rotor blades for wind operated electricity generators was increased from Nil to 6%.

- Excise duty on carbon pultrusions for manufacture of rotor blades and intermediates, parts and sub-parts of rotor blades for wind operated electricity generators from 12.5% to 6% was reduced, subject to actual user condition.
- Excise duty on rubber sheets & resin rubber sheets for soles and heels, and electric motor, shafts, sleeve, chamber, impeller, washer required for the manufacture of centrifugal pump was reduced from 12.5% to 6%.
- The abatement rate from retail sale price (RSP) for the purposes of RSP based excise duty assessment, for all categories of footwear, was revised from 25% to 30%.
- Excise duty of 2% without ITC or 12.5% with ITC on charger /adapter, battery and wired headsets / speakers, for supply to mobile phone manufacturers as original equipment manufacturer was provided.
- Inputs, parts and components, subparts for manufacture of charger /adapter, battery and wired headsets /speakers of mobile phone, subject to actual user condition, from excise duty was exempted.
- Excise duty of 4% without ITC or 12.5% with ITC on Routers, broadband Modems, Set-top boxes for gaining access to internet, set top boxes for TV, digital video recorder (DVR) / network video recorder (NVR), CCTV camera / IP camera, lithium ion battery [other than those for mobile handsets] was prescribed.
- Excise duty on disposable containers made of aluminium foils increased from 6% with ITC to 12.5% with ITC.
- Concessional 6% excise duty on electric and hybrid vehicles was extended without any time limit.
- Description of “Engine for HV (Atkinson cycle)” to “Engine for xEV(hybrid electric vehicle)” for the purposes of concessional 6% excise duty was changed.
- Exemption from excise duty to tools and tool kits when procured by MROs for maintenance, repair, and overhauling [MRO] of aircraft subject to a certification by the Directorate General of Civil Aviation was extended.
- The procedure for availment of excise duty exemption on parts, parts, testing equipment, tools and tool-kits for maintenance, repair and overhaul of aircraft based on records was simplified.

ii. Ease of Doing Business

Customs

The exemptions from customs duties on specified goods imported for petroleum exploration under various types of licenses and contracts, Marginal Fields Policy and the Coal Bed Methane Policy were merged into a single exemption with a unified list of specified goods and conditions.

Excise

13 cesses levied by other Ministries / Departments and administered by the Department of Revenue, from each of which the revenue collection is less than ₹ 50 crore in a year were abolished.

iii. Movement Towards GST And Broadening of Tax Base

- Excise duty on all branded readymade garments and made ups, having a retail sale price of ₹ 1000 or more, was changed from ‘Nil without ITC or 6%/12.5% with ITC’ to ‘2% without ITC or 12.5% with ITC’.
- Excise duty exemption on Articles of Jewellery [excluding silver jewellery, other than studded with diamonds or other precious stones] was withdrawn and ‘1% without ITC or 12.5% with ITC’ was imposed on them, with a higher threshold exemption upto ₹ 6 crore in a year and eligibility limit of ₹ 12 crore, along with simplified compliance procedure.
- 1% excise duty (without input and capital goods credit) on parts of articles of jewellery falling under heading 7113 of the Central Excise Tariff Act, 1985 (5 of 1986) was prescribed. Further, a criteria for classification of an articles of jewellery or part of articles of jewellery or both as that of a particular precious metal was prescribed.

iv. Swachh Bharat

‘Clean Energy Cess’ levied on coal, lignite and peat was renamed as ‘Clean Environment Cess’ and rate was increased from ₹ 200 per tonne to ₹ 400 per tonne.

v. Additional Resource Mobilisation

- Excise duty on aerated waters, lemonade and other waters, containing added sugar or other sweetening matter or flavored was increased from 18% to 21%.
- An Infrastructure Cess was levied on motor vehicles, with specific exemptions, of heading 8703, as under:
 - Petrol/LPG/CNG driven motor vehicles of length not exceeding 4m and engine capacity not exceeding 1200cc – 1%
 - Diesel driven motor vehicles of length not exceeding 4m and engine capacity not exceeding 1500cc – 2.5%
 - Other higher engine capacity motor vehicles and SUVs and bigger sedans – 4%.
- Excise duty on aviation turbine fuel [ATF], other than for supply to aircraft under the Regional Connectivity Scheme, was increased from 8% to 14%.

vi. Relief Measures**Customs**

- BCD on refrigerated containers was reduced from 10% to 5%.
- Exemption from BCD on Braille paper was extended.
- Disposable sterilized dialyzer and micro barrier of artificial kidney was exempted from BCD, excise duty / CVD and SAD.

Excise

- Excise duty on refrigerated containers was reduced from 12.5% to 6%.
- Excise duty on improved cookstoves including smokeless chulhas for burning wood, agrowaste, cowdung, briquettes, and coal was exempted unconditionally.
- Solar lamp was exempted from excise duty.

vii. Public Health

- Excise duty on cigarettes, cigars, cheroots and cigarillos and others of tobacco substitutes was increased by about 10% .
- Basic excise duty on pan masala, gutkha, unmanufactured tobacco, chewing tobacco, jarda scented tobacco and filter khaini was increased by about 15%.

(c) Measures under Service Tax**i. Broadening the tax base and increasing the Tax to GDP Ratio**

- In Budget 2016-17, the provision made in the previous Budget to tax all services provided by the Government or local authority to business entities was brought into force with effect from 1st April, 2016.
- Krishi Kalyan Cess was imposed on all taxable services at a rate of 0.5% on the value of such taxable services, with effect from 1st June 2016.
- Exemption from Service tax on transportation of passengers, with or without accompanied belongings by air-conditioned stage carriage was withdrawn.
- Withdrawal of exemption from service tax on transport of passengers, with or without accompanied belongings, by ropeway, cable car or aerial tramway.
- Withdrawal of exemption from service tax with respect to construction, erection, commissioning or installation of original works pertaining to monorail or metro, in respect of contracts entered into after 1st March 2016.
- Withdrawal of exemption from service tax on provision of Online Information and Database Access or Retrieval (OIDAR) services, with effect from 1st December, 2016, which are received from a provider of service located in non-taxable territory (cross-border supply of services) by government, local authority, governmental authority, or an individual in relation to any purpose other than commerce, industry or any other business or profession.
- Exemption to import freight service when provided by a foreign flag ship to a foreign charterer with respect to goods destined for India was withdrawn w.e.f. 22nd January, 2017 with a view to provide level playing field to the Indian shipping industry.

ii. For promoting ease of doing business**Exempted from service tax**

- Services provided by Government or a local authority to another Government or a local authority with some exceptions;
- Specified services provided by Government or a local authority to an individual who may be carrying out a profession or business;
- Services provided by the Government or a local authority by way of: (i) registration required under the law; (ii) testing, calibration, safety check or certification as specified;
- Services by way of allocation of natural resources to an individual farmer for the purposes of agriculture;
- Regulation of land-use, construction of buildings and other services listed in the Twelfth Schedule to the Constitution, when provided by Government or a local authority;
- Service Tax payable on one time charge, payable in full upfront or in installments, for assignment of right to use any natural resource and not to any periodic payment required to be made by the assignee on yearly installments due after 1.4.2016 in respect of spectrum assigned before 1.4.2016 and on spectrum user charges and license fee payable after 1.4.2016 for the year 2015-16;
- Fines and liquidated damages payable to Government or a local authority for non-performance of contract entered into with Government or local authority

Clarified that:

- Taxes, cesses or duties levied or penalty are not consideration for any particular service as such and hence not leviable to Service Tax;
- Any activity undertaken by Government or a local authority against a consideration constitutes a service and the amount charged for performing such activities is liable to Service Tax;
- In case of services provided by Government or a local authority to any business entity, the point of taxation shall be the earlier of the dates on which: (a) any payment, part or full, in respect of such service becomes due, or (b) such payment is made;
- Interest chargeable on deferred payment in case of any service provided by Government or a local authority to a business entity, where payment for such service is allowed to be deferred on payment of interest, shall be included in the value of the taxable service;
- CENVAT Credit of the Service Tax on one time charges (whether paid upfront or in installments) paid in a year, allowed to be taken evenly over a period of 3 (three) years. However, the Service Tax paid on spectrum user charges, license fee, transfer fee charged by the Government on trading of spectrum would be available in the year in which the same is paid. Likewise, Service Tax paid on royalty in respect of natural resources and any periodic payments shall be available as credit in the year in which the same is paid;
- Service Tax liability for services provided by an arbitral tribunal (including the individual arbitrators of the tribunal) shall be on the service recipient if it is a business entity located in the taxable territory with a turnover exceeding rupees ten lakh in the preceding financial year;
- It was directed that the discretion vested in the jurisdictional Deputy/Assistant Commissioner under rule 6(2) of the Service Tax Rules, 1994, should be exercised judiciously and rationally.
- In any given case involving hiring, leasing or licensing of goods, it is essential to determine whether, in terms of the contract, there is a transfer of the right to use the goods. Criteria laid down by the Supreme Court in the case of *Bharat Sanchar Nigam Limited vs Union of India*, reported in 2006 (2) STR 161 SC = 2006-TIOL-15-SC-CT-LB, must invariably be followed and applied to cases involving hiring, leasing or licensing of goods;
- The exemption under the entries at Serial No. 12(e) and 25(a) of notification 25/2012-Service Tax, will cover a wide range of activities/services provided to a government, a local authority or a governmental authority and will include the activity of construction of tube wells;
- The immovable property located in the immediate vicinity and surrounding of the religious place and owned by the religious place or under the same management as the religious place, may be considered as being located in the precincts of the religious place and extended the benefit of exemption under Notification No. 25/2012-Service Tax, Sl. No. 5(a).

Monetary Management and Financial Intermediation

03 CHAPTER

The Reserve Bank of India cut the policy rate by 50 basis points during 2016-17. However, it shifted its monetary policy stance from accommodative to neutral in February 2017 and cut the repo rate by 25 basis points in August 2017. Monetary aggregates, such as reserve money, decelerated significantly following the withdrawal of legal tender status of specified bank notes on November 9, 2016. The glut in liquidity persists several months after demonetization. Credit off-take from banks continued to decelerate and the non-performing assets situation deteriorated further. Sluggish growth and increasing indebtedness in some sectors of the economy have impacted the asset quality of banks and this is a cause for concern. Financial inclusion is proceeding apace under the Pradhan Mantri Jan Dhan Yojana. Average balance in accounts opened under PMJDY has registered steady growth in 2016-17 and zero balance accounts declined consistently.

MONETARY DEVELOPMENTS DURING 2016-17

3.1 The Government amended the Reserve Bank of India Act, 1934 in May 2016 to provide for a revised monetary policy framework. Under the amended Act, inflation target would be set by the Government, in consultation with the Reserve Bank, once in every five years and further provides for a statutory basis for the constitution of an empowered Monetary Policy Committee (MPC). The Government has fixed the inflation target of 4 per cent with tolerance level of +/- 2 per cent for the period beginning from 5th August, 2016 to March 31, 2021. Reserve Bank of India (RBI) also refined its liquidity management policy framework in April 2016, with the objective of meeting short-term liquidity needs through regular facilities; reducing frictional

and seasonal mismatches through fine-tuning operations and providing more durable liquidity by modulating net foreign assets and net domestic assets in its balance sheet. This was, in part, a response to excessively tight liquidity conditions observed in late 2015 (see Box 3.1 figure 1).

3.2 The Government notified the constitution of the MPC on 29th September 2016. The MPC held three meetings in 2016-17. The MPC, in its last meeting of 2016-17 held on February 8 2017, while holding policy rates, changed the monetary policy stance from accommodative to neutral. In its latest meeting held on August 2, 2017, MPC cut policy repo rates by 25 bps to 6 per cent. Accordingly, reverse repo rate stands at 5.75 per cent, and the Marginal Standing Facility (MSF) rate at 6.25 per cent.

3.3 During 2016-17, monetary aggregates

Table 1. Revision in Policy Rates

Effective date	Bank rate/ MSF rate* (per cent)	Repo rate (per cent)	Reverse repo rate (per cent)	Cash reserve ratio (per cent of NDTL)	Statutory liquidity ratio (per cent of NDTL)
29-09-2015	7.75	6.75	5.75	4.00	21.50
1-12-2015	7.75	6.75	5.75	4.00	21.50
2-02-2016	7.75	6.75	5.75	4.00	21.50
5-04-2016	7.0	6.50	6.0	4.00	21.25
7-06-2016	7.0	6.50	6.0	4.00	21.25
9-08-2016	7.0	6.50	6.0	4.00	21.00
4-10-2016	6.75	6.25	5.75	4.00	20.75
7-12-2016	6.75	6.25	5.75	4.00	20.75
8-02-2017	6.75	6.25	5.75	4.00	20.50
6-04-2017	6.50	6.25	6.0	4.00	20.50
7-06-2017	6.50	6.25	6.0	4.00	20.50
2-08-2017	6.25	6.00	5.75	4.00	20.00

Source: RBI.

Notes: *: Bank Rate was aligned to MSF rate with effect from February 13, 2012. NDTL is net demand and time liabilities.

decelerated significantly following the withdrawal of legal tender status of specified banknotes (SBNs) on November 9, 2016. Prior to demonetisation, growth of reserve money (M0 on YoY basis), averaged around 15 per cent, nearly 4 percentage points higher than the average growth in the corresponding period of 2015-16 (Figure 1). The acceleration in reserve money was primarily on account of higher growth in currency in circulation (CIC). Following demonetisation, currency in circulation declined sharply the first time in the past several years, concomitantly pulling down reserve money (Table 2). The moderation in reserve money largely reflected build-up of government cash balances under the Market Stabilisation Scheme, mostly through the issuance of cash management bills as also the mounting LAF reverse repo with a view to absorbing excess liquidity in the banking system. After declining to a low

of ₹9 trillion on January 6, 2017, currency in circulation started moving up in line with the remonetisation process and reached 74 per cent of its peak by March 31, 2017 (₹18 trillion on November 4, 2016). Consequently, reserve money, at end March 2017 recovered but stood lower by 12.9 per cent than the last year.

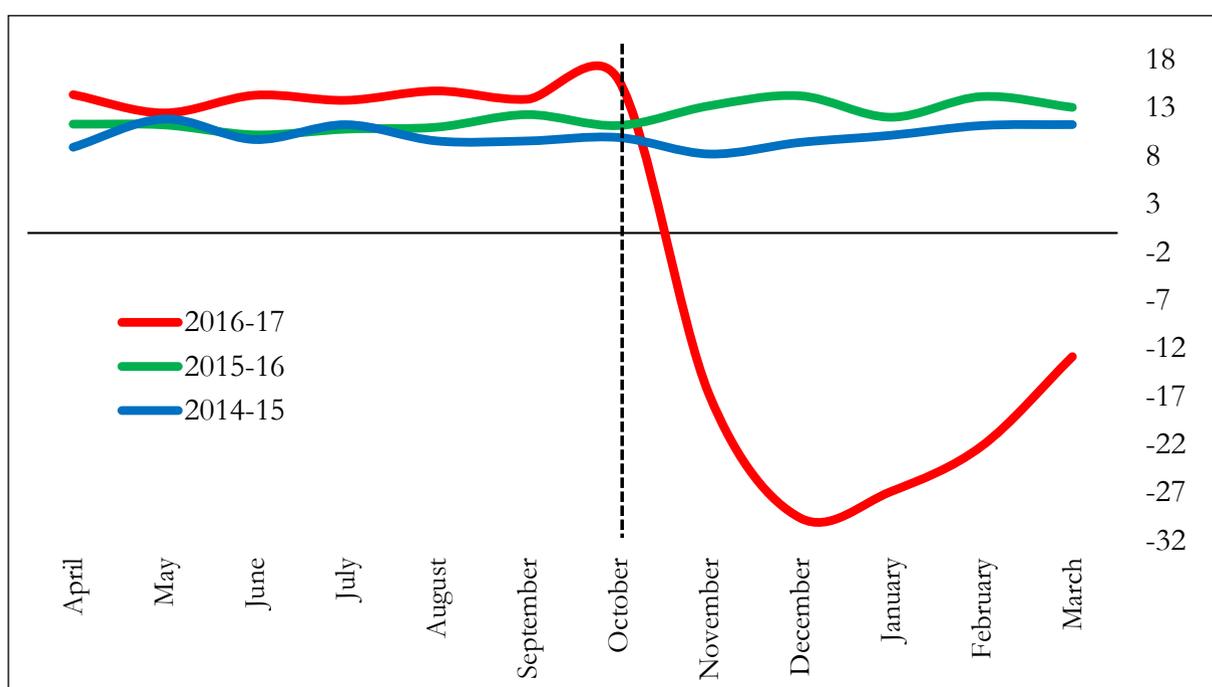
3.4 The growth of broad money (M3) slackened during 2016-17, reflecting subdued credit growth and the sizable redemption of FCNR (B) deposits (Figure 2). Subsequent to November 9, 2016, however, currency with the public plummeted and its growth turned negative. At the same time, aggregate deposits showed an upsurge as, restrictions on cash withdrawals were imposed along with the withdrawal of legal tender status of SBNs. Consequently, the reduction in broad money, post-demonetisation was much less than the

Table 2. Year-on-Year Change in Monetary Aggregates as on end March of Each Year (per cent)

Items	2017	2016	2015	2014	2013	2012	2011
Currency in circulation	-19.7	14.9	11.3	9.2	11.6	12.4	18.8
Cash with banks	8.1	6.6	12.4	10.7	14.6	15.2	18.0
Currency with the public	-20.8	15.2	11.3	9.2	11.5	12.3	18.8
Bankers' deposits with the RBI	8.3	7.8	8.3	34.0	-10.0	-15.9	20.2
Reserve money (M0)	-12.9	13.1	11.3	14.4	6.2	3.6	19.1
Demand deposits	42.5	11.0	9.8	7.8	6.0	-1.7	0.7
Narrow money (M1)	3.6	13.5	11.3	8.5	9.2	6.0	10.0
Time deposits	12.6	9.2	10.7	14.9	15.0	16.1	18.3
Broad money (M3)	10.6	10.1	10.9	13.4	13.6	13.5	16.1

Note: Data are Provisional, Source: RBI

Figure 1. Reserve Money Y-o-Y Growth (%) - Monthly Trend



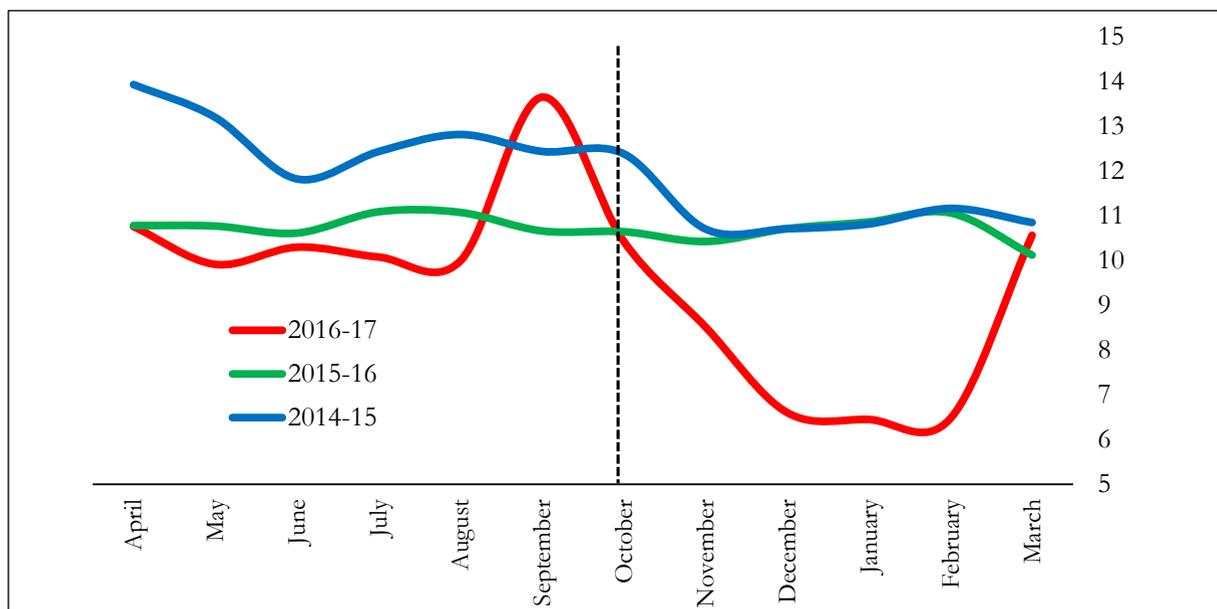
Source: RBI

contraction in reserve money, resulting in a sharp increase in money multiplier during the period. However, with the pace of remonetisation gathering momentum, broad money recovered and stood higher by 10.6 per cent than last year. Consequently, after reaching its peak at 8.8 on January 6, 2017,

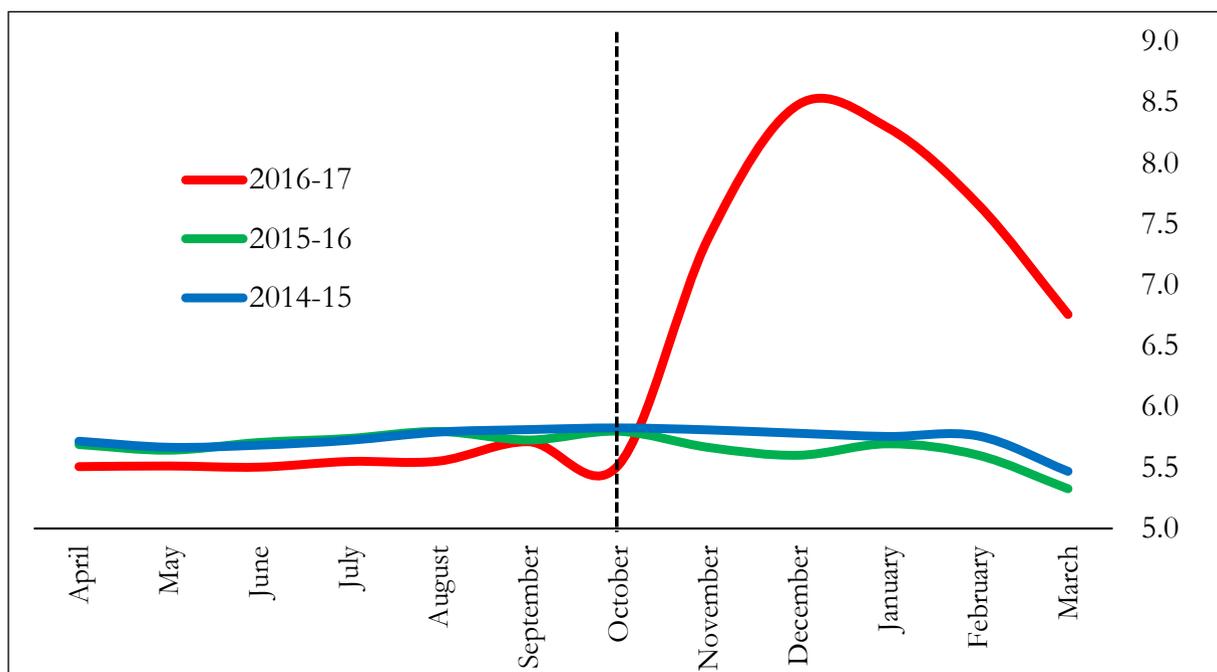
money multiplier declined in subsequent period and was placed at 6.8 on March 31, 2017 (5.3 last year)(Figure 3).

LIQUIDITY CONDITIONS AND ITS MANAGEMENT

3.5 With the introduction of the new

Figure 2. Broad Money Y-o-Y Growth (%) - Monthly Trend

Source: RBI

Figure 3. Money Multiplier - Monthly Trend

Source: RBI

liquidity management framework in April 2016, which entailed, inter alia, progressively lowering the average ex ante liquidity deficit in the system to a position closer to neutrality, the average monthly liquidity

deficit in the system consistently declined from April through June 2016. RBI remained in absorption mode during the period from July to mid-September 2016 on the back of decline in Government of India (GoI)

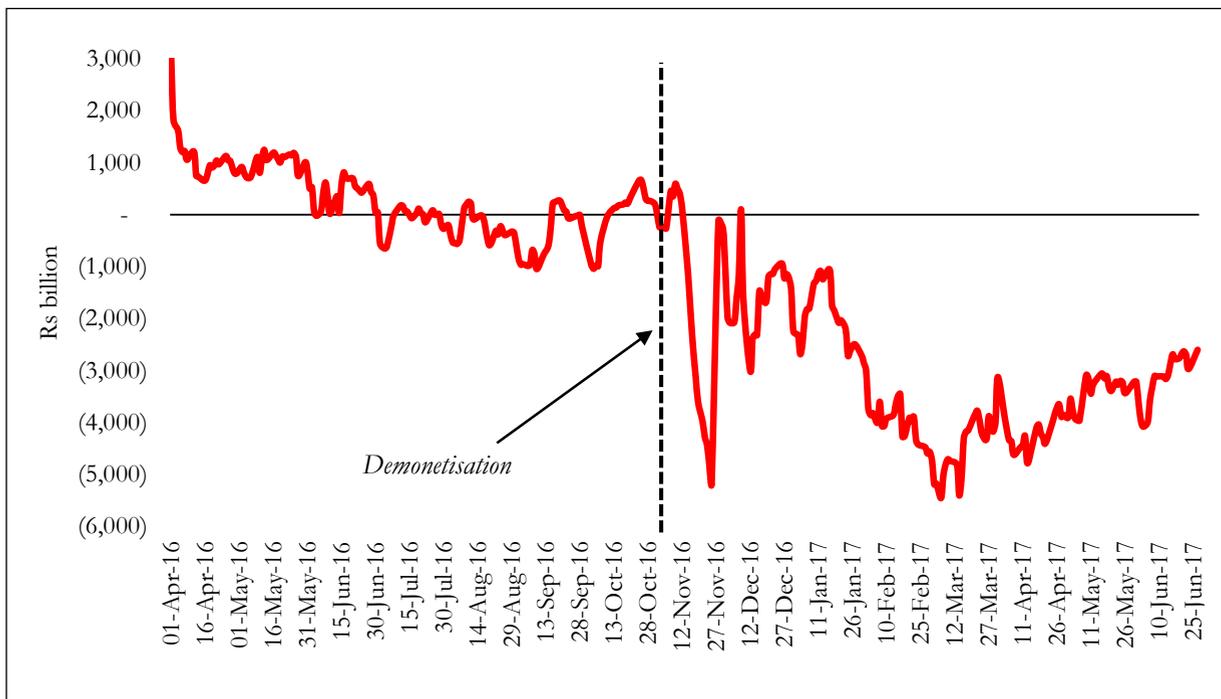
cash balances with the RBI and injection of permanent liquidity through OMO purchase auctions. The liquidity condition tightened slightly in the second half of September on account of advance tax outflows from the banking system and the resultant increase in the GoI cash balances with the RBI. It remained in surplus mode until mid-October 2016 before turning into deficit mode in the second half of October on the back of festival induced increase in currency in circulation. Such movements were within the usual experience.

3.6 Demonetisation announced on November 8, 2016 resulted in unprecedented liquidity surplus in the banking system. The net liquidity absorption under LAF touched a peak of ₹5194 billion on November 25, 2016. In order to mop up the deluge of liquidity in the banking system, the Reserve Bank took various measures. The measures included temporary imposition of 100 per cent incremental CRR (on the increase in NDTL between September 16, 2016 and

November 11, 2016) with effect from the fortnight beginning November 26, 2016 and issuance of cash management bills (CMBs) under Market Stabilisation Scheme (MSS) and absorption through variable rate reverse repos of various tenors ranging from overnight to 91-days.

3.7 Large surplus liquidity condition engendered by demonetisation continued in Q4 of 2016-17 also. In order to absorb surplus liquidity, the RBI continued with the variable rate reverse repos and CMB issuances during January 2017 also. Liquidity absorption through CMB issuances under MSS touched a peak of ₹5,966 billion in January 2017. With the maturing of CMBs and discontinuation of fresh issuances of CMBs in February and March 2017, the RBI expanded the scale of reverse repo auctions to absorb surplus liquidity in the system. As a result, the average daily net liquidity absorption under the LAF increased from ₹2002 billion in January 2017 to ₹3,997 billion in February 2017 and further to ₹4,483 billion

Figure 4. Daily Market Liquidity



Source: RBI

Box 1. What is central bank liquidity?

Under the liquidity adjustment facility (LAF), banks and primary dealers (PDs) may either borrow from the RBI using the repo window (paying the repo rate) or park excess funds with the RBI using the reverse repo window (receiving the reverse repo rate). Note that the PDs are registered entities with the RBI who have the license to purchase and sell government securities. Since October 2013 and June 2014, the RBI also started term repo (up to 14 days) and term reverse repo (up to 56 days) operations. Transactions under repo and reverse repo window are collateralized.

Liquidity, at any given point of time, refers to the net fund (fund borrowed minus fund deposited with RBI) borrowed by banks and PDs under LAF. Liquidity shortage refers to a situation where net fund borrowed from RBI is positive. In other words, banks and PDs have to resort to RBI for overnight borrowings as there is liquidity crunch in the market. Similarly, excess liquidity refers to an opposite situation where net fund borrowed from the RBI is negative. Basically, banks and PDs have more than enough liquidity with them so they turn to the RBI to park their excess fund to earn interest.

in March 2017. Average daily net liquidity absorption through LAF and CMB issuances was ₹5932 billion during Q4 of 2016-17 with a peak of ₹7,956 billion recorded on January 4, 2017. However, all these measures have not succeeded in eliminating the excess liquidity from the system. Excess liquidity continues to remain in excess of ₹2,500 billion even in the last week of June 2017.

BANKING SECTOR

3.8 Bank credit is an important indicator of economic activity. The high growth observed in the 2003-08 period was accompanied by a surge in monetary aggregates and credit growth, which usually exceeded the 20 per cent mark year on year. After being impacted sharply by the global financial crisis and the fiscal stimuli over the period 2008-10, credit growth remained at around the 15 per cent mark till February 2014. Subsequently, it has slowed down. During 2016-17, gross bank credit outstanding grew at around 7 per cent on an average. The latest reading for May 2017 is 4.1 per cent. The sluggish growth can be attributed to several factors: (a) incomplete transmission of the monetary policy as banks had not passed on the entire benefit of monetary easing to borrowers; (b) problem of twin-balance sheet (weak bank balance sheet as well corporate balance sheet); (c) more attractive interest rates for borrowers in the bond market and from non-

banking financial institutions.

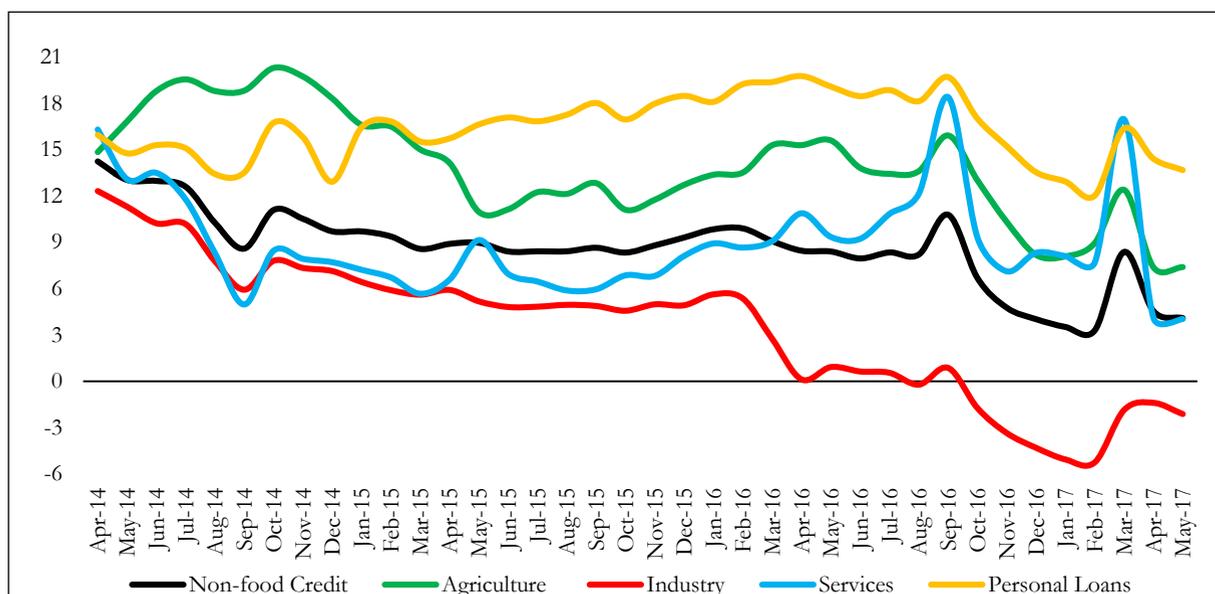
3.9 The trend in deployment of gross bank non-food credit by major sectors shows that credit off take by the industry sector has been slowing (Figure 5). The average gross bank credit to industry contracted by 1.6 per cent in the FY 2016-17. In May 2017, it contracted by 2.1 per cent. Even the personal loans segment slowed down in the second half of the FY 2016-17. Figures 6a and 6b show the aggregate deployment of non-food credit and credit to industry by public and private banks. We observe that the slowdown in credit off-take from public sector banks (PSBs) has been much more pronounced compared to the private sector banks (PVBs).

3.10 The gross non-performing advances (GNPAs) ratio of SCBs rose from 9.2 per cent in September 2016 to 9.5 per cent in March 2017. SCBs' capital to risk-weighted assets ratio (CRAR) improved from 13.4 per cent to 13.6 per cent between September 2016 and March 2017 whereas profit after tax (PAT) expanded by 45.8 per cent in 2016-17 as against a decline of 61.6 per cent in 2015-16, mainly due to higher increase in other operating income (OOI) relative to risk provisions and write-off.

FINANCIAL INCLUSION

3.11 The launch of Pradhan Mantri Jan Dhan Yojana (PMJDY) in August 2014 has

Figure 5. Sectoral Deployment of Bank Credit (y-o-y, %)



Source: RBI

Figure 6a. Non-food Credit Growth Across Bankgroups (y-o-y, %)

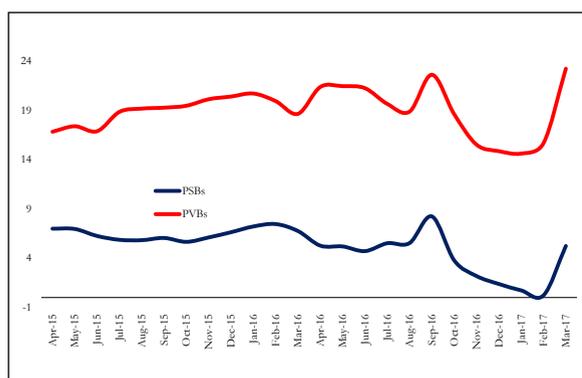
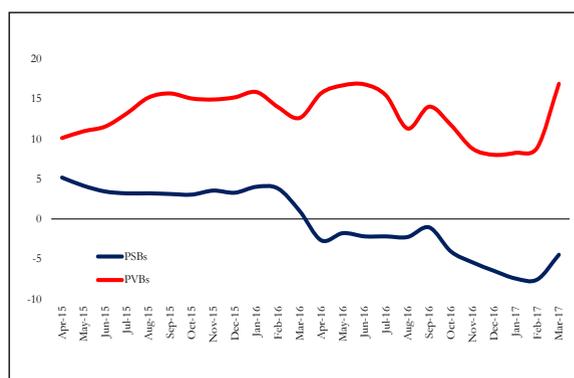


Figure 6b. Growth in Credit to Industry Across Bankgroups (y-o-y, %)



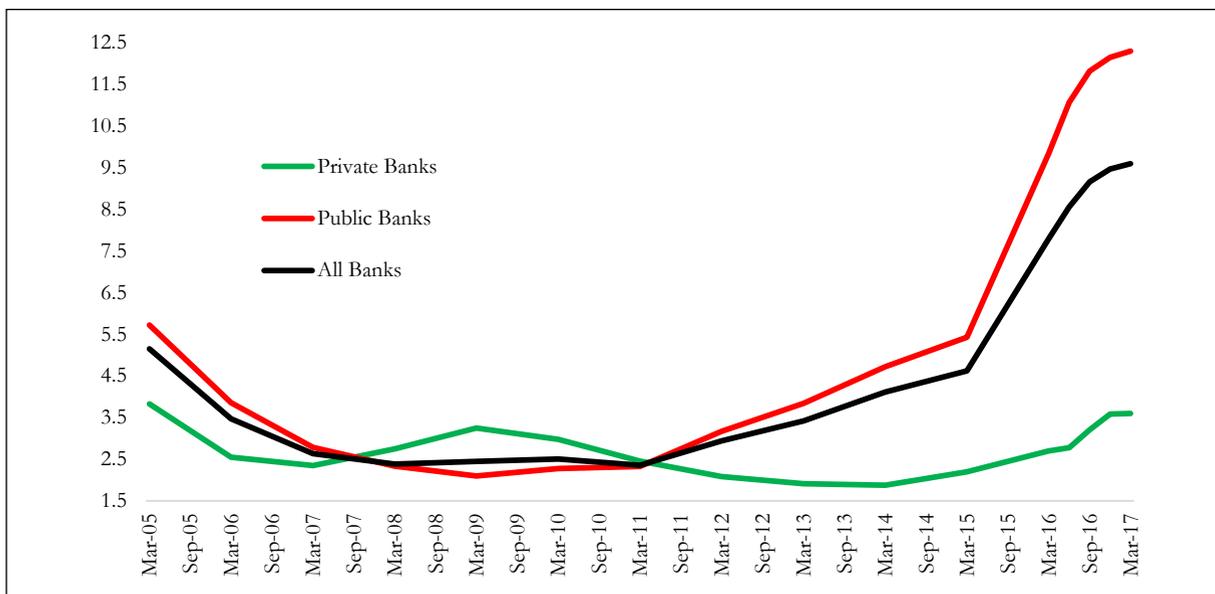
Source: Survey Estimate

Note: Mar-17 numbers are provisional, PVBs – Private Sector Banks, PSBs – Public Sector Banks,

committed India to an ambitious agenda of financial inclusion in mission mode. As this initiative approaches the close of its third year, it is appropriate to assess its impact in outcome terms, identify key takeaways, and look at the way ahead.

3.12 Basic Savings Bank Deposit Account (BSBD) accounts being the basic savings account product introduced specifically for unbanked persons, the growth in these

accounts is a key parameter for assessing growth in financial inclusion. Prior to the launch of PMJDY, since introduction of BSBD accounts in 2005 till July 2014, the number of such accounts had grown to 25.54 crore. After the launch of PMJDY, the number of BSBD accounts rose rapidly to 51.50 crore by December 2016, of which 26.20 crore were accounts opened under PMJDY, representing more than half of the total. Since then, another 2.56 crore BSBD

Figure 7. NPAs - Across Bankgroups (y-o-y, %)

Source: Survey Estimate

Note: All banks refer to Scheduled Commercial Banks

Box 2. Banking Regulation (Amendment) Ordinance, 2017

The Banking Regulation (Amendment) Ordinance, 2017 was promulgated on May 4, 2017. It inserts two new Sections (viz. 35AA and 35AB) after Section 35A of the Banking Regulation Act, 1949 enabling the Union Government to authorize the Reserve Bank of India (RBI) to direct banking companies to resolve specific stressed assets by initiating insolvency resolution process, where required. The RBI has also been empowered to issue other directions for resolution, and appoint or approve for appointment, authorities or committees to advise banking companies for stressed asset resolution.

Soon after the promulgation of the Ordinance, the Reserve Bank issued a directive bringing the following changes to the existing regulations on dealing with stressed assets.

- It was clarified that a corrective action plan could include flexible restructuring, Strategic Debt Restructure Scheme (SDR) and Scheme for Sustainable Structuring of Stressed Assets (S4A).
- With a view to facilitating decision making in the Joint Lenders Forum (JLF), consent required for approval of a proposal was changed to 60 percent by value instead of 75 percent earlier, while keeping that by number at 50 percent.
- Banks who were in the minority on the proposal approved by the JLF are required to either exit by complying with the substitution rules within the stipulated time or adhere to the decision of the JLF
- Participating banks have been mandated to implement the decision of JLF without any additional conditionality.
- The Boards of banks were advised to empower their executives to implement JLF decisions without further reference to them

The ordinance will enable RBI to take a targeted approach and deal with non-performing assets quickly. An empowered Oversight Committee will be able to bypass three factors that have so far slowed the resolution process. One, stop 'free-riding' by lenders who didn't participate. Two, compliance after an agreement has been sealed. Three, certify the process in order to allay fears of future investigations.

The Government action will have a direct impact on effective resolution of stressed assets, particularly in consortium or multiple banking arrangements, as the RBI will be empowered to intervene in specific cases of resolution of non-performing assets, to bring them to a definite conclusion. On 13th June, 2017, the RBI identified 12 large loan defaulters where the Insolvency and Bankruptcy Code (IBC) would be initiated. Also, the RBI expanded the Oversight Committee to include three new members in a bid to speed up bad loans resolution. The Committee now consists of five members.

Box 3. Insolvency and Bankruptcy Code, 2016

The Insolvency and Bankruptcy Code, 2016 (Code) was enacted on May 28, 2016. The Code provides a comprehensive, modern and robust insolvency and bankruptcy regime, at par with global standards and even better in some aspects. The unique features of this regime are: (i) a comprehensive regime dealing with all aspects of insolvency and bankruptcy of all kinds of persons. (ii) separating commercial aspects of insolvency and bankruptcy proceedings from judicial aspects and empowered stakeholders and adjudicating authorities to decide the matters within their domain expeditiously. (iii) moving away from erosion of net worth to a more objective default in payment for initiation of the insolvency process. (iv) moving away from the ‘debtor-in-possession’ regime to a ‘creditors-in-control’ regime where creditors decide matters with the assistance of insolvency professionals. (v) providing collective mechanism to resolve insolvency rather than recovery of loan by a creditor. (vi) achieving insolvency resolution in a time bound manner and empowers the stakeholders to complete transactions in time.

A key innovation of the Code is four pillars of institutional infrastructure. The first pillar is a class of regulated persons, the “Insolvency Professionals”, who assist the stakeholders in conduct of insolvency and bankruptcy process. The second pillar is a new industry of ‘Information Utilities’ who store and make available authentic information required to carry out various transactions under the Code efficiently and expeditiously. The third pillar is the adjudicating authorities, namely, NCLT and DRT for corporates and individuals respectively and their appellate bodies, namely, NCLAT and DRAT. The fourth pillar is a regulator, namely, “The Insolvency and Bankruptcy Board of India” which has regulatory over-sight over the Insolvency Professionals, Insolvency Professional Agencies and Information Utilities and writes regulations to govern various transactions under the Code.

The Government moved at a quick pace to implement the Code. It established the Tribunals, National Company Law Tribunal (NCLT) and National Company Law Appellate Tribunal (NCLAT), on 1st June 2016 and the Insolvency and Bankruptcy Board of India (IBBI) on 1st October 2016. With concerted efforts of all concerned, most of the regulatory framework and ecosystem related to corporate insolvency were rolled out by 31st March 2017.

About 2050 applications have been filed before NCLT so far, of which, 112 applications have been admitted and another 146 have been rejected or withdrawn. The default underlying admitted applications range from a few lakh of rupees to a few thousands of crores. The announcement of 12 large defaulters by the RBI will expand this sharply.

Table 1. Month-wise Applications filed

	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017	Total
Numbers	1	9	42	106	558	462	872	2050

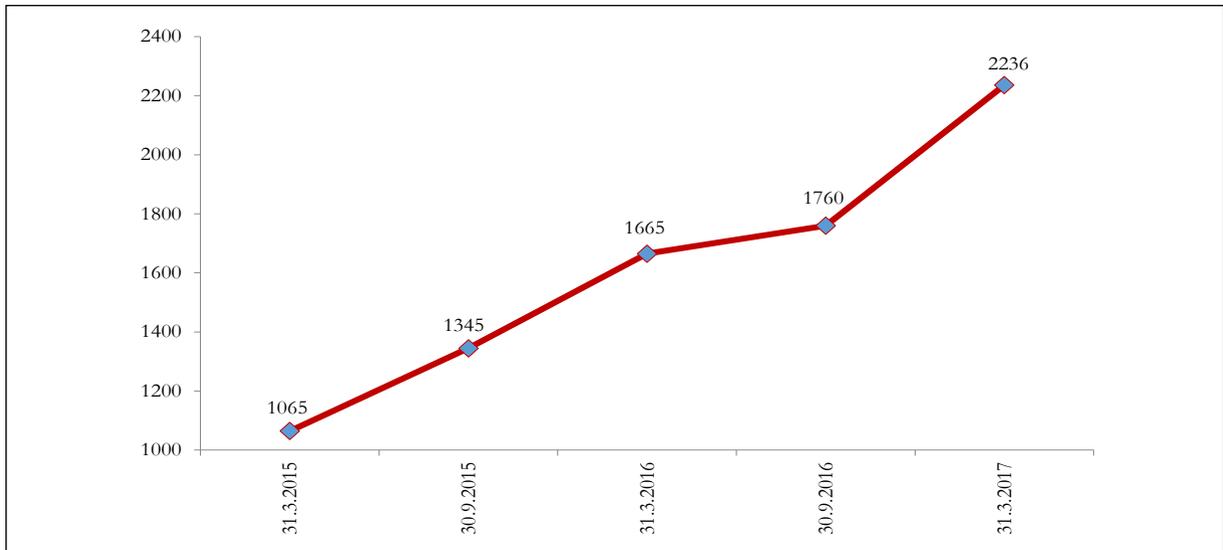
Note: Data sourced from NCLT website as on June 30, 2017.

accounts have been opened under PMJDY, raising the total to 28.76 crore as on 31.5.2017. PMJDY’s contribution to enhanced banking access is clear.

3.13 Gender has been an issue in financial inclusion. As of March 2014, women constituted about 28 per cent of all savings accounts, with 33.69 crore accounts. As of March 2017, according to data from top 40 banks and RRBs, women’s share has risen to about 40 per cent. This includes 14.49 crore accounts opened by women under PMJDY, out of a total of 43.65 crore women’s accounts. This represents a sizeable and rapid growth in financial inclusion of women.

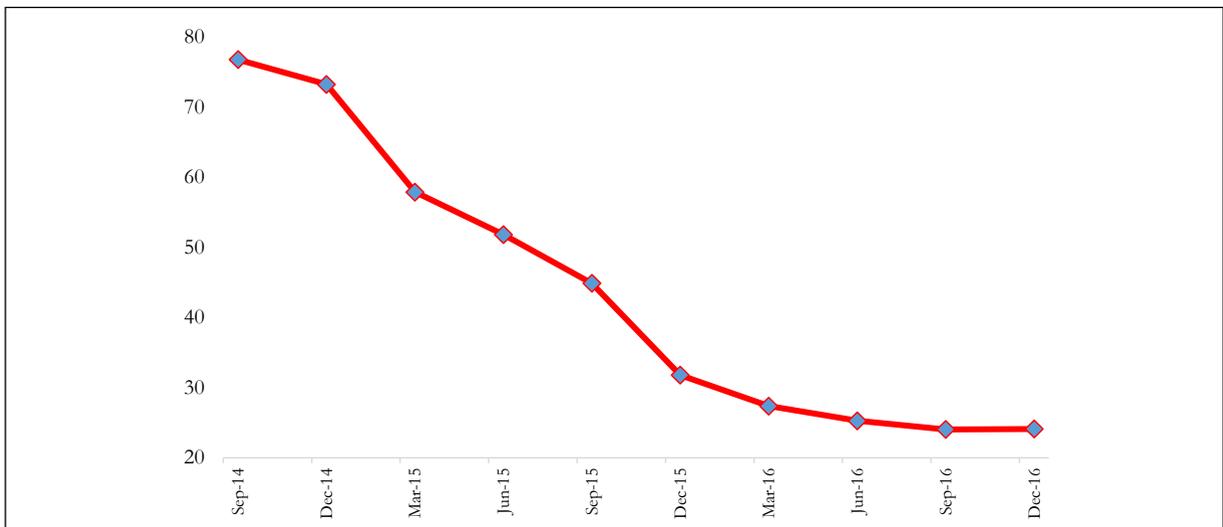
3.14 Effective financial inclusion should be reflected not only in terms of access but in the use of financial services. In terms of deposit mobilisation, the average balance in accounts opened under PMJDY has registered steady growth, from ₹1,065 per account in March 2015 to ₹2,236 in March 2017 (Figure 8). Also, zero balance accounts under PMJDY has declined consistently from nearly 58 per cent in March 2015 to around 24 per cent as of December 2016. Aadhaar-enabled payments, the principal mode of transactions at Banking Correspondent (BC) outlets, have also witnessed a rapid growth, growing from 0.3 crore per month in August

Figure 8. Average deposit balance in BSBD accounts opened under PMJDY (in ₹)



Source: Scheduled Commercial Banks

Figure 9. Zero Balance Accounts Under PMJDY (%)



Source: PMJDY website

2015 to 2.3 crore in August 2016 and 6.8 crore in May 2017. As a result of expansion in and strengthening of interoperability, the share of transactions performed by customers of one bank at the BC outlet of another bank (“off-us” transactions) has also risen, growing steadily from less than 1 per cent of all transactions at BC outlets till April 2016 to nearly 17 per cent in May 2017. This has happened even as the number of BCs has remained steady. While the number of

rural accounts opened under PMJDY has grown from 8.0 crore in August 2015 to 14.8 crore in August 2016 and 17.2 crore in May 2017, the growth in transactions is at a rate much faster than the rate of growth of the rural account base. Thus, use of accounts in terms of both deposits and transactions through BC outlets has registered impressive growth, which has positive consequences for the viability of and the continued growth of the BC network.

3.15 Besides the personal accident insurance cover to the holders of accounts opened under PMJDY through the insurance in-built into their associated debit cards, 10.02 crore accountholders have insured themselves for personal accident cover under Pradhan Mantri Suraksha Bima Yojana and 3.11 crore for life insurance cover under Pradhan Mantri Jeevan Jyoti Bima Yojana. As a result, the number of persons insured for personal accidents and life has increased from about 32.31 crore in March 2015 to about 45.44 crore in May 2017. This has been achieved while substantially lowering the premium amount, to make it affordable to large sections of population.

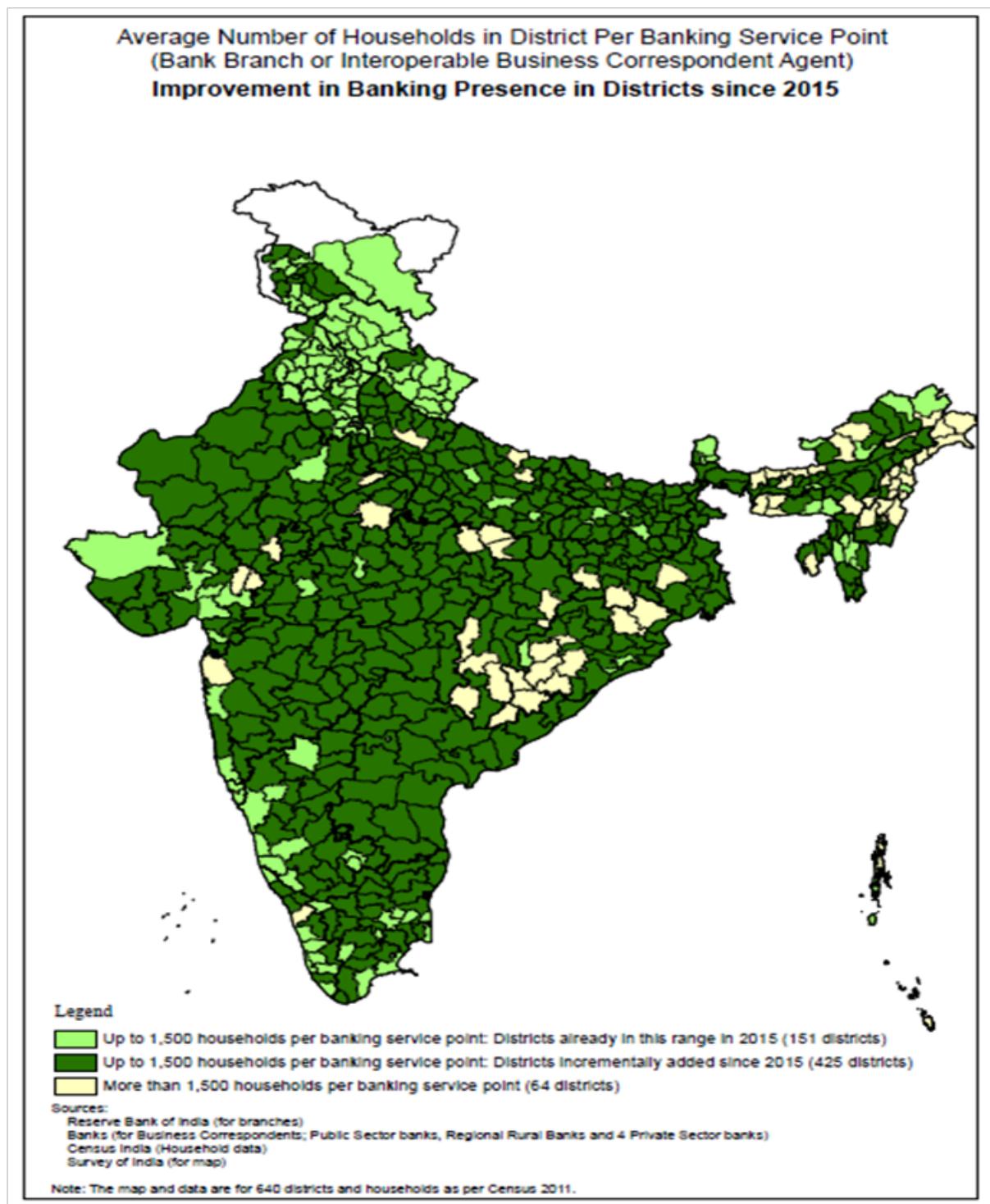
3.16 Among several strategic choices and innovations that have enabled these outcomes, three main enabling factors are noteworthy. The first enabler is the massive expansion made in effective banking presence in rural areas. Branches and interoperable BC outlets are the banking service points relevant for this. The number of such service points of Scheduled Commercial Banks, which was 1.16 lakh in March 2014 more than doubled to 2.62 lakh service points in March 2017. The number of districts having an average of up to 1,500 households per banking service point has risen from 151 districts in January 2015 to 576 districts in March 2017 (see map below). The second key enabler has been the linking of accounts with the customer's Aadhaar number, on user consent basis. About two of every three active savings accounts have been seeded with Aadhaar number, which has created the large user base required both for customer access for Aadhaar-enabled transactions and for BC viability. The third key enabler, for financial inclusion in insurance, is the innovation of leveraging the expanded banking network for insurance purposes and lowering premiums while expanding coverage. This innovation

has increased the reach of micro insurance in rural areas in a major way.

Non-Banking Financial Sector

3.17 The consolidated balance sheet size of the Non-Banking Financial Sector (excluding government companies) increased by 14.5 per cent in 2016-17 to ₹12,56,388 crore compared to asset size growth of 16.87 per cent during 2015-16. The number of NBFCs stood at 11,522 as on March 31, 2017 as against 11,586 as on March 31, 2016. Capital and reserves (26.1 per cent of total liabilities), bank borrowings (23.1 per cent), debentures (21.1 per cent) and commercial paper (9.5 per cent) are the major source of funding for NBFCs as on March 31, 2017. Loans & advances and investments formed 70 per cent and 17 per cent respectively of the total assets of the sector as on March 31, 2017. Loans and Advances of NBFCs grew by 16.4 per cent to ₹8,81,651 crores during 2016-17 as against 12.5 per cent during 2015-16. Credit to industry, services and retail sectors formed 42.2 per cent, 30.8 per cent and 21.5 per cent of the total credit respectively as on March 31, 2017.

3.18 The gross NPA ratio (gross NPA to gross advances) of the NBFC sector increased to 4.4 per cent in March 2017 from its level of 4.2 per cent in March 2016. The Net NPA (net NPA to net advances) ratio was 2.2 per cent for March 2017 as well as March 2016. The average Capital to Risk Weighted Assets Ratio (CRAR) of the NBFC sector declined to 22.5 per cent in March 31, 2017 (24.3 per cent a year ago). The minimum requirement of CRAR for individual NBFCs is 15 per cent. Return on Assets (RoA) and Return on Equity (RoE) were 6.8 per cent and 1.8 per cent respectively during 2016-17 (as compared to 7.9 per cent and 2.1 per cent during 2015-16).

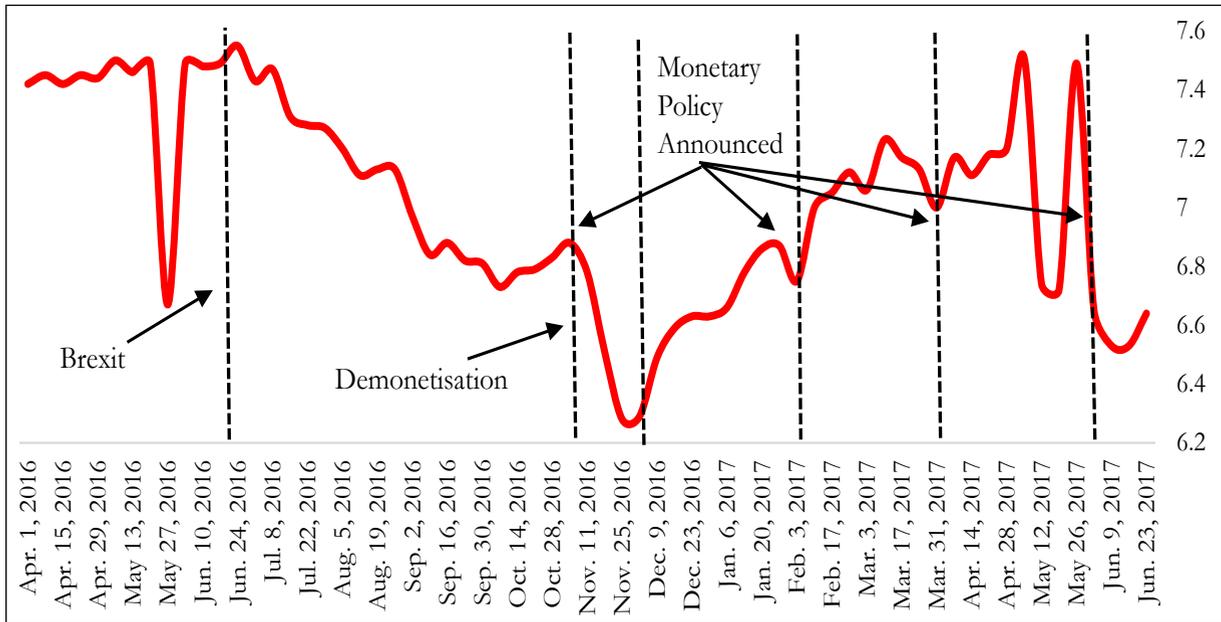


DEVELOPMENTS IN GOVERNMENT SECURITIES MARKET

3.19 The 10-year government securities (g-sec) yield generally softened during the pre-demonetisation period on the back of positive sentiments generated by reduction

in policy rate, reduction in minimum daily CRR maintenance from 95 per cent to 90 per cent of the requirement, and change in the liquidity management framework, from deficit to a position close to neutrality in the monetary policy statement of April 5, 2016. The g-sec yield exhibited slight

Figure 10. 10-Year G-Sec Yield (%)



Source: RBI

hardening bias in the run up to the Brexit referendum on June 23, 2016. However, the yield softened significantly, tracking the fall in global yields post the Brexit referendum results. A relatively stable domestic currency market, expectations of easing measures by major central banks and increased likelihood of delay in rate hike by the Federal Reserve kept the yield lower.

3.20 Post-demonetisation, there was a sharp decline in the yield. Thereafter, the yield, rose initially due to a combination of remonetisation and markets not anticipating policies. Since February 2017, there has been unusual volatility in g-sec rates, reflecting both policy surprises as well as large capital inflows. The g-sec yield softened sharply post June 2017 monetary policy statement, owing to significant decline in the inflation forecast of the RBI and future expectations of a rate cut.

DEVELOPMENTS IN CAPITAL MARKET

Primary Market

3.21 The year 2016-17 witnessed a steady

increase in resource mobilisation in the primary market segment. During the year, 134 companies accessed capital market and raised ₹62,079 crore compared to ₹57,866 crore raised through 107 issues during 2015-16, showing 7.3 per cent increase over the year (Table 3). Resources mobilised by Mutual funds also increased substantially in 2016-17 as compared to the previous year. Total Asset under Management (AUM) increased to ₹17.54 lakh crore from ₹12.32 lakh crore during 2015-16 (Table 4).

3.22 Resource mobilisation through issuance of corporate bonds (public issuance and private placement) rose rapidly during 2016-17 as compared to previous year, with an amount of ₹6.70 lakh crore raised through 16 public issuances and 3377 private placements. Private placements continue to dominate the corporate bond market. However, it must be noted that resource mobilized through public and private placement of corporate bonds is not a substitute for bank credit. The maturity period of bonds are much shorter compared to bank credit and hence one need

**Table 3. Primary Market Resource mobilisation through Public and Rights Issues
(₹ crore)**

Issue Type	2014-15		2015-16		2016-17		2017-18\$	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Public issue (Equity)	46	3,311	74	14,815	106	29,105	16	2,344
Rights Issues (Equity)	18	6,750	13	9,239	12	3,415	2	368
Total Equity	64	10,061	87	24,054	118	32,520	18	2,712
Public Issue (Debt)	25	9,713	20	33,812	16	29,559	1	1,968
Total	89	19,774	107	57,866	134	62,079	19	4,680

Note: Data for 2017-18 provisional. \$ As on May 31, 2017 *Source:* SEBI

Table 4. Resource Mobilization by Mutual Funds

	2014-15		2015-16		2016-17		2017-18\$ (₹ in crore)	
	Net flow	AUM	Net flow	AUM	Net flow	AUM	Net flow	AUM
Debt	22,556	6,94,127	33,008	7,82,900	2,13,154	10,74,652	20,167	5,83,558
Equity	71,030	3,45,139	74,026	3,86,403	70,367	5,43,541	74,195	11,63,671
Others	9,702	43,491	27,147	63,521	59,527	1,36,426	15,630	1,56,747
Total	1,03,288	10,82,757	1,34,181	12,32,824	3,43,048	17,54,619	1,09,992	19,03,975

\$ As on May 31, 2017 *Source:* SEBI

**Table 5. Funds Mobilized through Issuance of Corporate Bonds in India
(Listed Securities)**

Financial Year	No. of Public Issues	Amount Raised through Public Issue (₹ Crore)	No. of Pvt. Placement	Amount Raised through Private Placement (₹ Crore)	Total Amount Raised through Public Issue and Pvt. Placement (₹ Crore)
2014-15	25	9,713	2,611	4,04,136	4,13,849
2015-16	20	33,811	2,975	4,58,073	4,91,884
2016-17	16	29,559	3,377	6,40,716	6,70,275
2017-18\$	1	1,969	602	97,208	99,177

Note: Data for 2017-18 provisional.

\$ As on May 31, 2017 *Source:* SEBI

to be cautious while comparing such resource mobilization with bank credit.

Secondary market

3.23 Indian stock markets recorded a robust

growth in 2016-17, with Sensex up by 16.9 percent and Nifty higher by 18.6 per cent as compared to losses registered in the previous year 2015-16. Except for South African stock market, 2016-17 was a year of positive

Box 4. Disintermediation in Credit and Deposits

Banks' share in credit intermediation witnessed a considerable change in 2016-17. The banks' share in incremental credit intermediation to private non-financial sector (PNFS) which was around 60 per cent in 2014-15 and 2015-16 declined to 45 per cent in 2016-17. In terms of resource mobilization as well we see a similar trend. Net flow of resources in mutual funds (MF) as a share of net time deposits (TD) flow in banks jumped sharply from 18 per cent in 2015-16 to 33 per cent in 2016-17. Note that annual net flows are calculated as change in total outstanding (for both lending and resource mobilization) for banks and non-banks between two financial years.

The greater role of non-banking sector in resource mobilization, and hence credit intermediation, helped commercial sector, albeit partially, to make up for historically low bank credit outstanding growth. Thus, problems in the banking sector are leading to greater reliance on non-banks for borrowers as well as savers.

Figure 1. Share in Net Credit Flow to PNFS (%)

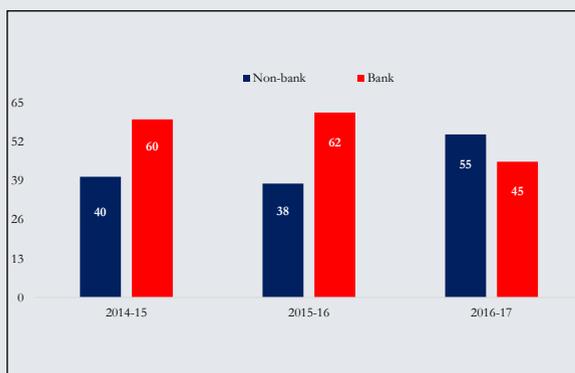


Figure 2. Net Flow in MF as % of Net TD Flow



Source: Survey Estimates based on RBI, SEBI and BIS data.

growth for equity world over, and gains in Indian markets were comparable to the gains in developed economies.

3.24 The steady upward momentum in the market was fuelled by global and domestic liquidity conditions. During the last quarter of 2016-17, Foreign Institutional Investors (FIIs) pumped in ₹68,627 crores (as against an outflow of ₹23,079 crores during the entire calendar year of 2016), while Domestic Institutional Investors (DIIs) brought in ₹1288 crore, on the back of strong and sustained subscription to mutual fund / insurance schemes. The total assets under management by Mutual funds rose by 42 percent in 2016-17 over the previous year. The other factors which raised market sentiments during the year included Government's commitment to fiscal consolidation roadmap, continuity and certainty of reforms,

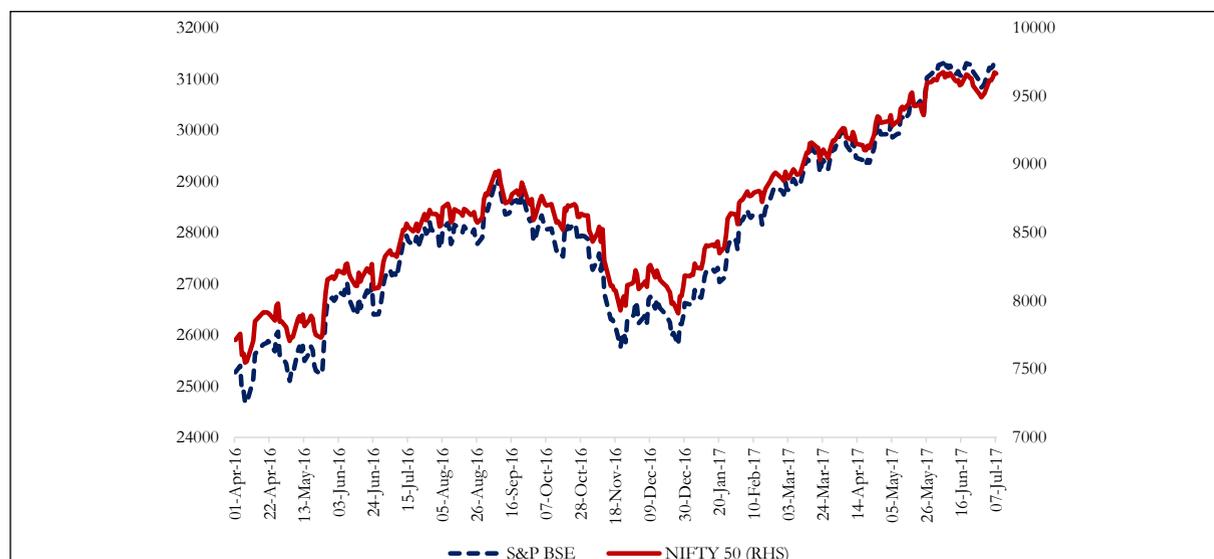
commitment to resolve bank NPAs, and certainty on implementation of GST etc.

INSURANCE AND PENSION SECTOR

3.25 Apart from protecting against mortality, property and casualty risks and providing a safety net for individuals and enterprises in urban and rural areas, the insurance sector encourages savings and provides long-term funds for infrastructure development and other long gestation projects of the Nation. The development of the insurance sector in India is necessary to support its continued economic transformation.

3.26 The potential and performance of the insurance sector should be assessed on the basis of two parameters, viz., Insurance Penetration and Insurance Density. Insurance penetration is defined as the ratio of premium underwritten in a given

Figure 11. Indian Benchmark Stock Indices (Sensex and Nifty)



Sources: Sensex, NIFTY

Table 6. Performance of Major Markets in the World

Index	2014-15	2015-16	2016-17	Performance in	
	(31.03.2015)	(31.03.2016)	(31.03.2017)	FY 2016-17	
				(%, Local Currency Unit)	(%, Dollar)
Indian Markets					
SENSEX, India	27957	25342	29621	16.9	19.1
NIFTY, India	8491	7738	9174	18.6	20.8
Emerging Markets					
SHANGHAI COMPOSITE, China	3748	3004	3223	7.3	0.8
RTSI\$, Russia	880	877	1114	27.1	43.7
Indice BOVESPA, Brazil	51150	50055	64984	29.8	44.7
JCI, Indonesia	5519	4845	5568	14.9	15.2
JSE40, South Africa	46017	46140	45167	-2.1	11.6
KOSPI, South Korea	2041	1996	2160	8.2	12.4
TAIWAN TAIEX, Taiwan	9586	8745	9812	12.2	17.7
Developed Markets					
S&P 500, US	2068	2060	2363	14.7	14.7
DOW JONES, US	17776	17685	20663	16.8	16.8
DAX, Germany	11966	9966	12313	23.6	18.1
FTSE 100, UK	6773	6175	7323	18.6	2.9
CAC-40, France	5034	4385	5123	16.8	11.3
NIKKEI 225, Japan	19207	16759	18909	12.8	13.9
HANG SENG, Hong Kong	24901	20777	24112	16.1	15.9
Straits Times, Singapore	3447.01	2840.9	3175.11	11.8	8.9

Sources: Bloomberg, Survey Estimate

year to the gross domestic product (GDP). Insurance density is defined as the ratio of premium underwritten in a given year to the total population (measured in US\$ for convenience of international comparison).

3.27 The insurance penetration was 2.32 (Life 1.77 and General (Non-life) 0.55) in the year 2000 when the sector was opened up for private and has increased to 3.44 in 2015 (Life 2.72 and General 0.72). Insurance Penetration in some of the emerging economies in Asia, i.e., Malaysia, Thailand and China during the same year i.e. 2015 was 5.81, 5.5 and 3.6 respectively. The insurance density in India was US\$9.9 in 2000 which has increased to US\$54.7 in 2015 (Life 43.2 and General 11.5). The comparative figures for Malaysia, Thailand and China during the same period i.e. 2015 were US\$472, US\$319 and US\$281 respectively.

3.28 During the fiscal 2016-17, the Gross Direct Premium (GDP) of General Insurers (within India) crossed ₹1,27,631 crores (as per the provisional figures submitted by the insurers), registering 32 per cent growth (highest ever since 2000-01). Crop insurance, motor sales, health insurance etc. helped the industry report this growth. Life insurance

industry registered a growth of 26.2 per cent in the first year premium as at the end of March, 2017 compared to the growth of 22.3 per cent of previous year with a first year premium underwritten of ₹1,75,022.5 crore compared to ₹1,38,657.3 crores in the previous year.

3.29 National Pension System (NPS) is a defined contribution-based pension scheme launched by the Government of India with the objectives of providing old age income, market-based returns over the long run and extending old age income security coverage to all citizens. The efforts of the government are to widen the reach of the scheme beyond employees who are within the government fold.

3.30 Till 31st March 2017, a total of 154.4 lakh members/subscribers, inclusive of the Atal Pension Yojana (APY), have been enrolled under the NPS. Assets under management (AUM), which includes returns on the corpus under the NPS, have witnessed an increase of 47 per cent from ₹1,18,810 crores on 31 March 2016 to ₹1,74,561 crore on 31 March 2017. The APY has a total of about 48 lakh subscribers and a corpus of ₹1,751 crore as on 31 March 2017.

Prices and Inflation

The economy has undergone a transition - possibly structural and permanent - from high to low inflation in the last three years. CPI inflation declined during 2016-17 with broad based decline in all commodity groups. Food inflation, which was the main driver of inflation in the past, declined significantly during the year because of improvements in supply of pulses and vegetables on the back of a normal monsoon. Core inflation-indicative of underlying trends -- too declined in the last few months. There has been convergence between CPI and WPI inflation in the last few months. Similarly, there has been narrowing of gap between rural and urban inflation. Many States/UTs witnessed decline in CPI inflation in 2016-17 as compared to the previous year.

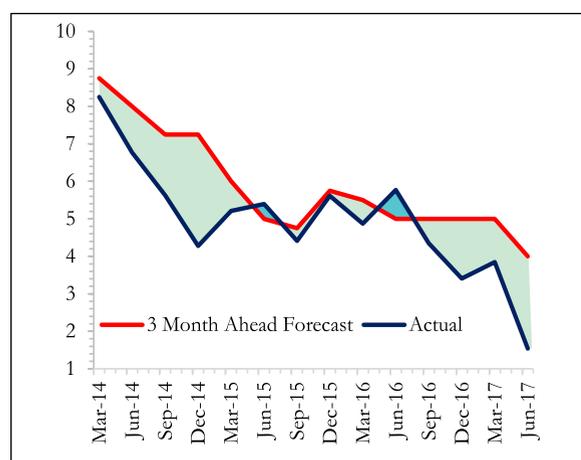
I. PARADIGM SHIFT TO LOW INFLATION?

4.1 Is India undergoing a structural shift in the inflationary process toward low inflation?

4.2 Research indicates that consumer price inflation has undershot professional forecasts fairly consistently over the last 5

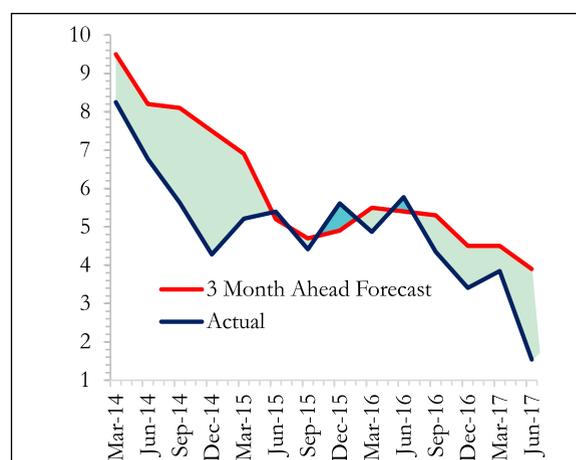
years or so, globally as well as in the advance economies. In the Indian context, evidence seems to be pointing to same conclusion- though the errors have been on both side over longer time horizon. More recently such shifts seem to have been missed (Figure 1 and Figure 2, respectively)^{1a}. For example,

Figure 1. CPI Inflation - RBI Forecast and Actual



Source: RBI and Survey Calculations

Figure 2. CPI Inflation -Professional Forecast and Actual

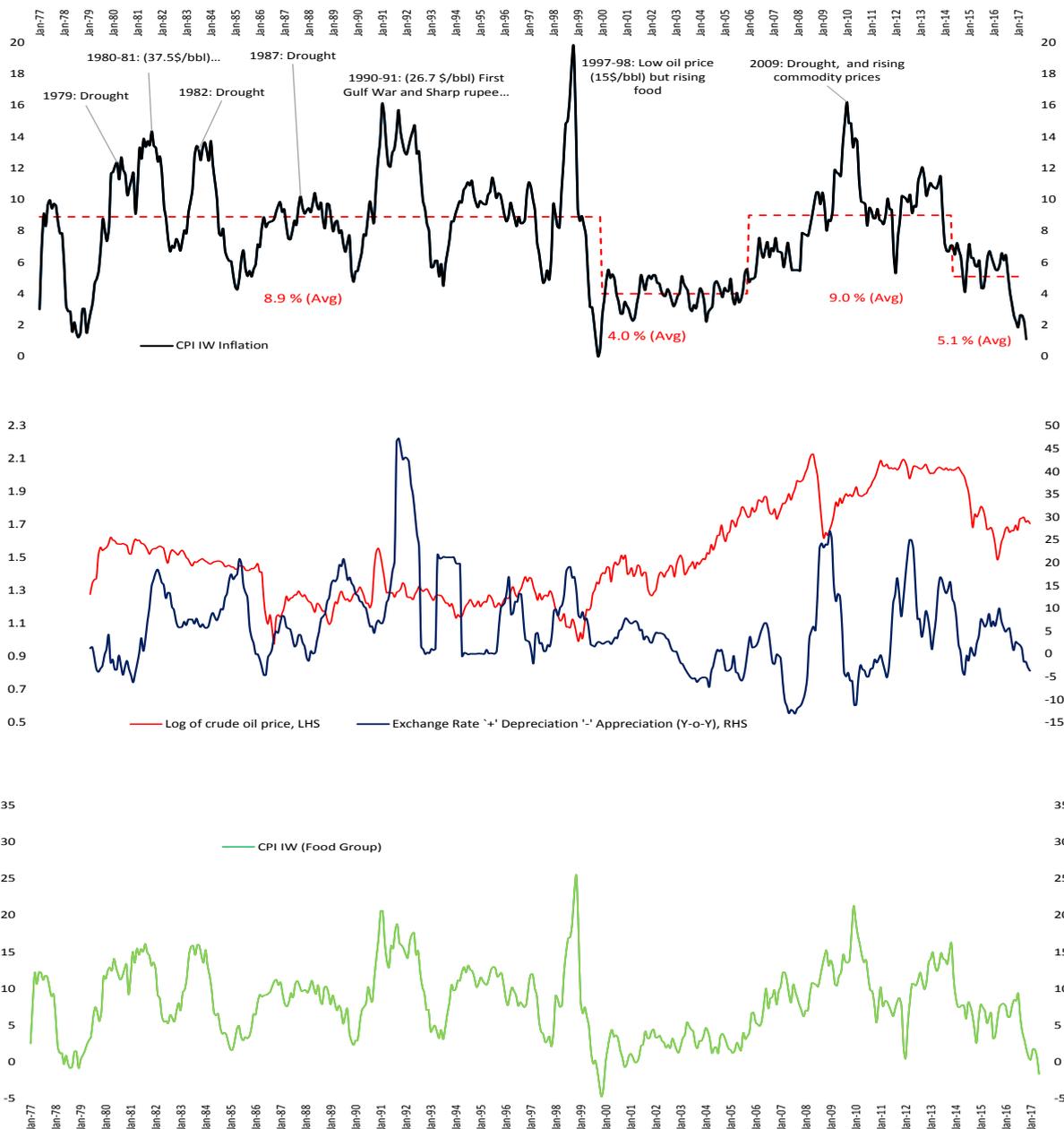


^{1a} In Figure 1, the inflation forecast is estimated as the mid-point of the confidence bands in the fan charts of respective monetary policy statements.

in the last 14 quarters, inflation has been overestimated by more than 100 basis points in six quarters (three in 2014 and three in the most recent period) with an average error of 180 basis points (and that too for a

very short-term forecast, just three months ahead) (Figure 1). It must also be noted that during this period the forecast was within 50 bps of the outcome in 4 out of 14 quarters (March 2014, June, September and

Figure 3. Long term Inflation^{1b} (1977-2017)



Source: Labour Bureau, Reserve Bank of India and World Bank.

^{1b} Inflation based on Consumer Price index for Industrial Worker (CPI-IW) released by Labour Bureau is used since it is available for longer period instead of inflation based on new series of Consumer Price Index – Combined (CPI-C) released by Central Statistics Office (CSO). CPI –IW inflation figures for base year 1960 (January, 1977 to September, 1988), base year 1982 (October, 1988 to December, 2005) and base year 2001 (January, 2006 to May 2017) is used. CPI-IW and CPI-C based inflation moves very closely with a correlation coefficient of 0.9383 (for period January, 2012 to April, 2017). Crude oil is Crude Brent (global basket). Exchange rate in rupee per US dollar.

December 2015) and within 25 bps in 1 out of 14 quarters (December 2015). The record of professional forecasters is similar (Figure 2). Actual lesser inflation than forecast could well reflect the extraordinary developments such as the durable collapse of international oil prices.

4.3 The question going forward is whether there is a paradigm shift in inflation and what it implies for monetary management.

4.4 Consider first a long term perspective on inflation in India shown in Figure 3. Over the last four decades (beginning 1977), there have been broadly four phases: high inflation, averaging 9 percent, for about 23 years; low inflation of about 4 percent for 5 years between 2000 and 2005; a resurgence of inflation back to about 9 percent during the period 2006-2014; and now a new phase of relatively low, possibly very low, inflation^{2a}.

4.5 Figure 3 helps identify understand the drivers of inflation. Broadly, high inflation, and especially inflation peaks, coincide with surges in commodity prices, especially for oil and food; in some cases, they are caused by one-off factors such as sharp exchange rate depreciation.

4.6 So, if there are structural changes in the oil market and in domestic agriculture, the inflationary process could also experience structural shifts. As elaborated below, there are reasons to believe that both changes are underway.

Oil

4.7 It has become almost an involuntary reflex to cite geopolitics in the list of risks to oil prices, and hence to domestic inflation. But these risks may well be diminishing substantially. The oil market is very different today than a few years ago in a way that

imparts a downward bias to oil prices, or at least has capped the upside risks to oil prices.

4.8 The exploitation of shale oil and gas—courtesy of sophisticated new technologies such as hydraulic fracturing—have increased the supply of oil from non-OPEC countries, especially from North America. Moreover, this supply has two significant properties. It is profitable at prices close to \$50 per barrel and supply responds more quickly to price changes because of much lower capital costs than for conventional oil. As a result, OPEC has less control over oil prices than it used to. Figure 4 plots OPEC's swing capacity and oil prices. Before 2014, the two moved closely together but since then, the two have completely decoupled.

4.9 Figure 5 plots the worldwide count of rigs and oil prices. Here too the relationship is striking, with rig capacity declining in response to lower prices and quickly expanding as oil prices rise^{2b}. This accordion-like quality of shale combined with estimates that viability is achieved close to \$50 per barrel means that oil prices are broadly capped.

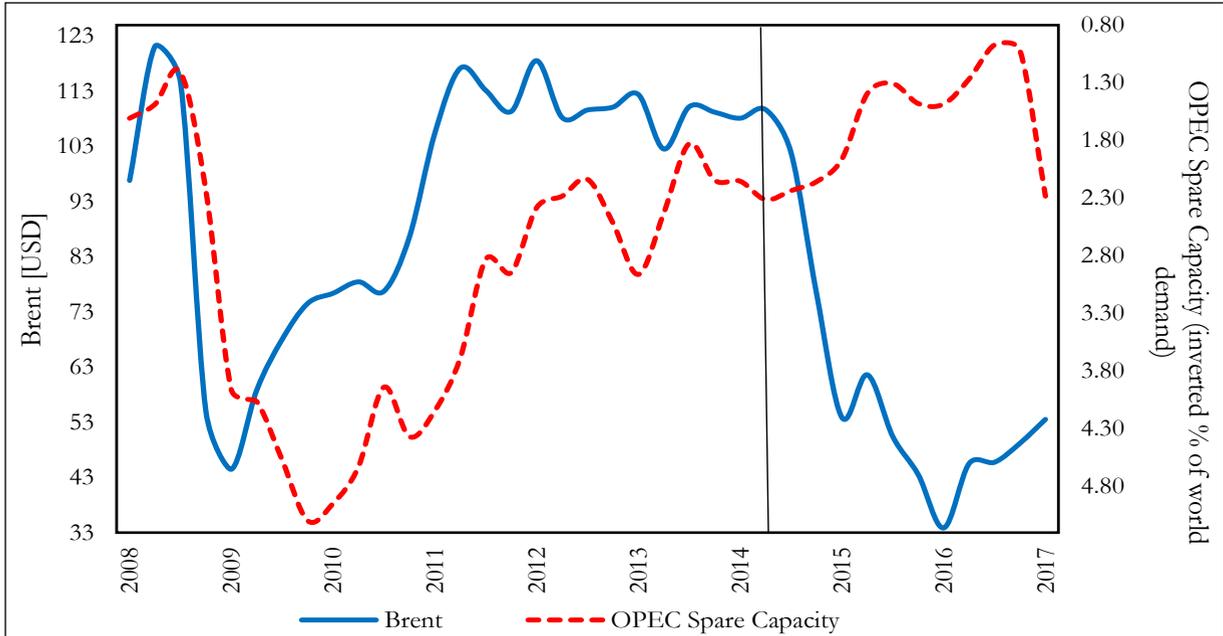
4.10 Going forward, therefore, it is not that prices will not be volatile nor is it the case that they will never rise above the \$50 “ceiling.” Rather, shale technology will ensure that prices cannot remain above this ceiling for any prolonged period of time because of rapid supply responses which will take the prices toward the marginal cost of production of shale. The dramatic decline in the cost and prices of renewables will only re-inforce this tendency.

4.11 In sum, geopolitical risks are simply not as risky as earlier. Technology has rendered India less susceptible to the vicissitudes of geo-economics (OPEC) and geo-politics

^{2a} Headline CPI inflation is now below 2 percent but even refined core (which strips out all the volatile food and fuel components), has now gone below 4 percent. This compares very favorably with India's long-run inflation performance of close to 9 percent and with the average of refined core inflation of 6.8 percent in the CPI-New Series from January 2011 onwards.

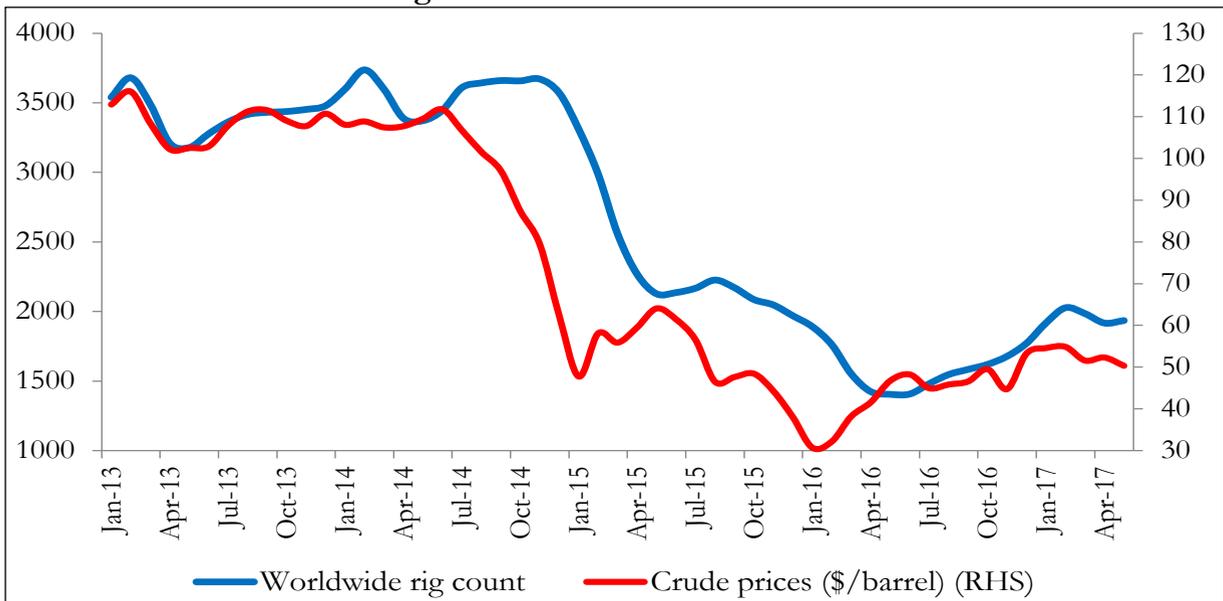
^{2b} A broadly similar relationship holds between the flow of rigs and oil prices.

Figure 4. OPEC’s Fading Market Power?



Source: U.S. Energy Information Administration (USEIA).

Figure 5. The Shale “Accordion”



Source: Baker Hughes and USEIA

(Middle East). If and to the extent that changes prove permanent, the consequences for the inflationary process need to be taken into account.

II. VARIABILITY OF INFLATION ACROSS ITEM GROUPS AND STATES

4.12 Inflation based on Consumer Price

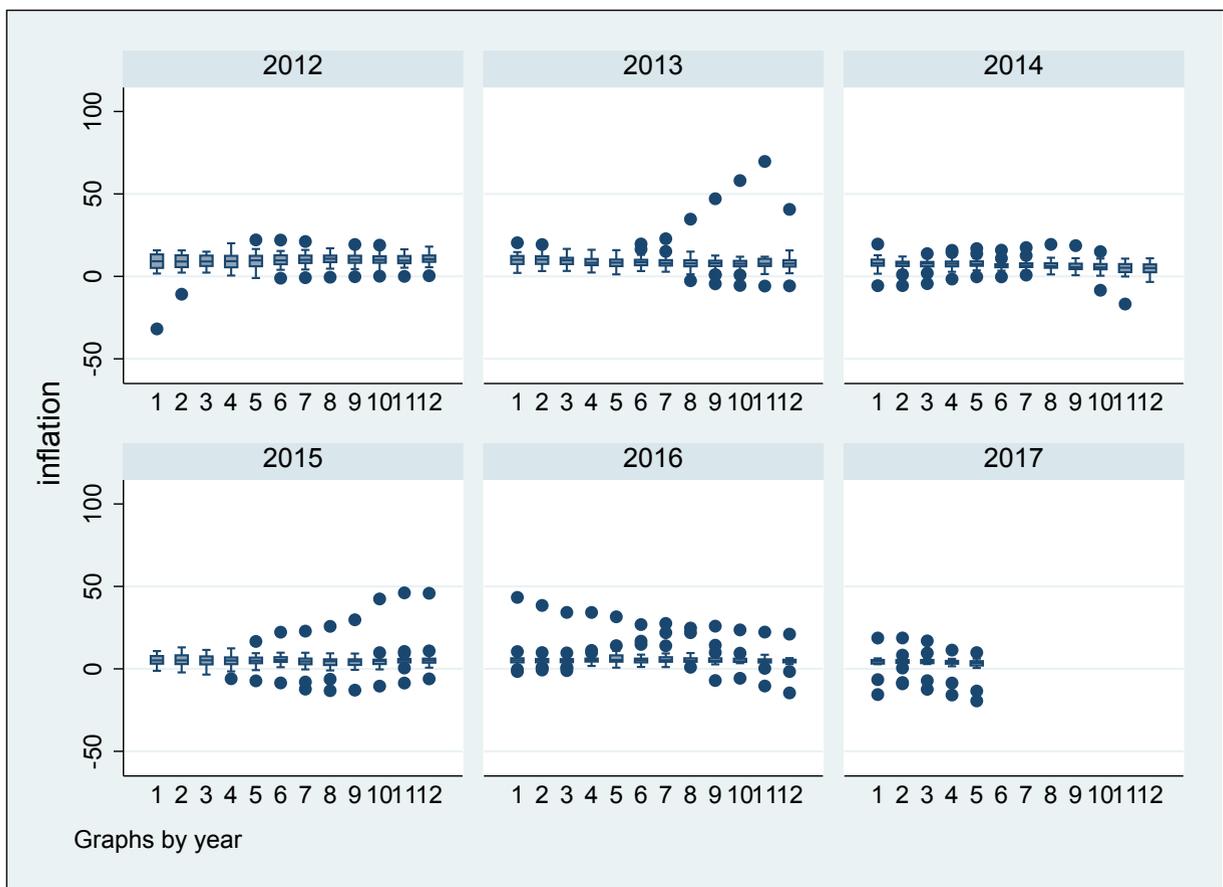
Index – Combined (CPI-C) has shown a declining trend from around 9 per cent in 2012 to around 3 per cent in 2017, except in 2013 when it increased to around 10 per cent. Figure 6 shows the variability of inflation across major item groups. Starting from mid-2013, the inflation of vegetables

has been consistently higher (reaching a high of around 70 per cent in November 2013) than the rest of the item groups for the rest of the year. Inflation of pulses started rising since May 2015 and has been higher than the rest of the item groups till mid-2016. Overall, the inflation in major item groups (Figure 6) and across major States (Figure 7) does not exhibit any definite trend during the period (2012-17); however, there has been less variability across different item groups since 2016.

III. CURRENT TRENDS IN INFLATION

4.13 Inflation both in terms of Consumer Price Index – Combined (CPI-C) and Wholesale Price Index (WPI) has decreased in recent years with WPI registering negative growth in 2015-16. The salient aspects include secular decline in headline inflation, convergence of CPI and WPI, decline in inflation across commodity groups, notable being food, narrowing of gap between rural and urban inflation and decline in inflation across States.

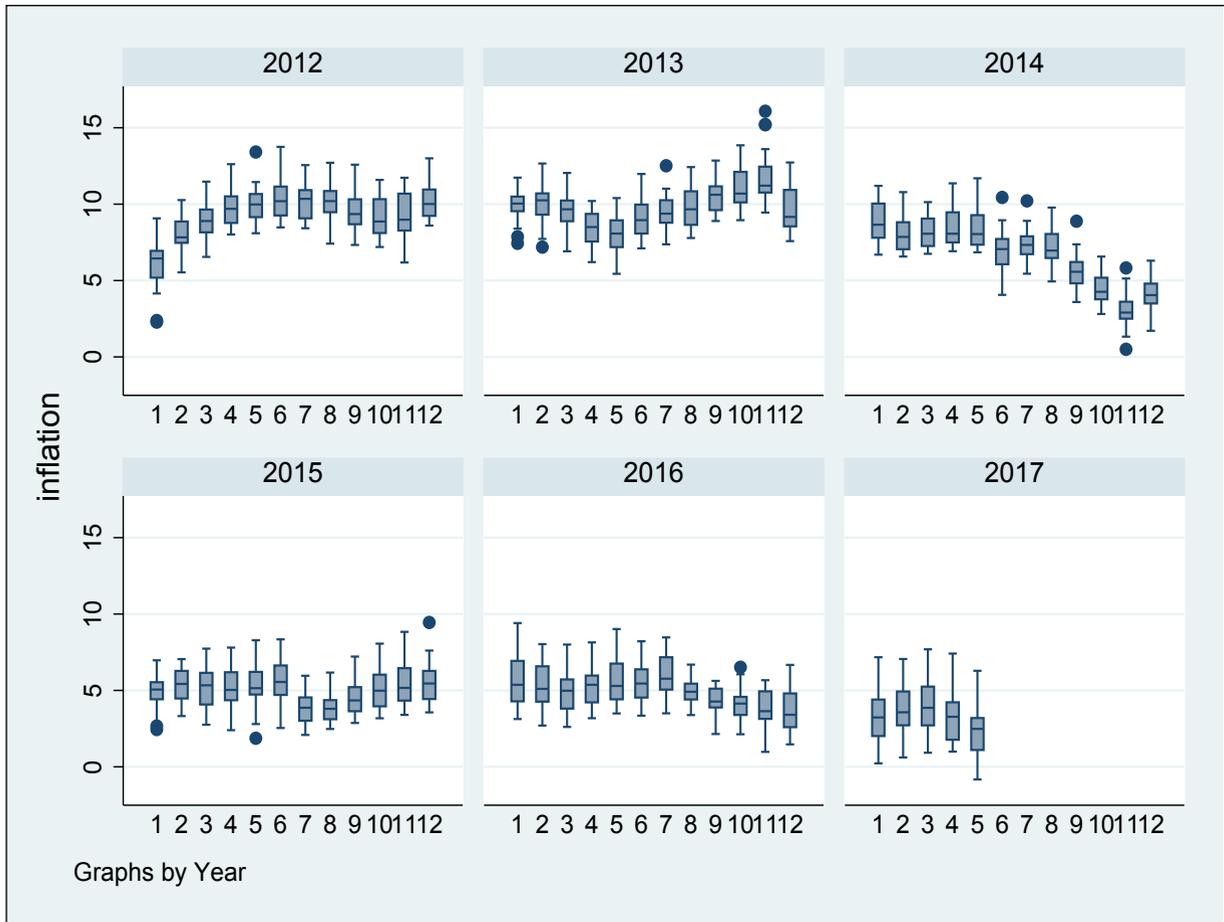
Figure 6. Variability³ across major items under groups in terms of CPI- Combined



Source: CSO, Survey calculations

³ Box and whisker plots enable us to study the characteristics of a distribution. The box shows the interquartile range, that is the 75th and 25th points on the distribution. The horizontal line in the box indicates median of the distribution and the whiskers are lines running from the box to the maximum and minimum values. If a data value is very far away from the quartiles, it is sometimes designated an outside value (represented by dots in figure). The standard definition for an outside value is a number which is less than $Q_1 - (1.5 \times IQR)$ or greater than $Q_3 + (1.5 \times IQR)$. That is, an outside value is any number less than $Q_1 - (1.5 \times IQR)$ or greater than $Q_3 + (1.5 \times IQR)$.

Figure 7. Variability of inflation across major states (2012-2017) in terms of CPI-Combined



Source: CSO, Survey calculations

4.14 First, sharp decline in inflation is observed for various price indices. Headline CPI (combined) inflation declined sharply to 4.5 per cent in 2016-17 from 4.9 per cent in 2015-16 and 5.9 per cent in 2014-15. CPI inflation has been below 4 per cent for past eight months and decreased to 1.5 per cent (lowest since the series began in 2012) in June 2017. Inflation based on CPI-Industrial workers (IW) declined to 4.1 percent in 2016-17 from 5.6 percent in the previous year. It reached a low level of 1.1 percent in May 2017. As per Wholesale Price Index (WPI) with base 2011-12, inflation increased to 1.7 percent in 2016-17 from -3.7 per cent in 2015-16 on the back of hardening of global commodity prices. A comparative picture of inflation based on the major price indices for

the last five years is given in Table 1.

4.15 Second, convergence between CPI and WPI based inflation is another notable feature. The gap between CPI and WPI based inflation which increased to a high of 10 percentage points in September 2015 has disappeared in May 2017 when both CPI and WPI based inflation stood at 2.2 per cent (Figure 8). On yearly basis, the gap between the two, after increasing from 4.7 percentage points in 2014-15 to 8.6 percentage points in 2015-16 has narrowed down to 2.8 percentage points in 2016-17 (Table 1). The convergence can be attributed primarily to firming up of prices of tradable commodities which constitute a major part of WPI basket and revision in the base year for Wholesale Price Index from 2004-05 to 2011-12.

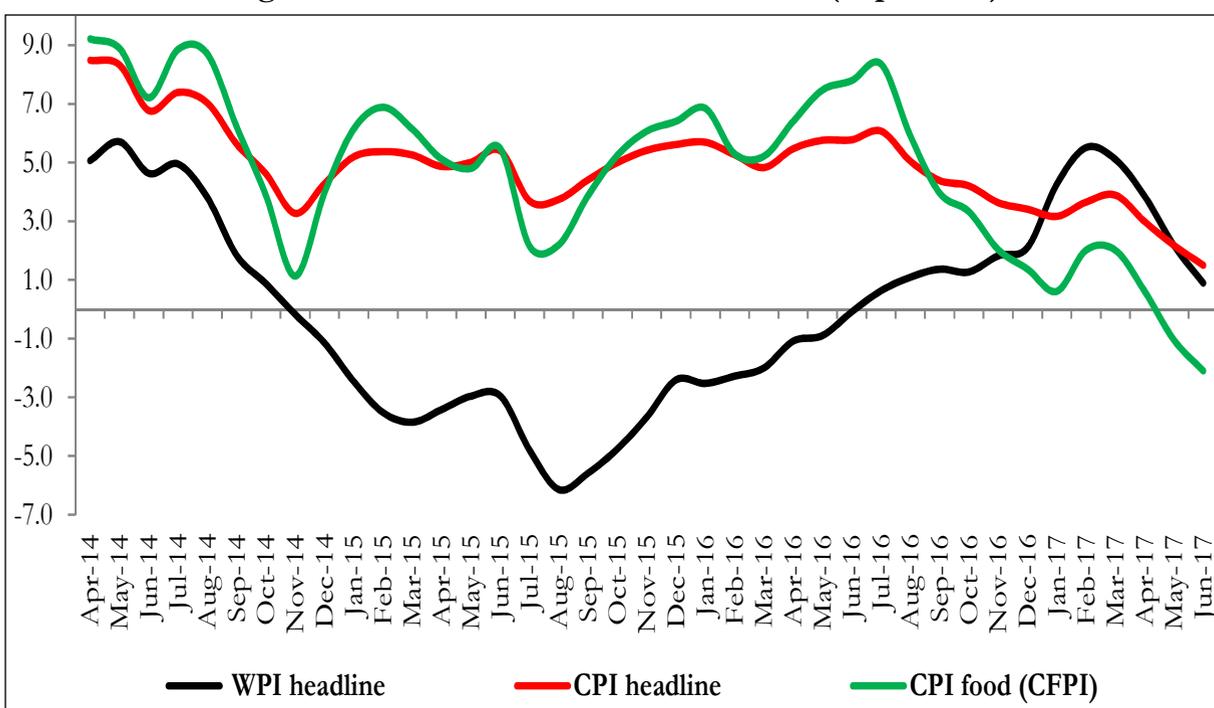
Table 1. General inflation based on different price indices (in per cent)

	2012-13	2013-14	2014-15	2015-16	2016-17
WPI	6.9	5.2	1.2	-3.7	1.7
CPI (combined)	10.2	9.5	5.9	4.9	4.5
CPI (IW)	10.4	9.7	6.3	5.6	4.1
CPI (AL)	10.0	11.6	6.6	4.4	4.2
CPI (RL)	10.2	11.5	6.9	4.6	4.2

Source: Department for Industrial Policy and Promotion (DIPP) for WPI, Central Statistics Office (CSO) for CPI (combined) and Labour Bureau for CPI (IW), CPI (AL) and CPI (RL).

Note: CPI (combined) inflation for 2012-13 and 2013-14 is based on old series 2010=100

IW stands for Industrial Workers, AL stands for Agricultural Labourers and RL stands for Rural Labourers.

Figure 8. Inflation based on WPI and CPI (in per cent)

Source: DIPP & CSO

4.16 Third, there has been broad based decline in inflation for all commodity groups, the most significant being decline in food. Food inflation based on consumer food price index (CFPI) declined to 4.2 per cent in 2016-17 from 4.9 per cent in 2015-16 and 6.4 per cent in 2014-15. High inflation in pulses, vegetables and sugar although put some pressure on CFPI in the beginning of 2016-17, favourable Monsoon leading to increase in production of cereals and pulses has led to a decline in CPI food inflation

in the second half. In order to reduce the volatility in prices of pulses, the Government has built-up buffer stocks of about 19 lakh tonnes through domestic procurement and imports. Vegetable prices, which generally flare up during lean summer seasons, have declined sharply in the past few months, as supply picked up. CPI inflation in vegetables as a result remained negative since September 2016. Sugar inflation remained persistently high during 2016-17 in the backdrop of lower production and hardening of prices in

the international market. Sugar prices at both wholesale and retail level have moderated in the last few months. The break-up of food

inflation based on CPI and WPI is at Table 2 and 3 respectively.

Table 2. Inflation in selected groups of CPI-Base 2012 (in per cent)

Description	Weights	2015-16	2016-17	Jun-16	May-17	Jun-17 (P)
All Groups	100	4.9	4.5	5.8	2.2	1.5
CFPI*	39.1	4.9	4.2	7.8	-1.0	-2.1
Food & beverages	45.9	5.1	4.4	7.5	-0.2	-1.2
Cereals & products	9.7	1.8	4.2	3.1	4.8	4.4
Meat & fish	3.6	6.3	5.6	6.6	1.8	3.5
Egg	0.4	2.3	6.7	5.5	0.7	-0.1
Milk & products	6.6	5.2	4.1	3.4	4.6	4.1
Oils & fats	3.6	4.3	4.0	4.0	2.7	2.3
Fruits	2.9	1.5	4.8	2.8	1.4	2.0
Vegetables	6.0	1.4	-2.2	14.8	-13.4	-16.5
Pulses & products	2.4	31.9	9.3	26.9	-19.5	-21.9
Sugar & confectionery	1.4	-7.0	19.6	16.8	9.8	8.7
Fuel & Light	6.8	5.3	3.3	2.9	5.5	4.5
CPI excl. food and fuel group (Core)	47.3	4.6	4.8	4.4	4.2	4.0

Source: CSO

P: Provisional

* Consumer Food Price Index

Table 3. Inflation in selected groups of WPI- Base 2011-12 (in per cent)

	Weight	2015-16	2016-17	Jun-16	May-17 (P)	Jun-17 (P)
All Commodities	100	-3.7	1.7	-0.1	2.2	0.9
Food Index	24.4	1.2	5.8	8.0	0.1	-1.2
Food articles	15.3	2.6	4.0	7.8	-2.3	-3.5
Cereals	2.8	1.1	8.7	9.5	4.1	1.9
Pulses	0.6	34.8	17.6	27.3	-19.7	-25.5
Vegetables	1.9	-8.6	-5.3	18.6	-18.5	-21.2
Fruits	1.6	0.1	6.0	6.0	-0.7	-0.1
Milk	4.4	3.1	2.9	2.3	4.5	4.1
Egg, meat & fish	2.4	1.5	0.8	2.3	-1.0	1.9
Food products	9.1	-1.5	9.5	8.7	4.8	3.1
Sugar	1.1	-9.8	28.8	29.8	12.8	10.7
Edible oils	2.6	-3.2	8.4	4.1	2.1	1.5
Fuel & power	13.2	-19.7	-0.2	-11.6	11.7	5.3
Non-Food manufactured products (Core)	55.1	-1.8	-0.1	-1.8	2.1	2.1

Source: DIPP

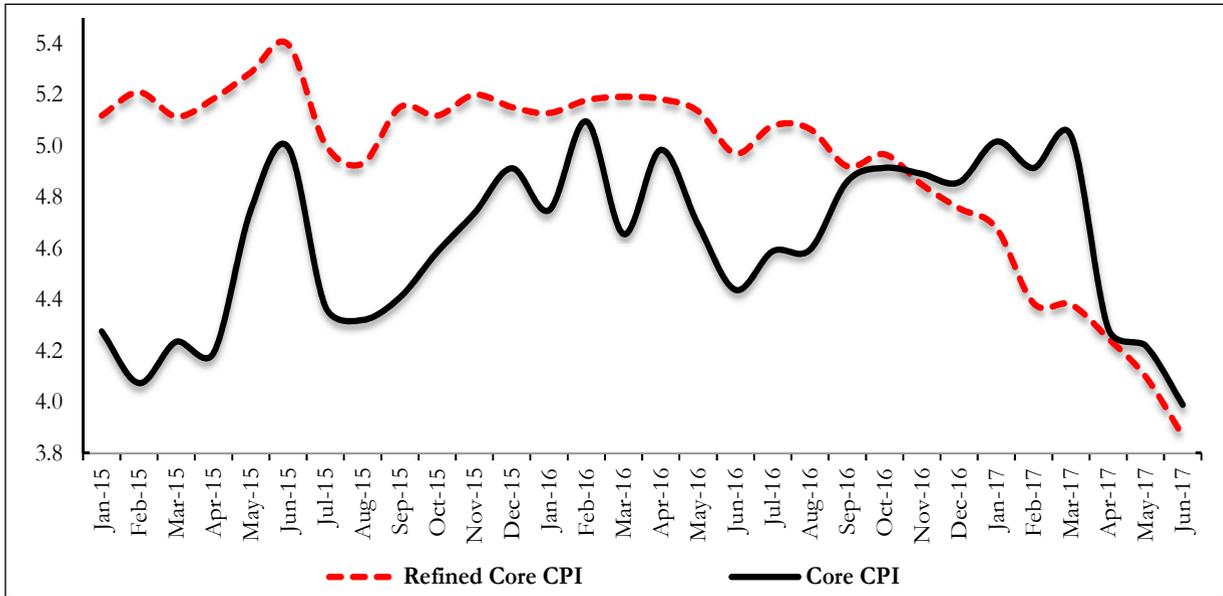
P: Provisional

4.17 Along with significant moderation witnessed in the headline and food inflation in the last three years, CPI based refined core⁴ inflation has declined from 5.2 per cent in 2015-16 to 4.9 per cent in 2016-17. CPI based core⁵ inflation though has increased marginally to 4.8 per cent in 2016-17 from 4.6 per cent in 2015-16. All the CPI based

core inflation measures have been trending down in the last few months (Figure 9).

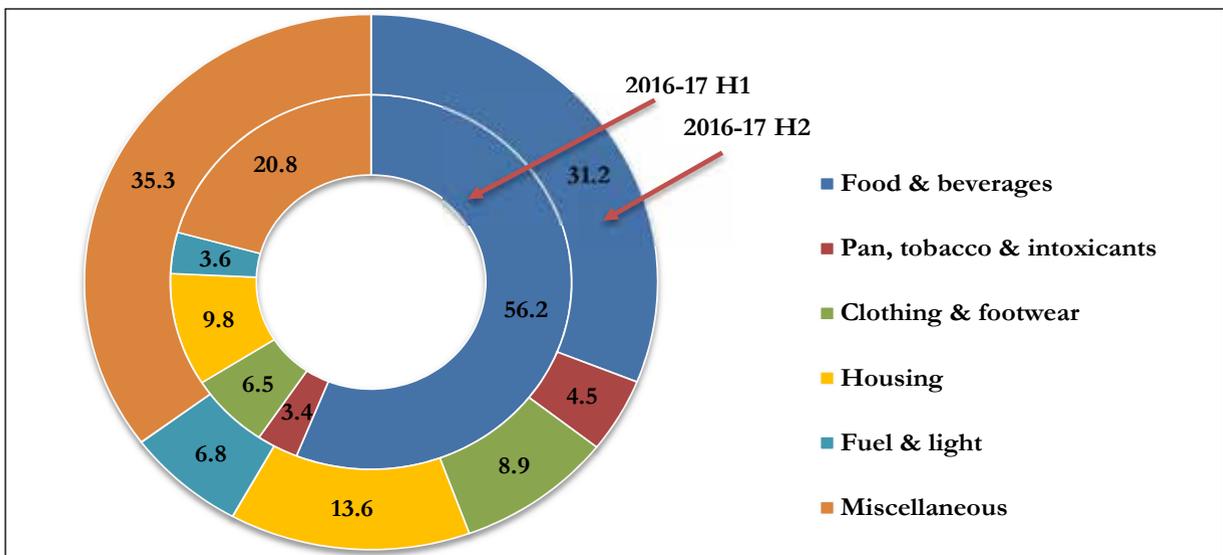
4.18 During first half of 2016-17, while CPI inflation was driven mainly by food, it was the miscellaneous group primarily services which contributed significantly in the second half (Figure 10). Housing too contributed to

Figure 9. CPI based Core Inflation (in per cent)



Source: CSO, Survey calculations

Figure 10. Contribution to CPI inflation 2016-17 H1 and H2



Source: CSO, Survey calculations

⁴ CPI excluding food and fuel group, petrol & diesel

⁵ CPI excluding food and fuel group

general inflation. A break-up of CPI inflation into goods (weight 76.6%) and services (weight 23.4%) shows a sharp fall in goods inflation since August 2016 (Figure 11). However, services inflation remained sticky and was hovering around 5 per cent during 2016-17, mainly driven by high inflation in health, education, house rent and airfare.

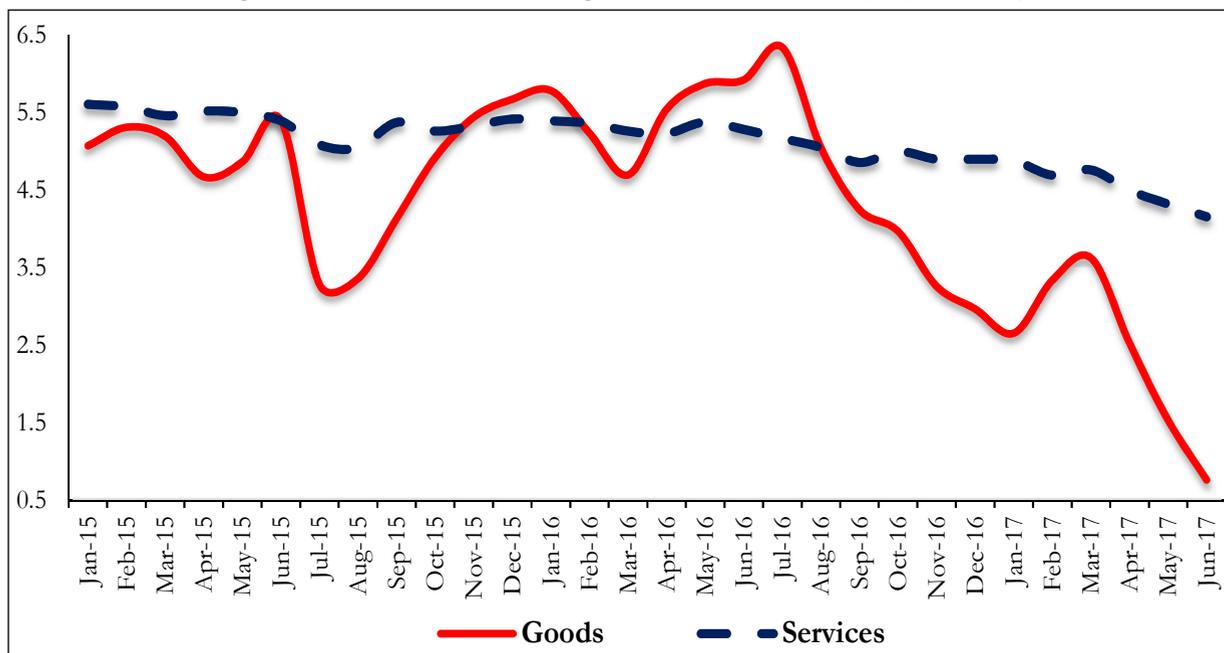
4.19 Fourth, both rural and urban inflation have declined and the gap between the two in recent months has significantly narrowed (Figure 12). Rural inflation based on CPI (rural) decreased to 5.0 per cent in 2016-17 from 5.6 per cent in 2015-16 and 6.2 per cent in 2014-15. Urban inflation based on CPI (urban) declined to 4.0 per cent in 2016-17 as compared to 4.1 per cent in 2015-16 and 5.7 per cent in 2014-15. Urban inflation remains at a lower level than rural and the difference is largely owing to variation in the weights of items in rural and urban consumption basket. The rural basket of CPI assigns significantly larger weight to cereals, vegetables, meat and fish and pulses.

4.20 The gap between rural and urban

inflation based on Consumer Price Index increases sharply whenever there is increase in food and beverages group inflation (weight of 54.2 per cent in rural basket and 36.3 per cent in urban basket) (Figure 13). Fuel and light group inflation for rural area (weight 7.9 per cent) which throughout the period is higher than fuel and light group inflation of urban area (weight 5.6 per cent) also pushes up the rural inflation. Firewood & chips and dung cake together account for 2.5 per cent of weight in CPI basket (mainly associated with rural areas) experience high inflation and volatility. Inflation for Miscellaneous group in rural areas (consisting of consumer durables and services with weight 27.3 per cent) is almost always higher than miscellaneous group inflation of urban areas (weight 29.5 per cent). This could be attributed to infrastructure gaps between rural and urban areas leading to increased marketing costs in rural areas for consumer durables and services.

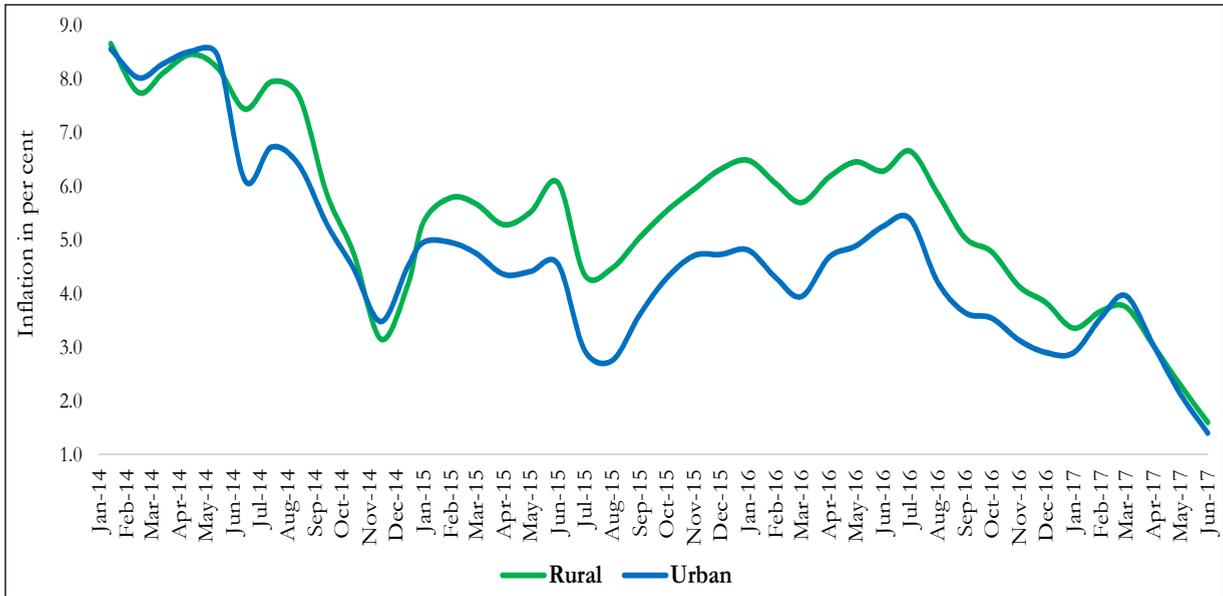
4.21 Finally, many of the States/UTs have witnessed fall in CPI inflation during 2016-17

Figure 11. CPI inflation in goods and services (in per cent)



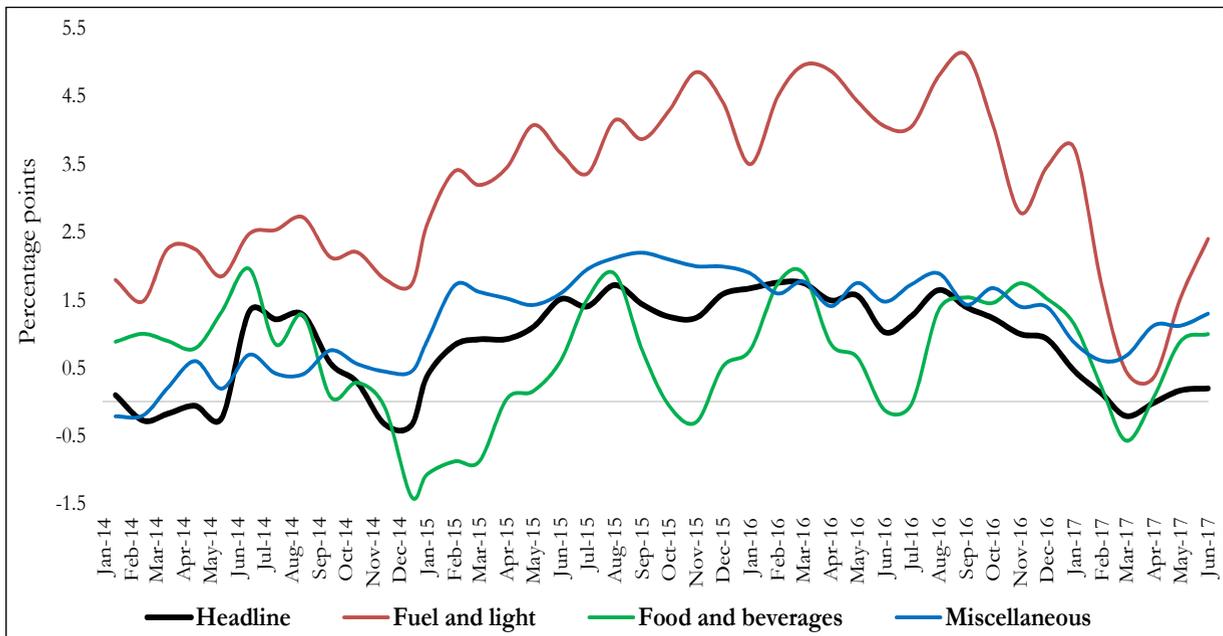
Source: CSO, Survey calculations

Figure 12. CPI Rural and Urban Inflation



Source: CSO, Survey calculations

Figure 13. Inflation differential (in percentage points) between Rural and Urban



Source: CSO, Survey calculations

especially on account of drop in food inflation (Figures 14 and 15). Inflation has been below the target of 4 per cent in 11 States/UTs. Except few north-eastern States, Andaman & Nicobar Islands and Telangana, inflation in all States is lower than the upper tolerance level of 6 per cent set in pursuance of the amended RBI Act. While four major

States viz, Karnataka, Andhra Pradesh, Odisha and Chhattisgarh, witnessed above 6 per cent inflation in 2015-16, only Telangana recorded more than 6 per cent inflation in 2016-17.

4.22 At group level, the inter-State variation in food inflation is low as compared to housing, fuel & light and pan, tobacco &

Figure 14. CPI inflation 2016-17 (in per cent)

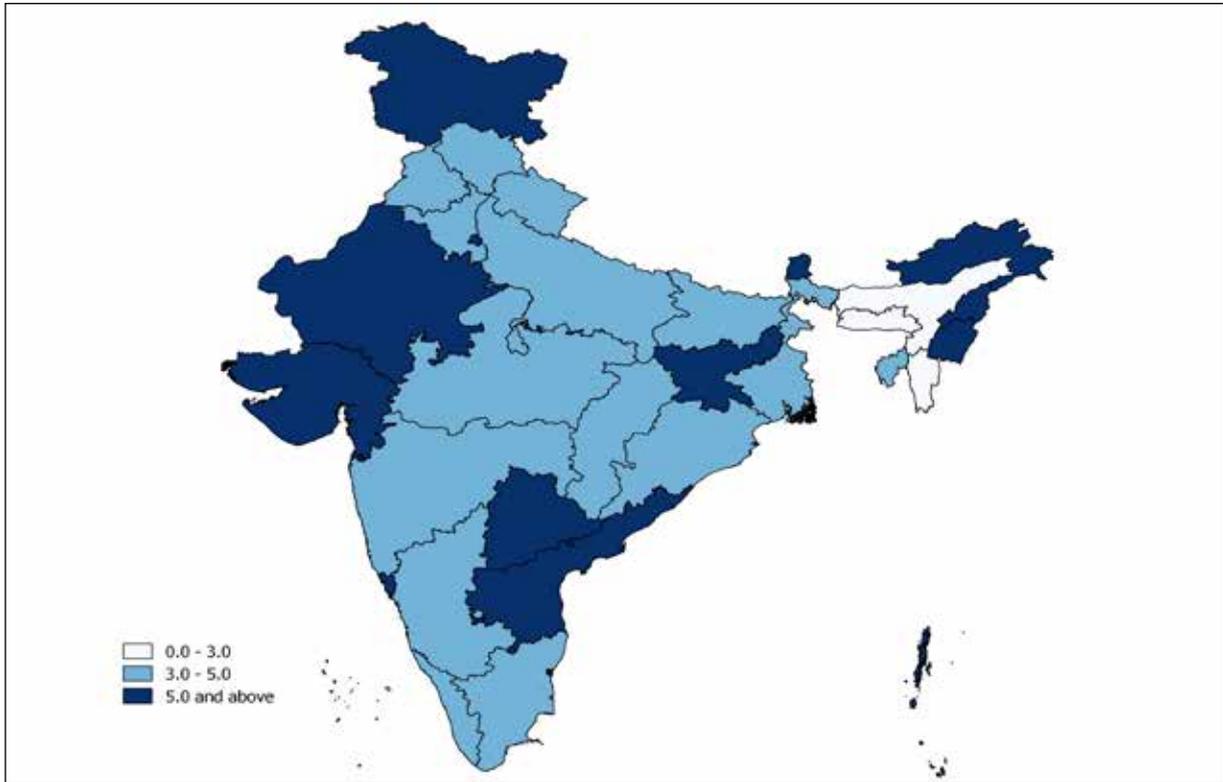
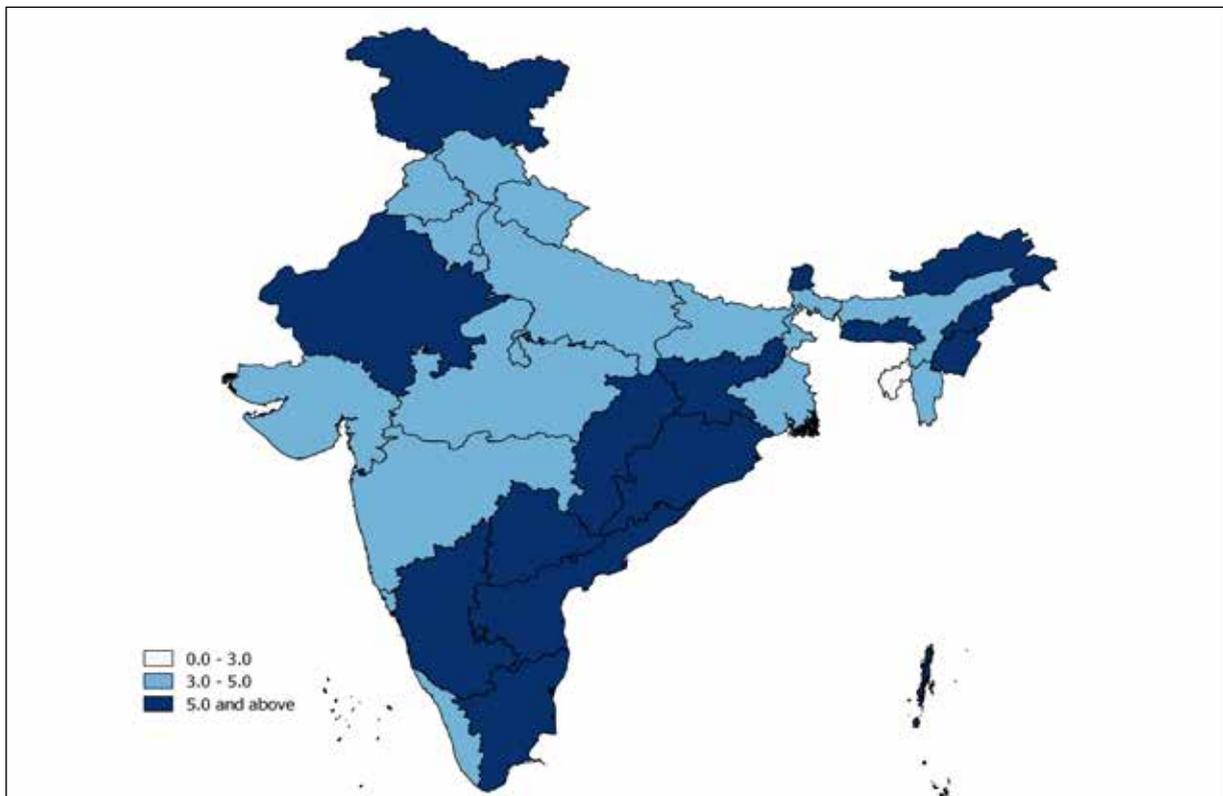


Figure 15. CPI inflation 2015-16 (in per cent)

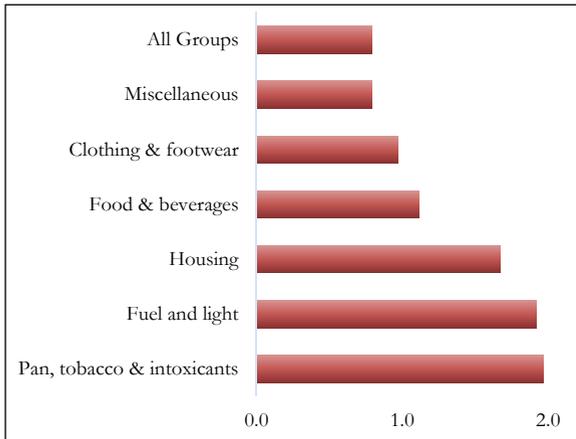


Source: CSO, Survey calculations

Note: Inflation for Arunachal Pradesh is only for Rural.

intoxicants in 2016-17 (Figure 16). Under the food category, highest inter-State variation has been observed in sugar and pulses, which

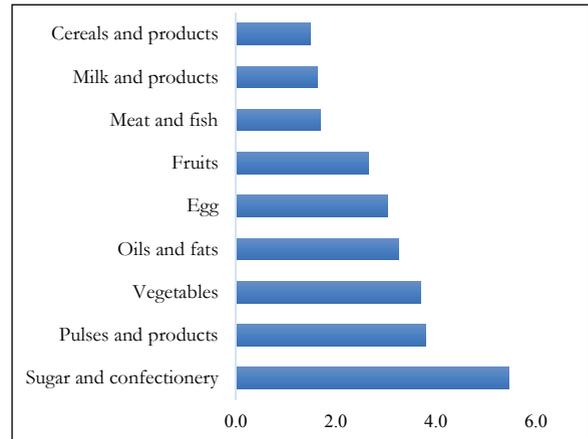
Figure 16. Variation in CPI inflation across major States in 2016-17: Standard Deviation for major groups



Source: CSO, Survey calculations

witnessed high inflation in 2016-17 (Figure 17). However, variation in cereals has been very low among major States.

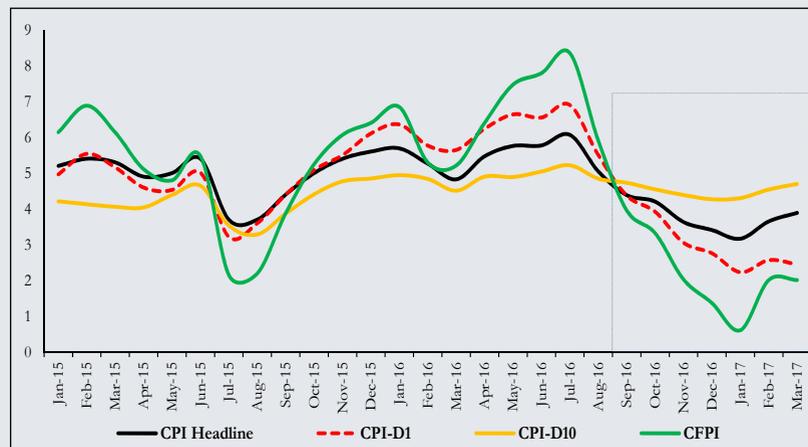
Figure 17. Variation in CPI inflation across major States in 2016-17: Standard Deviation for food groups



Box 1. Low food inflation - a relief to poor

Inflation in India in general is driven by food prices. Food which constitutes a major portion of the consumption expenditure of the poor has high weightage in the CPI basket. High inflation due to rise in food prices hits the poor more. Conversely, reduction in food inflation has a salutary impact on poorer sections of the population. Recent drop in headline CPI inflation is mainly on account of fall in food inflation, especially of pulses and vegetables. This has favourably impacted poorer segments of the population as can be seen from Figure 18.

Figure 18. CPI Inflation for different decile groups (in per cent)



Source: CSO, Survey calculations

Figure 18 reflects CPI inflation for lowest and highest deciles of the society based on the consumer expenditure data (On the basis of the 68th Round of Consumer Expenditure data of NSS, decile wise weights have been assigned and applied to the item level index of CPI-Combined to generate decile wise index and inflation). The figure shows that since September 2016 inflation for the lowest decile (D-1) is low compared to the highest decile (D-10) and the headline CPI. Moreover, CPI inflation for the lowest decile has almost followed the trend of food inflation (CFPI), owing to higher weight of food for lower deciles than higher deciles. As is evident from the figure, low food inflation benefits the poor relatively more than the rich and vice versa.

Box 2. Global and WPI inflation

Oil effect and adverse base effect pushes WPI inflation

WPI inflation remained negative from November 2014 to June 2016 and averaged (-) 3.7 per cent in 2015-16 primarily owing to weak global commodity prices. However, rebound in the global commodity prices, especially crude oil along with adverse base effect has reversed the declining trend of WPI. Global energy inflation based on World Bank energy index increased to 4.0 per cent in 2016-17 from a low of (-) 43 per cent in 2015-16 and inflation for base metals increased to 4.1 per cent in 2016-17 from (-) 20.2 per cent in 2015-16. WPI inflation in fuel and metals has almost followed the international trend and has been moving upwards (Figure 19 and 20).

Figure 19. Global Inflation based on World Bank Price Indices (%)

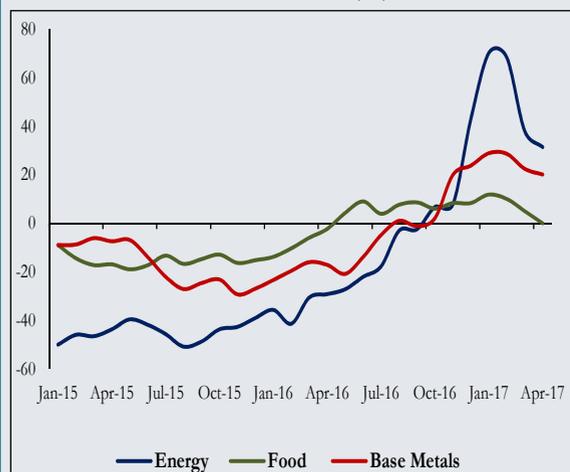
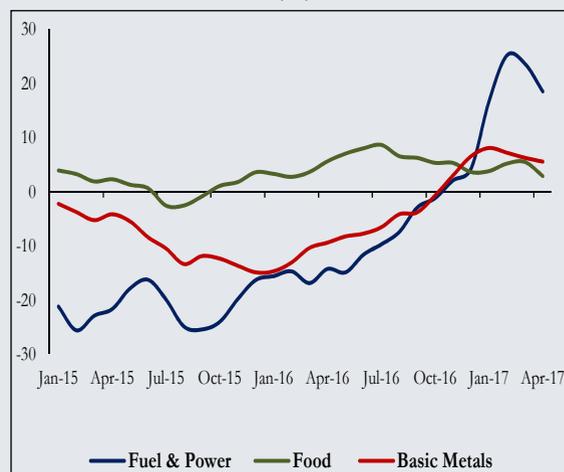


Figure 20. Inflation based on WPI (%)



Box 3. Salient features of the new series of Wholesale Price Indices with base 2011-12

The Government revised the base year of Wholesale Price Index (WPI) from 2004-05 to 2011-12 from April 2017. WPI inflation measures the average change in the prices of commodities for bulk sale at the level of early stage of transactions pertaining to four sectors namely agriculture, mining, manufacturing and electricity. The share of these four sectors in GDP at current prices was 41.4 per cent in 2011-12. The basket of the WPI covers commodities falling under three Major Groups, namely, Primary Articles, Fuel & Power and Manufactured products. The prices tracked are ex-factory prices for manufactured products, mandi prices for agricultural commodities and ex-mines prices for minerals. Weight given to each commodity covered in the WPI basket is based on the value of production adjusted for net imports. WPI basket does not cover services. The major changes in weights, number of items and quotations between WPI 2004-05 and WPI 2011-12 are given in Table 4.

In the new WPI series (2011-12) significant improvement in terms of concept, coverage and methodology has been made. The item basket has been revised with inclusion of new items and exclusion of old ones in order to capture the structural changes that have occurred in the economy. In the updated WPI basket, the number of items has been increased and special efforts have been made to enhance the number of price quotations across the major groups to ensure comprehensive coverage and representativeness.

Table 4. Comparative Statement of Weights, Number of Items & Number of Quotations

Major Group/ Group	Weights		No. of Items		No. of Quotations	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
All Commodities	100	100	676	697	5482	8331
Primary Articles	20.12	22.62	102	117	579	983
Fuel & Power	14.91	13.15	19	16	72	442
Manufactured Products	64.97	64.23	555	564	4831	6906

In the new WPI series the following key conceptual and methodological changes have been made:

- Prices used for compilation do not include indirect taxes in order to remove the impact of fiscal policy. This is in consonance with best international practices and makes the new WPI conceptually closer to 'Producer Price Index'. This would also not require changes in the price collection once the GST is implemented.
- The new series has the provision to compile 'WPI Food Index'. This index is compiled by combining indices of Food Articles and Manufactured Food Products. This along with CPI Food Price Index published by CSO would help in monitoring the food inflation effectively.
- Item level aggregates for new WPI are compiled using Geometric Mean (GM) following international best practice and as is currently used for compilation of All India CPI. Geometric mean is considered to be robust as it passes most of the axiomatic tests such as time reversal test etc. and the change is likely to minimise biases in the series.
- Seasonality of fruits and vegetables has been updated to account for more months as these are now available for longer duration. Large number of fruits and vegetables has been added to the basket to ensure greater representation of these items.
- The number of 2 digit groups in Manufactured products has been increased from 12 to 22 in keeping with NIC-2008. This would make WPI more useful for use as deflator in GDP and IIP.
- A high level Technical Review Committee has been set up for the first time to carry out dynamic review process in order to keep pace with the changing structure of the economy.

As depicted in Figure 21, the annual inflation estimates based on the two series are moving in tandem and do not show wide deviation, except that the new series is showing comparatively lower level of inflation as expected due to the new base.

Figure 21. Headline WPI Inflation (2011-12 Series and 2004-05 Series)



Source: DIPP

IV. EFFORTS TO CONTAIN INFLATION

4.23 Government reviews the price situation regularly as tackling inflation has been the top priority of the Government. A number of measures has been taken by the Government

to contain food inflation. The steps taken, inter alia, include:

- Increased allocation for Price Stabilization Fund in the budget 2017-18 to check volatility of prices of essential

commodities, in particular of pulses.

- Government has approved creation of a dynamic buffer of upto 20 lakh tonnes of pulses for appropriate market intervention against which buffer of around 18.75 lakh tonnes has already been built.
- Subsidized unmilled pulses from the buffer stock were offered to States/ Agencies for direct distribution to public at a reasonable rate.
- States/UTs have been empowered to impose stock limits in respect of pulses, onion, edible oils and edible oil seeds under the Essential Commodities Act.
- Export of all pulses is banned except kabuli channa and up to 10,000 MTs of organic pulses and lentils.
- Import of pulses is allowed at zero import duty except for Tur where import duty of 10% has been imposed due to its bumper production in 2016-17.
- SEBI banned new contracts in Chana to dampen speculative activities.
- Announced higher Minimum Support Prices so as to incentivize production and thereby enhance availability of food items which may help moderate prices.
- Export of edible oils was allowed only

in branded consumer packs of upto 5 kg with a minimum export price (MEP) of USD 900 per MT. This restriction has recently been liberalized.

- MEP of USD 360 was imposed on potato till December 2016.
- Reduced import duty on potatoes, wheat and palm oil.
- Imposed 20 per cent duty on export of sugar.
- Imposed stock-holding and turn-over limit on sugar till 28.10.2017 to check speculative tendencies and possible hoarding behaviour.
- Recently allowed duty free import of 500,000 tonnes of raw sugar to enhance domestic availability.

V. CONCLUSION

4.24 The current low level of inflation provides a historic moment in inflation scenario, instilling confidence in price stability. CPI inflation declined to 4.5 per cent during 2016-17, with broad based price decline in all major commodity groups. It has been below 4 per cent for past eight months. The measure of underlying trends –core inflation has been trending down in the last few months. Food inflation too has declined sharply in the last few months on the back of normal monsoon.

Climate Change, Sustainable Development and Energy

05 CHAPTER

A road-map towards sustainable development, free from hunger and poverty; along with an uninterrupted, affordable supply of sustainable energy (every Indian connected to the grid) - these are the broad objectives that India has chosen to pursue. India's commitment to environment and climate change, made at the highest political level, shows the global way in supporting sustainable development goals while retaining reliance on cleaner energy, including cleaner, greener coal. India has strengthened its response to the threat of climate change in accordance with the principles of common but differentiated responsibilities and in the light of national circumstances with the "Paris Pledge" to reduce the emission intensity of GDP by 33-35 per cent over 2005 levels by 2030. International support would greatly facilitate the pathway towards low carbon and climate-resilient development. India also looks forward to international cooperation on the development, deployment and commercialization of sustainable and climate-friendly technologies in renewables as well as conventional sources.

INTRODUCTION

5.1 Mahatma Gandhi once said, "A time is coming when those, who are in the mad rush today of multiplying their wants, vainly thinking that they add to the real substance, real knowledge of the world, will retrace their steps and say: 'what have we done?'" It is only appropriate that on 2nd October, 2016, the birth anniversary of this apostle of peace and life in harmony with nature, India ratified the Paris Agreement on climate change. As on date, Paris Agreement has been ratified by 153 Parties. In the pre-2020 period, India's goal is to achieve the voluntary pledge of reducing the emissions intensity of GDP by 20- 25 per cent over 2005 levels by 2020, which, it is on course to achieve. The emissions intensity of India's GDP has

been reduced by 12 per cent between 2005 and 2010, according to India's first Biennial Update Report communicated to UNFCCC. This has been possible on account of a number of policy measures undertaken to address climate change and sustainable development concerns. As a responsible country, it has delivered on its commitments and is well on track to achieve its ambitious climate goals and actions by 2020.

5.2 For the post-2020 period, India's Nationally Determined Contribution (NDC) has outlined the actions India intends to undertake. India's NDC targets to lower the emissions intensity of GDP by 33-35 per cent by 2030 from 2005 levels, to increase the share of non-fossil based power generation capacity to 40 per cent of installed electric power capacity (cumulative) by 2030, and

to create an additional carbon sink of 2.5-3 Gt CO₂e through additional forest and tree cover by 2030.

5.3 At the multilateral level, the international community is engaged in writing the “Paris rule book” which includes guidelines and modalities for the implementation of the Paris Agreement for the transparency framework for action and support, features and accounting of NDCs etc. At the national level, the roadmap for implementation of India’s NDC is being prepared, by constituting an Implementation Committee and six Sub-Committees. The Committees are working to elaborate their respective NDC goals and identify specific policies and actions aimed at achieving them. Simultaneously, the global community has committed to the Sustainable Development Goals (SDGs) in September 2015, as detailed in the UN Resolution, “Transforming our World: the 2030 Agenda for Sustainable Development.” The 17 SDGs have 169 related targets to be achieved by 2030 and are expected to help organise and streamline development action for achievement of greater human well-being. Affordable, reliable and modern energy services is crucial to achieving all of the sustainable development goals especially SDG 1: Eradicating poverty in all its forms everywhere. Hence, Goal No. 7 “Ensure access to affordable, reliable, sustainable and modern energy for all” – is central to every major challenge we face. Cleaner energy forms are imperative for delivering a sustainable development agenda.

5.4 On November 30 2015, with India’s initiative, the International Solar Alliance (ISA) was jointly launched by the Hon’ble Prime Minister of India, Shri. Narendra Modi, and the then French President Mr. Francois Hollande in Paris at the 21st Conference of Parties to the UNFCCC (COP21). The ISA

is conceived as a unique international body with an exclusive focus on solar energy with all its prospective member countries, which lie completely or partially between the Tropic of Cancer and Tropic of Capricorn, well-endowed with the resource, striving to bring them together for coordinated research, low cost financing and rapid deployment. Joint efforts under the Alliance include innovative policies, projects, programs, capacity building measures and financial instruments to mobilize US\$1 trillion of investment by 2030. The foundation stone of the ISA Headquarters was laid at Gwal Pahari, Guragaon in Haryana. India has already committed the required support of operationalization of ISA.

5.5 The Paris Agreement prescribes a multilateral framework for taking action on climate change in the post-2020 period. It recognizes that developed countries are responsible for the cumulative historic stock of greenhouse gases (GHGs) in the atmosphere and therefore must take the lead in climate actions and also provide financial, technological and capacity building support to developing countries with respect to both mitigation and adaptation. The imperative would be to ensure that UNFCCC and Paris Agreement continue to take cognizance of the fact that developing countries have unique vulnerabilities, special circumstances, and development priorities like eradication of poverty, food security, energy access etc. There would also be enormous climate finance requirements, as reflected in India’s NDC which clearly underscores that provision of adequate means of implementation to developing countries is needed for effective implementation of NDCs.

5.6 One major recent development has been the US announcement on June 1, 2017 about its intention to withdraw from the Paris Agreement. The target the USA had

chosen under the Paris Agreement is a cut in emissions by 26-28 per cent by 2025 compared to the 2005 level. The announcement is considered as a part of the unfolding of its own domestic energy policies in the last few years. However, till the formal withdrawal is complete, which would take another three years, the US continues to be a member of the Paris Agreement. As on date, 153 Parties have ratified covering around 85 per cent of emissions. USA covers around 18 per cent of emissions and therefore, its withdrawal does not affect the 55 per cent threshold number of the Paris Agreement. As far as India is concerned, it has reaffirmed its commitment to the environment and climate change at the highest political level. India has positioned itself as a sustainability leader, extensively supporting cleaner energy. We need to have a rational approach that balances environment, climate, economic development and energy security needs. We need to concentrate on cleaner forms of energy including cleaner coal, renewables and natural gas to fuel inclusive economic development.

INDIA'S GHG EMISSION PROFILE

5.7 According to India's Biennial Update Report (BUR), India emitted 21,36,841.2 Gg (Giga gram) CO₂ equivalent (2.1 billion tonnes of CO₂eq) in the year 2010 from energy, industrial processes and product use (IPPU), agriculture and waste sectors (excluding land use, land use change and forestry (LULUCF)) (Table 1). In 2010, the year for which comparable figures are available, India's emissions are lower than GHG emissions of China (11.2 billion tonnes CO₂eq), USA (6.7 billion tonnes CO₂eq), European Union (4.8 billion tonnes CO₂eq) and Brazil (2.9 billion tonnes CO₂eq).

CURRENT ENERGY MIX

5.8 Within the energy mix of the country, coal accounts for nearly 55 per cent of the total primary energy supply, followed by oil at 30 per cent, and natural gas at 9 per cent. Only 2 per cent of total primary energy is supplied by renewable energy sources. Within the power sector, thermal power (particularly coal) dominates the share

Table 1. India's GHG profile over time

Sector	1994		2000		2005		2010	
	Emission	Share (per cent)						
Energy	7,43,820	62	10,27,016	67	12,10,384	69	15,10,121	71
Industrial processes & product use	1,02,710	7	88,608	6	1,24,017	7	1,71,503	8
Agriculture	3,44,485	29	3,55,600	23	3,60,313	21	3,90,165	18
LULUCF	14,292	-	-2,22,567	-	-2,78,721	-	-2,52,532	-
Waste	23,333	2	52,552	4	62,638	4	65,052	3
Total (Without LULUCF)	12,14,248		15,23,777		17,57,352		21,36,841	
TOTAL (Net emission)	12,28,540		13,01,209		14,78,632		18,84,309	

Values in Gg CO₂e; 1 Gg= 10⁹g =1000 t (t = tonne)

Source: India's First Biennial Update Report

of total installed power capacity in India (Figure 1). Coal based thermal power accounts for around 59 per cent of the total installed capacity of 327 GW, while 18 per cent of the installed capacity is coming from renewable energy sources (RES). Out of the total RES installed capacity of 57 GW, around 56 per cent is wind based power.

5.9 With this, an overall growth in generation of electricity in the country from 1173.5 BU during 2014-15 to 1173.6 BU during the year 2015-16 and 1242 BU during 2016-17 has been recorded. The performance of category wise generation during the year 2016-17 is given in Table 2.

Table 2. Performance of category wise generation of electricity 2016-17

Thermal	Increased by	5.3 per cent
Hydro	Reduced by	0.8 per cent
Nuclear	Increased by	1.3 per cent
Renewables	Increased by	24.5 per cent

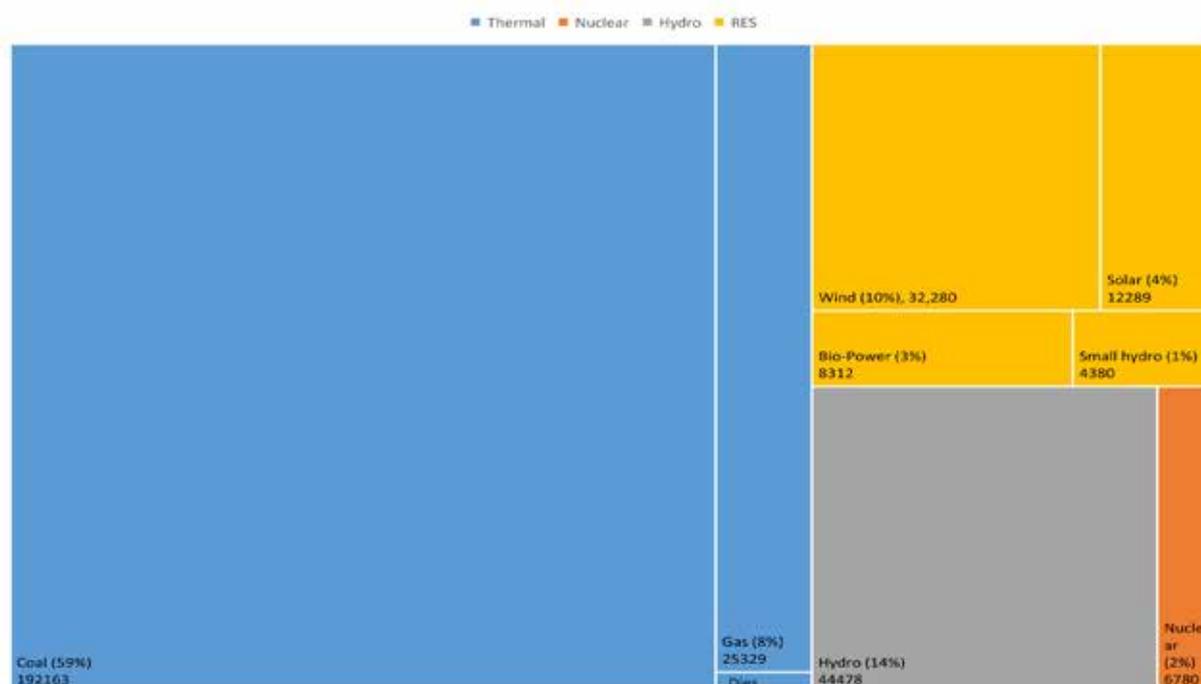
Source: Central Electricity Authority

FUTURE ELECTRICITY TRANSITION SCENARIOS

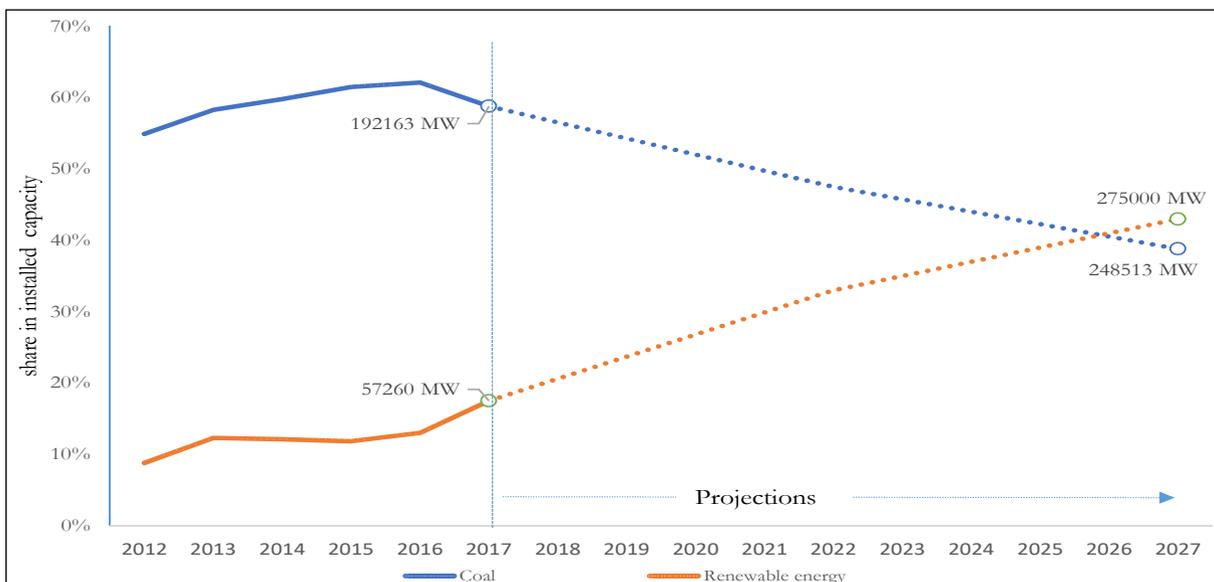
5.10 As stated earlier, India has set itself ambitious targets in the area of renewable energy. Moving ahead in this direction, India is implementing the largest renewable energy expansion programme in the world. It envisages an increase in the overall renewable energy capacity to 175 GW by 2022. This includes 100 GW of solar, 60 GW of wind, 10 GW of biomass, and 5 GW of small hydro power capacity.

5.11 Projections made by CEA (2016) indicates that the capacity addition in coal based power plants is expected to be around 50 GW between 2017 and 2022. Further, according to these projections, no more addition in the installed capacity of coal based power generation would be required in the period 2022 to 2027. As a result, the share of renewables in total installed capacity in this scenario is likely to increase to around 43 per cent in 2027 (Figure 2).

Figure 1. Installed power capacity (in MW)



Source: Central Electricity Authority (CEA), as on 31 March, 2017.

Figure 2. Electricity Mix Projections: Coal and Renewables in Installed Capacity

Source: Historical installed capacities from CEA Monthly Reports for March, for years from 2013 to 2017 and projections for installed capacity for coal and renewables from CEA (2016).

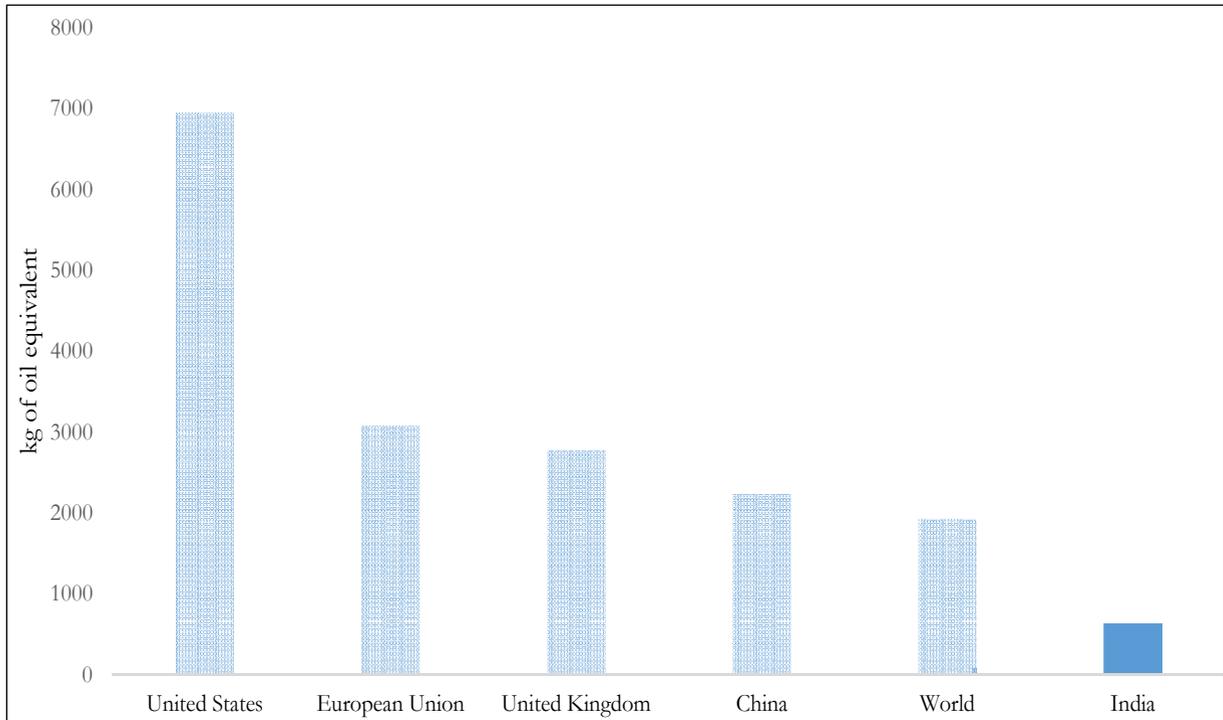
INDIA'S ENERGY SECURITY

5.12 India is at a stage of development that requires it to grow at a fast rate and lift the large number of their citizens from below the poverty line. Energy deprivation levels for a sizeable portion of population remain at high levels. The SDG 7 is to ensure access to affordable, reliable, sustainable and modern energy for all. The importance given to secure energy access is also due to the fact that access to energy is intertwined with the various other economic and social developmental objectives such as poverty alleviation, health, industrialisation, education, provision of communication infrastructure, and climate change mitigation among others.

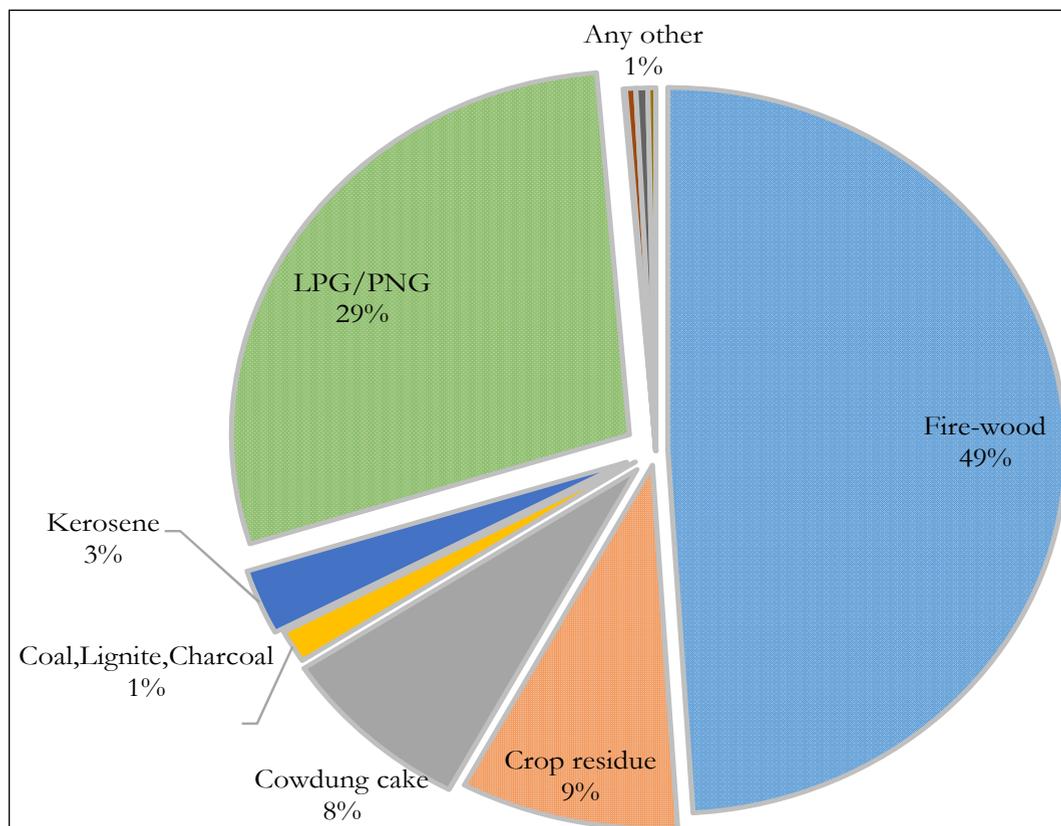
5.13 India is one of the fast growing economies of the world. Associated with the rapid increase in incomes is rapid increase in the demand for energy. However, the per capita energy consumption in India continues to be only around one-third of the global average and one-eleventh that in the United States (Figure 3) (OECD/IEA, 2015).

5.14 Further, associated with the energy deprivation, there is also a lack of access to better forms of energy. An analysis of the type of fuel used for cooking by households in India would show that a majority of households still rely on firewood as fuel for cooking. According to the 2011 Census data, around 49 per cent of households still use firewood for cooking while only 29 per cent use LPG or PNG for cooking purposes (Figure 4). Comparing across states we can see that the majority of states have a dominance of fire-wood in their cooking fuel usage (Figure 5) while the percentage of LPG/PNG users is below 30 per cent. Similar is the case with access to electricity (Figure 6).

5.15 This shows that there is an urgent need to further increase the access of the poor to more efficient energy resources. To improve the health of women and children in rural areas who are most affected by indoor air pollution due to use of bio-mass as cooking fuel, initiatives have been taken like Pradhan Mantri UJJWALA Yojana

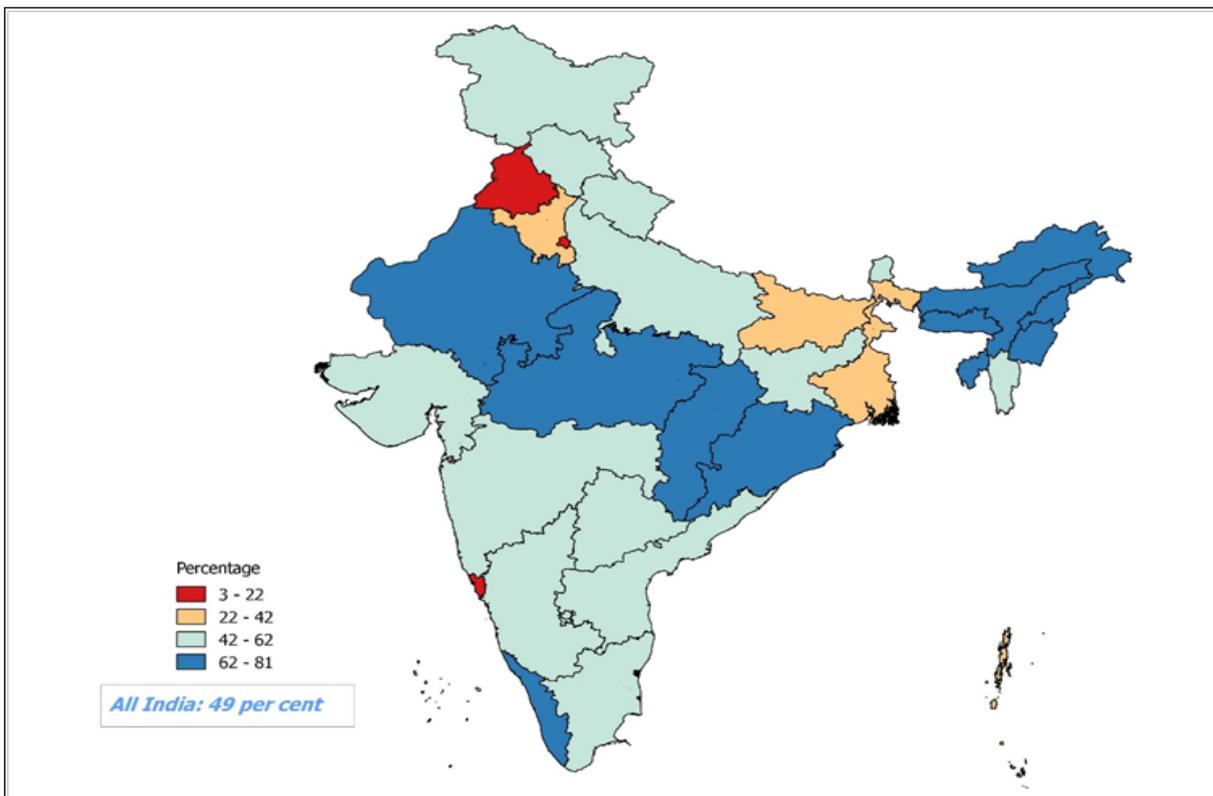
Figure 3. Energy use per capita in select countries

Source: World Bank

Figure 4. Type of Fuel Used for Cooking

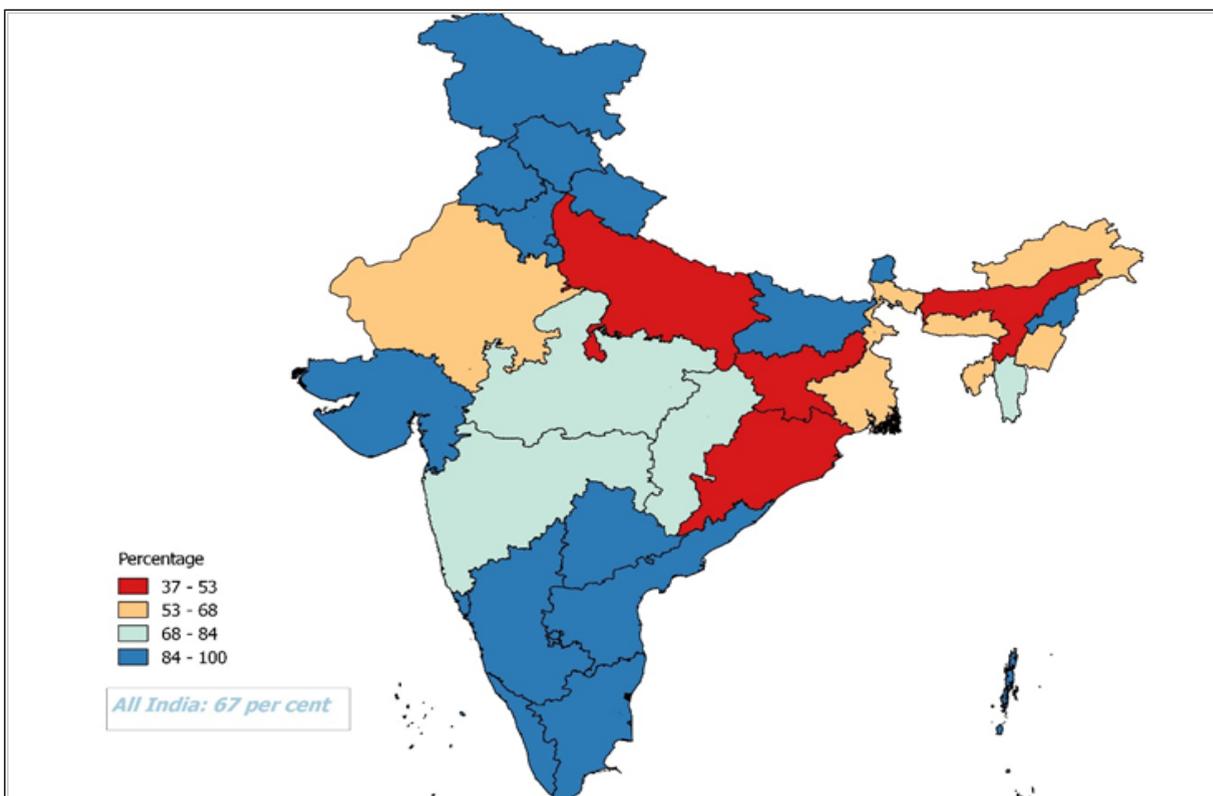
Source: Census 2011

Figure 5. Percentage of households using firewood for cooking



Source: Census 2011

Figure 6. Percentage of households using electricity for lighting



Source: Census 2011

aimed at distribution of about 50 million LPG cylinders by 2018-19. The Government has now planned to extend the scheme to provide 80 million LPG connections by 2020. Government is also coming out with other initiatives namely “Ujjawala Plus” which will address the cooking needs of deprived people who are not covered under the Socio-Economic Caste Census (SECC) 2011. Pratyaksh Hastantrit Labh (PAHAL) scheme was introduced for direct transfer of LPG subsidies to the consumers’ bank accounts. The Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) was launched as its principal vehicle to achieve the goal of electricity for all by 2022, by first achieving 100 per cent village electrification by 2018.

5.16 Ensuring adequate and affordable energy access for all of India’s people and doing so in a sustainable manner is a very high priority for the Government of India. Hon’ble Prime Minister has regarded energy sustainability as a sacred duty, and has also stated that sustainable, stable and reasonably priced energy is essential for the fruits of economic development to reach the bottom of the pyramid. He has envisioned energy access, energy efficiency, energy sustainability and energy security as the four pillars of our energy future.

SOCIAL COST ANALYSIS OF COAL BASED POWER VERSUS RENEWABLES BASED POWER

5.17 In recent years there has been a considerable push towards renewables as a sustainable source of power generation all around the world. The choice between alternative sources of energy has to be based on a thorough analysis of the impacts each has on the economy. A clear quantification of the social costs of the alternatives give us a rational way to identify the merits and demerits of each alternative on a holistic basis. In this

section of the Survey, an attempt has been made to identify the aggregate social costs of coal based electricity generation versus that of renewable based power generation (specifically, wind and solar).

5.18 The estimates used in the exercise are based on the scenarios of power generation in TERI (2017). The report has presented two scenarios for the future electricity mix. A ‘High Renewables Scenario’ gives a higher priority to renewable energy in which the renewable energy capacity increases to 175 GW in 2022 and further to 275 GW in 2026. On the other hand, the ‘Low Renewables Scenario’ is based on a lower trajectory of renewables in view of the challenges and uncertainty of solar prices inclusive of storage costs achieving grid parity. Further two demand scenarios have been considered. The estimates of coal based power generation in the projection is based on the demand projections as well as the projections for the installed capacities for various sources of electricity. Broadly, in order to estimate the social cost of coal or renewables based power, the private costs of generation, the opportunity cost of land, social cost of carbon, health costs as well as the costs of stranded assets have been considered.

(i) Private costs of generation

5.19 The cost of electricity generation is driven by many factors such as equipment costs like turbine costs for wind energy, panel costs for Solar Photo Voltaic (SPV), land costs, construction costs, evacuation costs, capacity utilization factor, cost of capital. The cost of power generation from renewable sources have been falling rapidly over the recent years. Globally, the price of SPV panels has fallen considerably resulting in the levelised cost of electricity from SPV halving between 2010 and 2014 (IRENA 2014). The cost of wind power generation has also declined, though at a slower rate.

5.20 A similar trend is observed in India as well. Figure 7 shows the trend of recent solar tariff in bids since 2010. It can be seen that solar power tariffs have been falling in the last two years in India. The tariff has reached a historical low of ₹2.4 per KWh in May 2017. The costs of SPV panel are expected to decline further in the coming years.

(ii) Social cost of carbon

5.21 Social cost of carbon refers to the economic cost or loss in the discounted value of economic welfare induced by an additional unit of carbon dioxide emissions (Nordhaus, 2017). The generation of power from coal based thermal power plants is based on the combustion of coal as fuel and thus generate emissions that contribute to increasing the concentration of greenhouse gases in the atmosphere. Nordhaus (2017) finds that the global social cost of carbon at 2010 prices for the year 2015 was US\$ 31.2 per tCO₂. By the year 2030, this is estimated to rise to

US\$ 51.6 per tCO₂. Social cost of carbon for India is estimated at US\$ 2.9/ton.

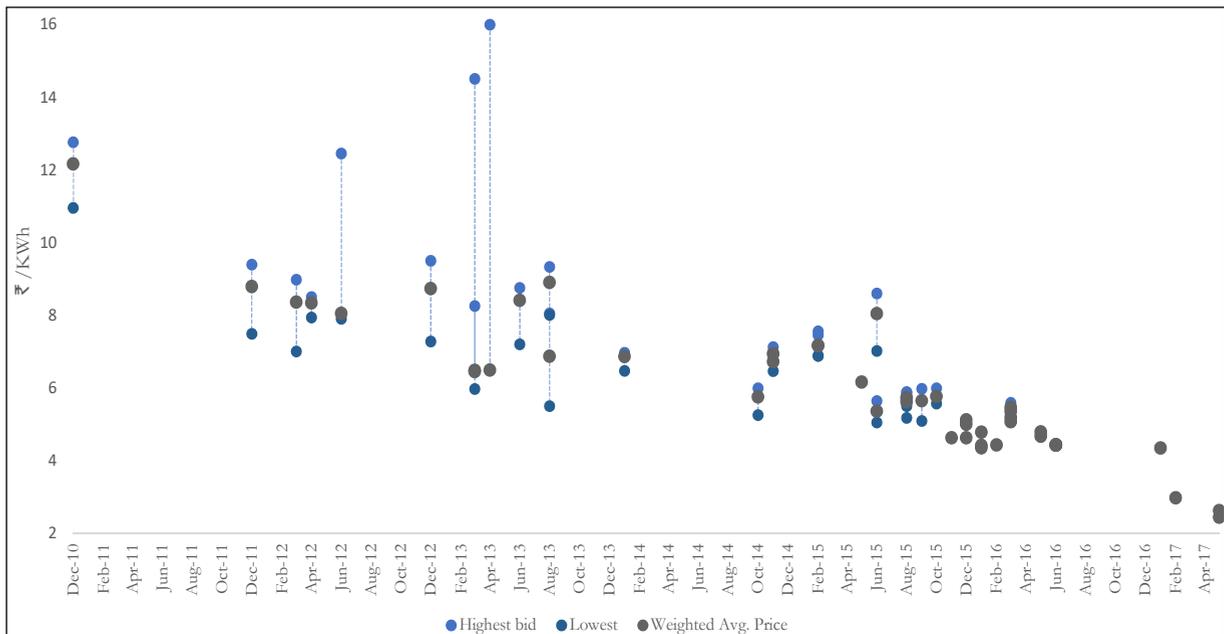
(iii) Health Costs

5.22 The health impact of coal combustion is manifested in the form of negative impact on the respiratory system, cardiovascular diseases, neurological effects, etc. This is in addition to the health impacts on the coal miners who are at a higher risk of chronic bronchitis and other lung diseases. The annual number of deaths linked to coal based power plants pollution is estimated to be around 115000 and the total monetary cost is around US\$ 4.6 billion¹.

(iv) Costs of Intermittency

5.23 Wind and solar power are non-dispatchable. This means that energy can be generated only when there is wind blowing or there is appropriate sunshine. Electricity system has to adjust to the demand patterns of electricity. Therefore, there is an integration cost which is not included in the estimates of

Figure 7. Trend of Solar Tariff Bids in India



Source: Survey calculations

¹ <https://www.scientificamerican.com/article/coal-fired-power-in-india-may-cause-more-than-100000-premature-deaths-annually/>

the levelised cost of electricity. This would require that other conventional sources of energy like coal based power plants have to fill in the gap during times when renewables are not supplying power. One solution to the intermittency problem is storage. The future costs of renewable energy generation depend crucially on the path taken by storage technologies and their cost effectiveness.

(v) Opportunity Cost of Land

5.24 One of the barriers to the widespread adoption of solar and wind technologies that is cited is the land area requirements for setting them up. The land requirement for a coal power plant is usually 2023 m²/MW. Compared to this the requirement of land for a solar power is around 10 times that of coal. Advances in the efficiency of solar technologies would lead to decline in the land requirements for solar in the future years (Mitavachan and Srinivasan, 2012). The cost of the diversion of land to renewable energy generation is not only the private cost of land incurred by the investor but also the opportunity cost of such land. This would depend on the alternative uses for which a particular patch of land can be utilized.

(vi) Stranded Assets

5.25 A shift to renewables is likely to render a part of the assets in conventional energy generation plants idle or result in them being used at a much lower level than their maximum technically feasible level given their capacities. The investments in these plants being sunk, it is no longer possible to recover any returns from them although their useful life is still not over. In our estimates, these stranded assets are estimated as the lost revenues due to the suboptimal utilisation of coal based power generation assets as a result of shift to renewables. The stranding of assets can have implications for the banking system depending on their exposure to the sector. In

a situation where the banking system is already facing a stressed assets problem, stranding of assets could have considerable impacts. The NPA ratio pertaining to electricity generation was around 5.9 per cent from total advances (outstanding) of ₹473815 crores. The total advances to coal sector was ₹5732 crores with a NPA ratio of 19.8 per cent.

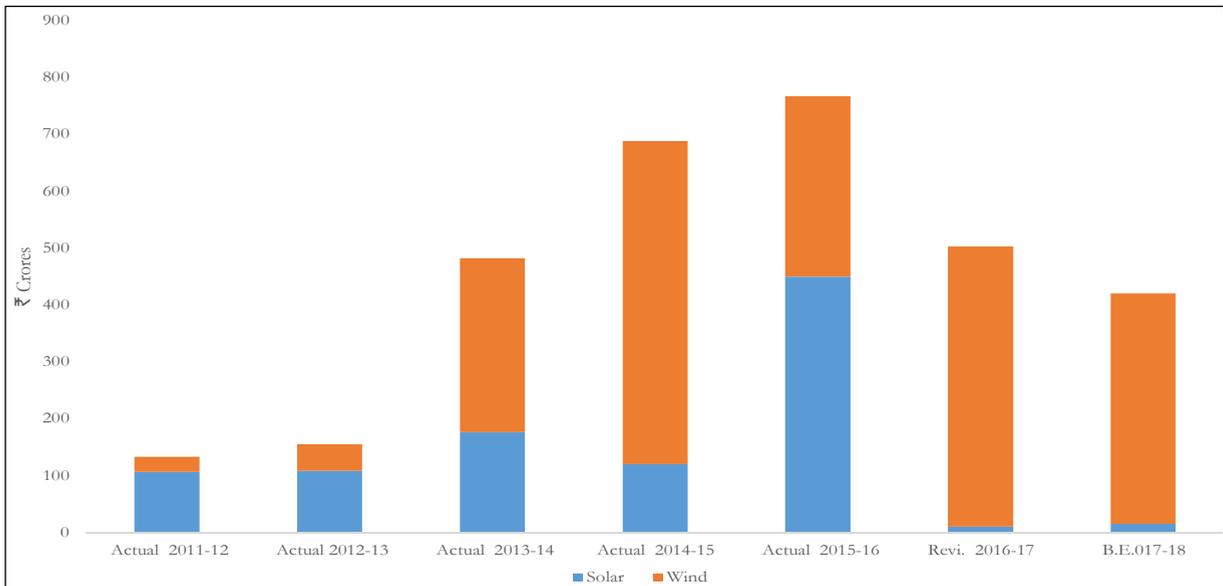
(vii) Cost of Government Incentives

5.26 The role of government in incentivising investments in renewable energy in India has been considerable. The low tariffs witnessed recently have been partly a result of government subsidies/tax holidays and other incentives. Budget estimates for the year 2017-18 indicate an allocation of ₹420 crores towards subsidies for solar and wind power (Figure 8). After increasing from ₹106 crores to ₹450 crores in 2015-16, subsidies to solar power has declined to ₹10 crores and ₹15 crores in 2016-17 and 2017-18 (B.E). On the other hand, wind power has been receiving a considerable portion of the total subsidies to renewables in the recent years.

Results

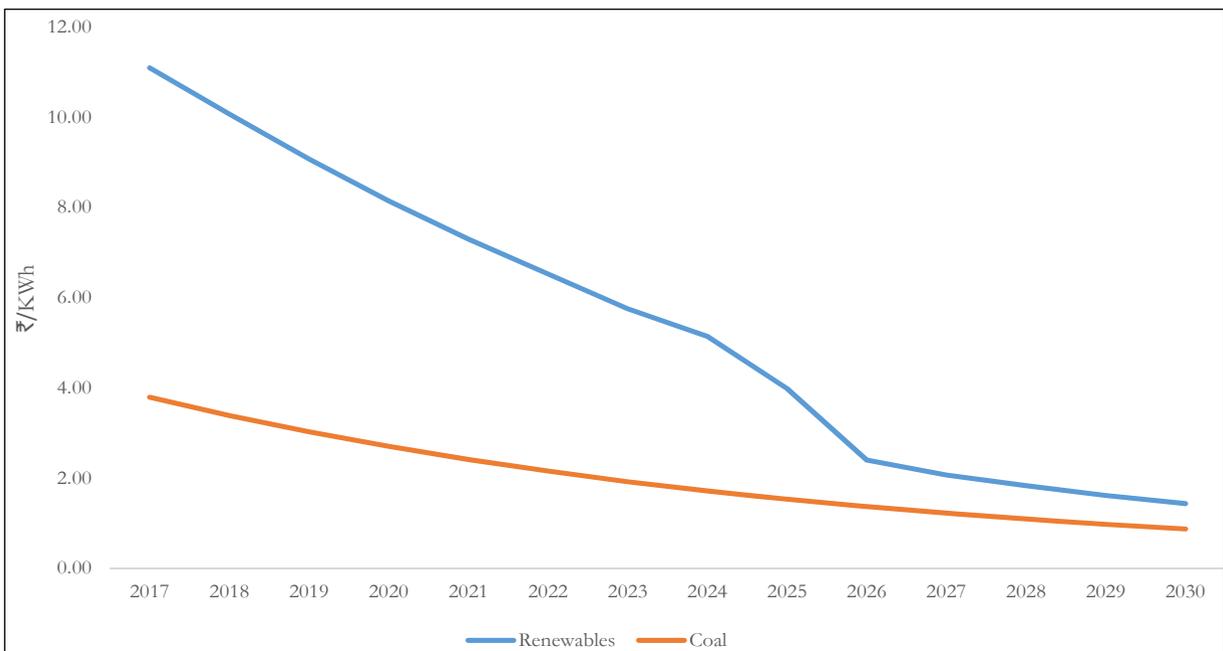
5.27 Our estimates of social costs of coal and renewables show that in 2017 the social cost of renewables was around 3 times that of coal at ₹11 per KWh (Figure 9). The social cost of RE generation as well as the gap between RE and coal reduces as we progress towards the year 2030. This is because private costs of generation as well as the stranded assets in coal which account for around 30 per cent of the total social cost of renewables currently, falls to around 2.4 per cent of the total social costs of RE in the year 2030. Overall, cost of stranded assets account for a large portion of discounted social costs for renewables between 2017 and 2030 (Figure 10). This indicates that while investments in renewable energy is crucial for India to meet its climate change goals,

Figure 8. Subsidies to Solar and Wind Power



Source: Detailed Demand for Grants, Union Budget Documents

Figure 9. Social costs of Coal vs. Renewable Power Sources

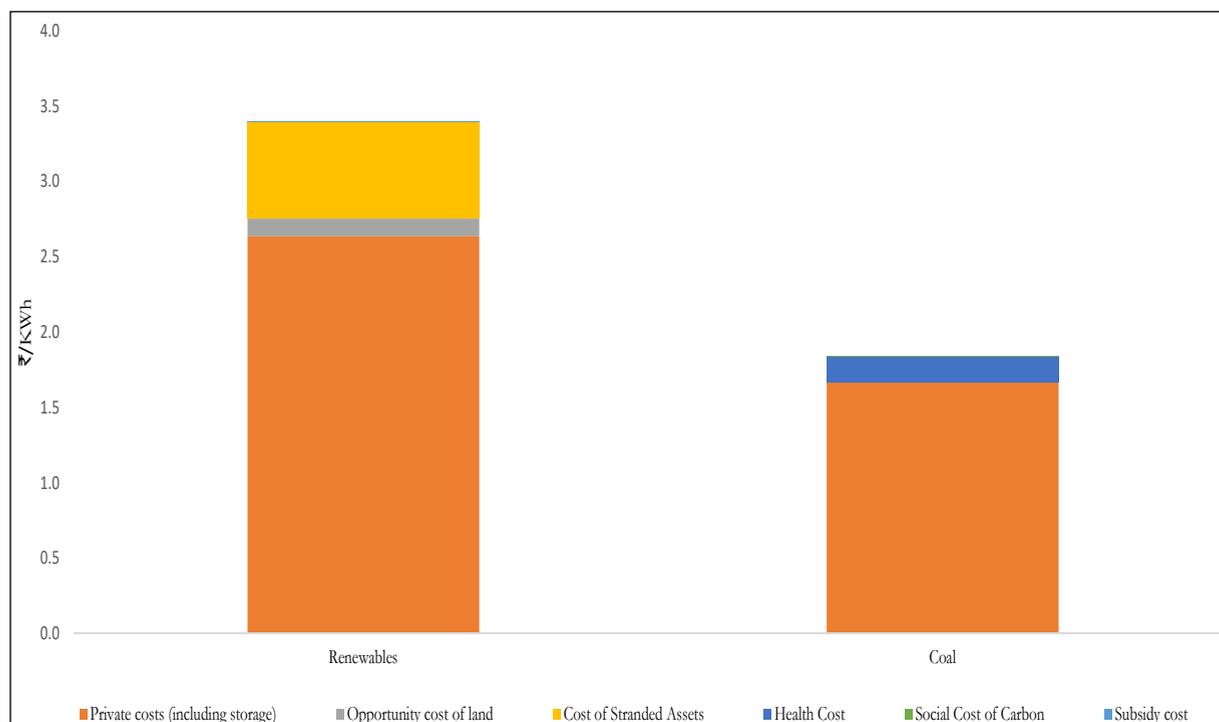


Source: Survey calculations

such investments be made at a calibrated pace looking into the total cost accrued to the society. Given that the first goal for India is to provide 100 per cent energy access to its population and bridge the 'development deficit gap', all cleaner energy sources need to be tapped.

INDIA'S ACTIONS ON SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE

5.28 A large number of focused initiatives have been taken in various sectors of the economy to ensure a pathway of lower emission and climate resilient development.

Figure 10. Social Cost per KWh of Renewables and Coal (2017-2030)

Source: Survey calculations

As stated earlier, India is on course to achieve its pre-2020 voluntary commitment. This has been possible with the commencement of various actions for implementation in the National Action Plan on Climate Change and taking it to the next level at the sub national level with State Action Plans on Climate Change.

Sustainable Development Goals

5.29 While the 17 SDGs and 169 related targets have been globally adopted, each nation has the flexibility to develop indicators suitable to it. At the Central Government level, NITI Aayog has been assigned the role of overseeing the implementation of SDGs, while the Ministry of Statistics & Programme Implementation (MoSPI) is evolving the related national indicators. NITI Aayog has carried out a detailed mapping of the 17 Goals on Nodal Central Ministries, Centrally Sponsored Schemes (CSSs) including 'core of the core', 'core', and 'optional' schemes;

on the government initiatives and also of each of the 169 targets on concerned Central Ministries. Several States/UTs have also carried out a similar mapping of the SDGs and related targets on their respective Departments and programmes for faster implementation of SDGs.

5.30 Much of our national development agenda is mirrored in the SDGs and therefore many of the government programmes and initiatives are already aligned with SDGs. Further, an impetus has been accorded to programmes related to ending poverty and creating infrastructure through higher budgetary allocations. Various goals and targets are highly interconnected, therefore, a push accorded to any specific goal or target also facilitates achievement of other goals and targets as well.

5.31 As a signatory to the 2030 Agenda for Sustainable Development, India is committed to participate in the international review of

progress of SDGs on a regular basis. The central platform for international follow-up and review of the 2030 Agenda is the High-Level Political Forum (HLPF), which has started meeting annually since 2016 under the auspices of the UN Economic and Social Council (ECOSOC). In the HLPF, UN member countries are expected to present their Voluntary National Review (VNR) on implementation of SDGs. The VNRs thus serve as a basis for international review of progress of SDGs. India presented its Voluntary National Review among 44 countries in the annual review by the HLPF held in July 2017.

5.32 India's Green Initiatives

1. **National Action Plan on Climate Change (NAPCC):**

The Government of India has been taking several steps in its action against climate change. The NAPCC, launched in June 2008, which includes eight national missions: Jawaharlal Nehru National Solar Mission, National Mission for Enhanced Energy Efficiency, National Water Mission, National Mission for a Green India, National Mission on Sustainable Habitat, National Mission for Sustainable Agriculture, National Mission for Sustaining the Himalayan Ecosystem and National Mission on Strategic Knowledge for Climate Change. Each mission is anchored under a Ministry, which is responsible for its implementation and lays down the budget provisions and actionable priorities for it.

2. **National Green Corridor Programme:**

To address the fluctuations/variability in the renewable power supply, Government in 2013 announced a National Green Corridor Programme (NGCP). The Power Grid Corporation of India is developing the inter-state transmission corridor and the state transmission utilities are responsible for setting up and

strengthening the intra-state transmission infrastructure. Intra State transmission schemes under Green Energy Corridors (GEC) are to be funded as 20 per cent equity of the State Govt., 40 per cent grant from National Clean Energy and Environment Fund (NCEEF) and 40 per cent soft loan, whereas, the inter State transmission schemes are to be funded as 30 per cent equity by Power Grid Corporation of India Ltd. (PGCIL) and 70 per cent as soft loan. The PGCIL has estimated that the cost to develop the corridor comes to ₹380 billion. The inter-state transmission projects of the green corridor are likely to be completed by 2018.

3. **R&D for Clean Coal Technologies:**

In 2016, R&D Project for “Development of Advanced Ultra Supercritical (Adv. USC) Technology for Thermal Power Plants” on a Mission Mode, at an estimated cost of ₹1554 crore has been approved by the Cabinet Committee on Economic Affairs.

4. **National Green Highways Mission:**

The Ministry of Road Transport and Highways (MoRTH), has promulgated Green Highways (Plantations, Transplantations, Beautification and Maintenance) Policy – 2015 to develop green corridors along National Highways for sustainable environment and inclusive growth. Under the aegis of the Policy, development of green corridors is proposed along developed and upcoming National Highways in the width available in existing Right of Way (ROW) in the form of median and avenue plantations. National Green Highways Mission (NGHM) under National Highways Authority of India (NHAI) has been entrusted with the task of planning, implementation and monitoring roadside

plantations along one lakh km network of National Highways.

5. **Faster Adoption and Manufacturing of Hybrid & Electric Vehicles (FAME India):** Under FAME-India Scheme, under the National Electric Mobility Mission Plan for 2020, Department of Heavy Industry has extended demand incentives of ₹127.8 Crore for purchase of 1,11,897 Electric/Hybrid vehicles since inception of the Scheme on 1st April, 2015 till February, 2017. To promote eco-friendly vehicles, the Government has been offering incentives on electric and hybrid vehicles of up to ₹29,000 for bikes and ₹1.4 lakh for cars under the scheme in pilot mode till February 2017.
6. **National Clean Energy and Environment Fund:** Through Finance Bill 2010-11 a corpus called National Clean Energy Fund (NCEF) was created out of cess on coal produced/imported (“polluter pays” principle) for the purposes of financing and promoting clean energy initiatives, funding research in the area of clean energy or for any other purpose relating thereto. Subsequently, the scope of the Fund has been expanded to include clean environment initiatives also. The coal cess which was collected at ₹50 per tonne of coal since June 22, 2010 was increased several times subsequently. The coal cess was increased to ₹400 per tonne in the Union budget 2016-17, and the same has been renamed as “Clean Environment Cess”. Accordingly, the name of NCEF has been changed to National Clean Energy and Environment Fund (NCEEF). However, the Goods and Services Tax (Compensation to States) Act, 2017 which has been notified on 12.04.17, provides that coal cess, along with some other cess on pan masala, tobacco, aerated water etc. would

constitute GST Compensation Fund and the same would be utilized to compensate the States for five years for potential losses on account of GST implementation. After five years any amount left would be shared on 50 per cent basis between Centre and States. Table 3 explains the details of NCEEF projects.

INDIA'S ADAPTATION ACTIONS

5.33 Adaptation to climate change is an absolute imperative for the nation. Keeping this in view, the Government of India accords great emphasis on adaptation. National Adaptation Fund was created as a central scheme with a corpus of ₹350 crores for the year 2015-16 and 2016-17. The overall aim of the Fund is to support concrete adaptation activities which are not covered under on-going activities through the schemes of National and State Governments that reduce the adverse impact of climate change facing community, sector and states. Till date, a total of ₹212.3 crores has been sanctioned for 21 approved projects. with a total project cost of ₹432.7 crore covering the vulnerable sectors of Water, Agriculture and Animal Husbandry, Forestry, Ecosystems and Biodiversity etc.

5.34 In this context, efforts are also being made by NABARD to develop climate resilient rural infrastructure to ensure its sustainability under changing climatic conditions. Some of the recently taken important steps by NABARD are related to accessing national and international funding mechanism to fulfil the need of climate finance. NABARD has been accredited as National Implementation Entity (NIE) for Adaptation Fund (AF) and Direct Access Entity (DAE) for Green Climate Fund (GCF) under UNFCCC. Under Adaptation Fund, 6 projects submitted by NABARD have been approved by Adaptation Fund Board (AFB) with an outlay of US \$ 9.8 million

Table 3. The Details of NCEF Projects (Amount in ₹ crore)

Year	Coal Cess Collected	Amount transferred to NCEEF	Amounts financed from NCEEF for projects	Projects recommended by IMG to be financed from NCEEF	No of Projects recommended by IMG
2010-2011	1,066.46	0.00	0.00	0.00	0
2011-2012	2,579.55	1,066.46	220.75	566.50	9
2012-2013	3,053.19	1,500.00	246.43	2715.11	6
2013-2014	3,471.98	1,650.00	1,218.78	1060.22	11
2014-2015	5,393.46	4,700.00	2,087.99	12000.17	19
2015-2016	12,675.60	5,123.09	5,234.80	18469.47	10
2016-2017 (RE)	28,500.00	6,902.74	6,902.74	-	-
2017-2018 (BE)	29,700.00	8,703.00	-	-	-
Total	86,440.21	29,645.29	15,911.49	34811.19	55

Source: Ministry of Finance, 2017

against an overall country cap of US\$ 10 million. These projects would benefit 77,225 vulnerable people spread over in six States. These projects are designed to generate key learnings for development of adaptation projects which can be mainstreamed under existing programmes and policies.

5.35 NABARD being a DAE of GCF has achieved a milestone by getting approval of a project on “Ground water recharge and Solar Micro Irrigation to ensure food security and enhance resilience in vulnerable tribal areas of Odisha” from 16th GCF Board meeting. The project is approved with an outlay of US\$ 166.29 million including GCF grant support of US\$ 34.35 million whereas other financial resources would be provided by Government of Odisha and World Bank.

5.36 To strengthen agricultural insurance in the country, in Kharif 2016, the Pradhan Mantri Fasal Bima Yojna (PMFBY) was introduced (Box 1).

DISCUSSIONS IN THE G-20 FORUM

5.37 The relevance of green finance has

been steadily growing over the past few years, and has now emerged as key topic underpinning the new policy dynamics promoting sustainable development. There is a growing interest globally to identify barriers and develop options on how to enhance the ability of the financial system to mobilize adequate funds for green investments and assess associated environmental risks. The action to incorporate environmental factors into the financial system has been gathering momentum across the countries and even shaping the strategies of a number of businesses.

5.38 In this context, G-20 also framed their political commitment to show leadership in implementing the 2030 Agenda for sustainable development and implementation of Paris Agreement reflecting equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances. G-20 Sustainability Working Group in 2017 focussed its discussions on the topics of climate and energy and made efforts in

Box 1. Climate Insurance

India is one of the world's most vulnerable countries to climate change, with its economic sectors highly exposed to the changing climate. Estimates indicate that currently, India incurs losses of about US\$ 9-10 bn², annually, due to extreme weather events. Of these, nearly 80 per cent of losses remain uninsured. From 2014-15, natural catastrophe (NatCat) losses for Indian insurance companies were estimated at US\$ 11bn³. The low insurance penetration in India is also visible from the data from recent calamities. For example, the total losses due to floods in Kashmir in 2014, caused by unprecedented rains, were declared officially to be in excess of ₹100,000 crore (approx. US\$ 15 bn), insurance companies were required to pay around ₹4000 crore (approximately US\$ 610 mn) according to a High Court directive, due to the low insurance coverage. In another instance, while total losses from 2014 Cyclone Hudhud reached US\$ 11 bn, only US\$ 650 mn was insured.⁴

Life insurance has mainly dominated the insurance market in India, while general insurance is slowly picking up the pace. The non-life insurance market has more than tripled in a ten-year period, growing from US\$ 3.4 bn in 2004 to US\$ 13.5 bn in 2015. Moreover, since 2007, the market has become increasingly competitive as the public sector's share has reduced from 64.4 per cent to 52.4 per cent in 2015⁵. While General Insurance Corporation of India (GIC) with 52 per cent covers large portion of traditional risks within Indian insurance market, there has only been some recent development of domestic expertise on targeted climate risks. India's insurance penetration rate of 3.3 per cent, 2.6 per cent of GDP for life insurance and 0.7 per cent of GDP for non-life insurance, is far below the global average of 6.2 per cent.⁶

In India, climate-related insurance is limited to the agriculture sector, primarily in the form of crop insurance. Eleven states in India submitted memoranda reporting crop loss due to natural calamities like drought, hailstorm, cold wave etc and was approved to the tune of US\$ 2.3 bn during 2015-16 (NDRF, 2016). Yet, in the agriculture sector, it is estimated that only 19 per cent of farmers make use of crop insurance.

In the agricultural insurance segment, there are few players with the most prominent being the public owned Agriculture Insurance Company of India Ltd. (AIC) followed by NABARD. While AIC is taking several innovative steps and launching products for niche segments – such as Rubber Plantation Insurance, Bio-Fuel Plants Insurance, Mango Weather Insurance, Potato Contract Farming Insurance, Rabi Weather Insurance, etc. – it is unable to effectively cover the entire agriculture sector. The company's net incurred claims ratio of 99.7 per cent in 2015-16 as against 108.5 per cent in 2014-15⁷, clearly shows that there is a need for expansion and more players in the segment. The Insurance Regulatory and Development Authority (IRDA) estimates that approximately US\$ 7.5 bn is needed to increase insurance penetration to 6 per cent, of which US\$ 3.7 bn will need to be foreign investment.⁸

To strengthen agricultural insurance in the country, in Kharif 2016, the Pradhan Mantri Fasal BimaYojna (PMFBY) was introduced. Under PMFBY, farmers have insured their crops during kharif 2016 and 32.6 mn farmers have been covered under PMFBY and Weather Based Crop Insurance Schemes (WBCIS) as on November 2016. As per Budgetary Estimates (BE), Government of India has allocated US\$ 846 mn under for PMFBY during 2016-17. The scheme is being implemented by AIC and some private insurance companies.

Innovative products supported by risk models and reinsurance pools can provide huge opportunities to the insurance industry in India. One such model is that of Catastrophe Risk Pools (CRP) that aim to put the focus on proactive financial planning to deal with adverse impacts of natural disasters, instead of relying on fund-raising efforts after disasters, resulting in reduced economic losses as well as lowering the impact of disasters on the national budget. Financial instruments used in creating these could include contingency funds, contingent loans, grants, besides other risk transfer solutions.

² <https://earthsecuritygroup.com/wp-content/uploads/2016/06/ESG.IndiaInsurance.pdf>

³ 'Nat CAT events cost insurers US\$2 bn in 2 years', Asia Insurance Review, 8 January 2016

⁴ <https://earthsecuritygroup.com/wp-content/uploads/2016/06/ESG.IndiaInsurance.pdf>

⁵ 'India Market General Insurance Update', Towers Watson, September 2015

⁶ 'Swiss Re Sigma No.4 / 2015-World Insurance Report', Swiss Re, 2014

⁷ <https://www.giz.de/en/mediacenter/36562.html>

⁸ India: Insurers need US\$9 bn to reach global average penetration', Asia Insurance Review, 16 December 2015

preparing G-20 Action Plan on Climate and Energy for growth whilst not duplicating other processes. The elements of the G-20 Action Plan on Climate include: move forward to implementing NDCs in line with the Paris Agreement, strive to communicate long-term GHG development strategies, enhancing climate resilience and adaptation efforts, aligning finance flows consistent with the goals of the Paris Agreement and national sustainable development priorities and economic growth. At the 2016 Hangzhou Summit, G-20 Heads of State recognized the need to scale up green finance. G-20 Green Finance Study Group (GFSG) has been functioning with the objective to “identify institutional and market barriers to green finance, and based on country experiences, develop options on how to enhance the ability of the financial system to mobilize private capital for green investment. Considerable momentum has been generated internationally particularly since the adoption of Paris Agreement in December 2015 in terms of policy signals and framework for green finance. During 2017, the GFSG has focussed on two themes; first, the environmental risk analysis (ERA) in the financial industry and second the use of Publicly Available Environmental Data (PAED) for financial risk analysis and inform decision-making. GFSG knowledge partners have identified a number of options for encouraging voluntary adoption of ERA that the countries could consider including ensuring the consistency of policy signals to the extent possible, raise awareness of the importance of ERA for financial institutions that have significant environmental exposure, encourage better quality and more effective use of environmental data, encourage public institutions to assess environmental risk and their financial implications in different country settings. PAED are important sources of information for ERA and broader

financial analysis. GFSG knowledge partners has identified options for improving, on a voluntary basis, the availability, the accessibility and relevance of PAED and supported the development of a catalogue of PAED with a focus on its use for financial analysis.

5.39 G-20 also recognizes that a number of other areas of inquiry are emerging and require further research. Examples of these areas include, among others: integration of green investment opportunities framework; more integrated national approaches to green finance; development of local currency green bond markets in emerging market economies; the role of public finance and development banks in supporting green investment, and the application of financial technology (‘FinTech’) in green finance.

THE FINANCIAL SECTOR AND GREEN INITIATIVES

5.40 A number of initiatives have been taken in the Indian financial sector also, which among others include:

1. Reserve Bank of India (RBI) has been conscious of the role of banks in providing finance for sustainable development. As early as in December 2007, banks in India were sensitized to the various international initiatives including the Equator principles and were asked to keep abreast of the developments in the field of sustainable development and corporate social responsibility and dovetail/modify their lending strategies/plans in the light of such developments.
2. A core of the financial policy in India is the Priority Sector Lending (PSL) requirement for banks to allocate 40 per cent of lending to key socially important sectors such as agriculture and small and medium-sized enterprises. In 2015, RBI included lending to social infrastructure

and small renewable energy projects within the targets, thereby, giving a further fillip to green financing. In the renewable energy segment, as per the notification of the RBI in May 2016, bank loans of up to ₹15 crore for solar-based power generators, biomass-based power generators, wind mills, micro-hydel plants, etc. will be considered part of PSL.

3. The RBI has also recently introduced market for trading priority sector lending obligations, incentivizing lower cost delivery.
4. New Development Bank (NDB) is the first Multi-lateral Development Bank established by developing countries and emerging economies – Brazil, Russia, India, China and South Africa (BRICS) – in accordance with the agreement on New Development Bank signed on 15th July, 2014 in Fortaleza, Brazil. NDB's objectives are in line with the BRICS countries' own development goals, with an increased focus on sustainable development and hence NDCs. In 2016, the NDB has approved seven projects, of which two are in India, for a total of over US\$ 1.5 billion, in the areas of renewable and green energy, and transportation. The two loans approved for India amount to US\$ 600 mn. The renewable energy generation project in India will lead to generation of about 500 MW Renewable Energy thereby preventing generation of 815,000 tonne CO₂ per annum. US\$ 250 million sovereign guaranteed loans will be given to Canara Bank in three tranches under this project.
5. The External Commercial Borrowing (ECB) norms have been further liberalized so that green projects can tap this window for raising finance across the borders. Extant guidelines permit use

of ECB proceeds to retire outstanding Rupee loans provided minimum average maturity of ECB is 10 years or ECB is denominated in Rupees. ECB can also be raised to refinance existing ECB provided all-in-cost is lower than that of existing one and residual maturity is not reduced.

6. The Securities and Exchange Board of India (SEBI) has, in May 2017, put in place the framework for issuance of green bonds and the listing requirements for such bonds, which will help in raising funds from capital markets for green projects.
7. Large corporates integrating sustainability in their core businesses are included in the Bombay Stock Exchange's green indices, the GREENEX and CARBONEX. GREENEX was introduced in 2012 and comprises of 25 of India's biggest companies. The S&P BSE CARBONEX seeks to track the performance of the companies in the S&P BSE 100, based on their commitment to mitigating risks arising from climate change in the long run.
8. Companies Act 2013 directs companies having a certain level of profits, to spend 2 per cent of their annual profit on Corporate Social Responsibility (CSR) activities. Estimates indicate that a fair share of the available CSR funding of about ₹220 billion (US\$ 3.5 billion) annually will be invested in environment initiatives from this window.

OUTLOOK

5.41 To sum up, India has delivered on its commitments and is well on track to achieve its voluntary pledge of reducing the emissions intensity of its GDP by 20-25 per cent over 2005 levels by 2020. India has ratified the Paris Agreement and is committed to its NDC implementation as outlined

therein. India is constructively engaged at the multilateral level in writing the “Paris rule book” for the implementation of Paris Agreement. At the national level, roadmap for implementation of its NDCs is being prepared by the Committees constituted for the purpose. Multilateral climate regime will do well if financial resources are provided to assist developing countries to facilitate the pathway towards low GHG emissions and climate resilient development. In this regard, India underscores the importance of an increase in the volume, flow and access to finance alongside improved capacity and technology for developing countries.

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External Sector

The year 2016-17 witnessed a turnaround in India's external sector with export growth becoming positive after two years of continuous negative growth, import growth remaining negative, though marginally for the fourth year in succession resulting in narrowing down of both trade deficit by 1.2 percentage points to 5 percent of GDP and current account deficit by 0.4 percentage points to 0.7 percent of GDP. These along with robust growth in gross foreign direct investment of 18.2 per cent, accretion in foreign exchange reserves and fall in external debt by 2.7 per cent after a smooth and successful redemption of FCNR(B) deposits have resulted in a more stable external sector situation. The year also witnessed major policy changes like rationalisation of export promotion schemes, a new push towards building export infrastructure and trade facilitation measures, further opening up of foreign investment and above all finalising the blueprint of the Goods & Services Tax implemented from 1st July 2017.

GLOBAL ECONOMIC ENVIRONMENT

6.1 Global growth decelerated from 3.4 per cent in 2015 to 3.2 per cent in 2016 (IMF's World Economic Outlook Update, July 2017), with slowdown and even fall in global trade, weak investment, slowdown in China, and heightened policy uncertainty depressing world economic activity in 2016. After a lackluster performance in 2016, economic activity is projected to pick up pace in 2017 and 2018 with a long awaited cyclical recovery in investment, manufacturing, and trade. Global growth is projected to rise to 3.5 per cent in 2017 and 3.6 per cent in 2018. While most of the advanced economies are projected to grow at a faster pace in 2017 and 2018, the picture for emerging market and developing economies (EMDEs) remains much more diverse. China's growth at 6.7 per cent in 2016 was a bit stronger than expected,

supported by continued policy stimulus and is projected also at 6.7 per cent in 2017, slowing slightly to 6.4 per cent in 2018. India grew at 7.1 per cent in 2016 which is one of the highest among the major economies of the world and is projected to grow at 7.2 per cent in 2017 and 7.7 per cent in 2018.

6.2 World trade value growth which had fallen drastically by 13.2 per cent in 2015 continued to fall though by a lesser 3.2 per cent in 2016 (WTO database), with slowdown in global growth and investment, uptick in protectionism, falling commodity prices and decline in growth of global value chains. World trade volume (goods and services) growth also continued to decelerate in 2016 to 2.3 per cent from 2.6 per cent in 2015 (IMF's WEO Update, July 2017). It is projected to pick up with growth of 4.0 per cent in 2017 and 3.9 per cent in 2018 (Table 1).

However, the pace of recovery is slower than previously expected because of downward revisions to growth prospects in major advanced economies, persistent weakness in global investment, and slower or stalled trade

liberalization amid uncertainty about trade policy in the United States and Europe and rising anti-trade and protectionist measures (See box 1).

Table 1. Overview of World Trade (Goods & Services)

	Estimate	Projections		Difference from WEO April 2017 Projections	
	2016	2017	2018	2017	2018
World Trade Volume (goods and services)	2.3	4.0	3.9	0.2	0.0
Advanced Economies	2.3	3.9	3.5	0.2	-0.1
EMDEs	2.2	4.1	4.6	0.1	0.3

Source: IMF, World Economic Outlook Update, July 2017

Box 1. Rising Anti-globalization and Trade Restrictive Measures

Growing Anti-globalization: In recent years, anti-globalization tendencies have surfaced with the recent developments in the US during and after the elections and the Brexit referendum with people viewing trade, immigration, and multilateral engagements with some amount of skepticism and becoming wary of the benefits of globalization. In addition to this, studies suggest that despite the reduction in global inequality since 1990s, inequality within countries has increased, especially among the advanced economies. Similarly, the IMF's World Economic Outlook (April 2017) states that a number of middle-skill jobs in advanced economies have been lost as a result of technological change since the early 1990s and the distribution of income has continued to favour the highest earners leaving little room for those with lower incomes to advance. On average, across 21 OECD countries, it is estimated that 9 per cent of jobs are at high risk of automation, while another 25 per cent of jobs are likely to experience major retooling because of automation (OECD, 2017a). Studies also indicate that to some degree this malaise reflects a macroeconomic policy mix that has failed to sustain sufficient demand growth in the world economy (OECD, 2017a).

Rising Trade Restrictive Measures: There is a rapid rise in recent years of many trade restrictive measures including several types of non-tariff barriers (NTBs). New restrictions on visas and the risk of a backlash against the movement of persons, add to a situation that is of growing concern. As per the WTO's seventeenth monitoring report on G20 trade measures (30 June 2017), a total of 42 new trade-restrictive measures were implemented by G20 economies during the review period (mid-October 2016 to mid-May 2017), including new or increased tariffs, customs regulations and rules of origin restrictions, amounting to a monthly average of six measures. This represents a slight increase over the previous period, but still remains lower than the longer-term trend observed from 2009-2015 of seven per month. The steady accumulation of trade-restrictive measures since the financial crisis has also gradually increased the share of global trade affected by such restrictions. In mid-October 2016, the share of world imports covered by import-restrictive measures implemented since October 2008 and still in place was 5 per cent and the share of G-20 imports covered was 6.5 per cent. The trade coverage of the trade-restrictive measures affecting imports introduced during the latest review period (mid-October 2016 to mid-May 2017) was US\$ 47 billion, i.e. 0.37% of the value of G20 merchandise imports or 0.29% of the value of world merchandise imports.

Differing views of countries: Not all countries have the same views on globalization. It differs from country to country or group of countries as indicated below (PEW Research Centre Surveys 2016-2017, OECD 2017c).

Chart 1. Differing Views of Countries on Global Economic Engagement (per cent)

Source: PEW Research

Note: *= per cent of surveyed people

- Chinese and Indians are upbeat about globalization with 60 per cent of those surveyed in China stating that globalization is a good thing. In the Indian case it was 52 per cent.
- In Europe the views are divided with majority in Netherlands, Sweden, Germany, UK, Hungary and Spain supporting it while majority in Greece, Italy, Poland opposing it and France being on the border line.
- Americans' views on trade are counter intuitive, partisan and changing. Trade has never been a priority for most Americans, although they are slightly more concerned in 2017. American public's support for NAFTA has grown in recent years, though Government's support for NAFTA has declined.

INDIA'S BALANCE OF PAYMENTS DEVELOPMENTS

Overview of Balance of Payments

6.3 India's balance of payments situation which was benign and comfortable during 2013-14 to 2015-16, further improved in 2016-17, as a result of low and falling trade and current account deficits and moderate and rising capital inflows, resulting in further accretion of foreign exchange reserves. Reflecting the slowly improving world economic situation, India's exports turned positive at 5.2 per cent in 2016-17 after an interregnum of two years. This along with a marginal decline in imports by 1.0 per cent resulted in narrowing down of trade deficit to US\$ 112.4 billion (5 per cent of GDP) in

2016-17 as compared to US\$ 130.1 billion (6.2 per cent of GDP) in 2015-16. Net invisibles balances were lower at US\$ 97.1 billion (4.3 per cent of GDP) in 2016-17 as against US\$ 107.9 billion (5.2 per cent of GDP) in 2015-16. The current account deficit (CAD) narrowed down progressively to 0.7 per cent of GDP in 2016-17 from 1.1 per cent of GDP in 2015-16 led by sharp contraction in trade deficit which more than outweighed a decline in net invisibles earnings. Net capital inflows were slightly lower at US\$ 36.8 billion (1.6 per cent of GDP) in 2016-17 as compared to US\$ 40.1 billion (1.9 per cent of GDP) in the previous year, mainly due to fall in NRI deposits. As the capital account surplus was in excess of financing current account deficit, there was an accretion of

reserves (on BOP basis) to the extent of US\$ 21.6 billion in 2016-17 which was higher than the accretion of US\$ 17.9 billion in 2015-16.

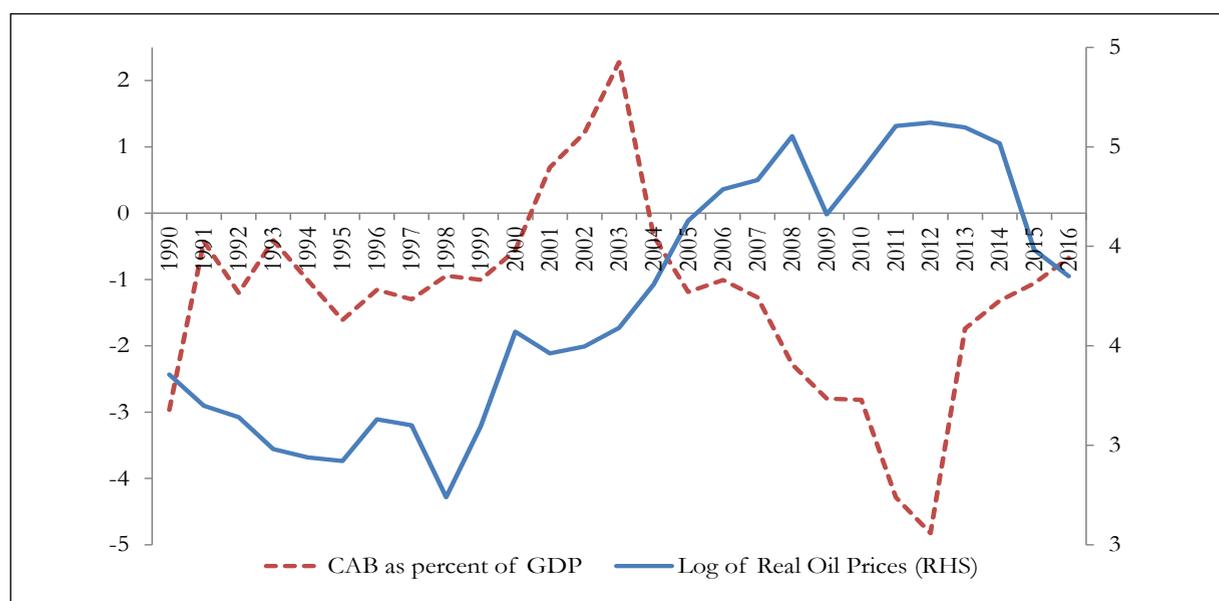
Current Account Developments in 2016-17

Merchandise

6.4 After two years of negative growth, merchandise exports (BOP basis) grew by 5.2 percent in 2016-17 with positive growth in both Petroleum Oil and Lubricants (POL) and non-POL exports. Merchandise imports (BOP basis), which has been falling continuously since 2012-13 fell marginally in 2016-17 by 1.0 per cent. With rise in exports

and fall in imports, trade deficit fell by 13.6 per cent. A sharp decline in imports in H1 and pick-up in exports in H2 helped India to reduce trade deficit by nearly US\$ 18 billion in 2016-17. The fall in international crude oil prices (Indian Basket) which resulted in a decline in oil import bill by around 10 per cent in April-December 2016-17 together with a sharp decline in gold imports led to a fall in India's overall imports. The sharp fall in crude oil prices since 2014-15 has been one of the major reasons for the fall in India's current account deficit (Figure 1). However, there was strong pick up in imports in Q4 of 2016-17 as crude oil prices rose from their levels a year ago.

Figure 1. Current Account Balance and Log of Real Oil Prices



Source: Based on RBI and World Bank data

6.5 India's merchandise exports (on customs basis) reached the highest level of US\$ 314.4 billion in 2013-14 though with a growth of only 4.7 per cent. Following the global trend of decline in export growth, India's export growth also declined during 2014-15 and 2015-16, by 1.3 per cent and 15.5 per cent respectively. India's export growth continued to be negative in the first half of 2016-17. However, in the second half of 2016-17, it registered

positive growth resulting in exports reaching US\$ 276.3 billion with positive growth of 5.3 per cent for the whole year 2016-17. (Table 2).

6.6 India's export growth (non-fuel) which has generally been higher than world export growth (non-fuel) moved to negative territory in 2014 and was lower or in tandem with world export growth (non-fuel) since then (Figure 2).

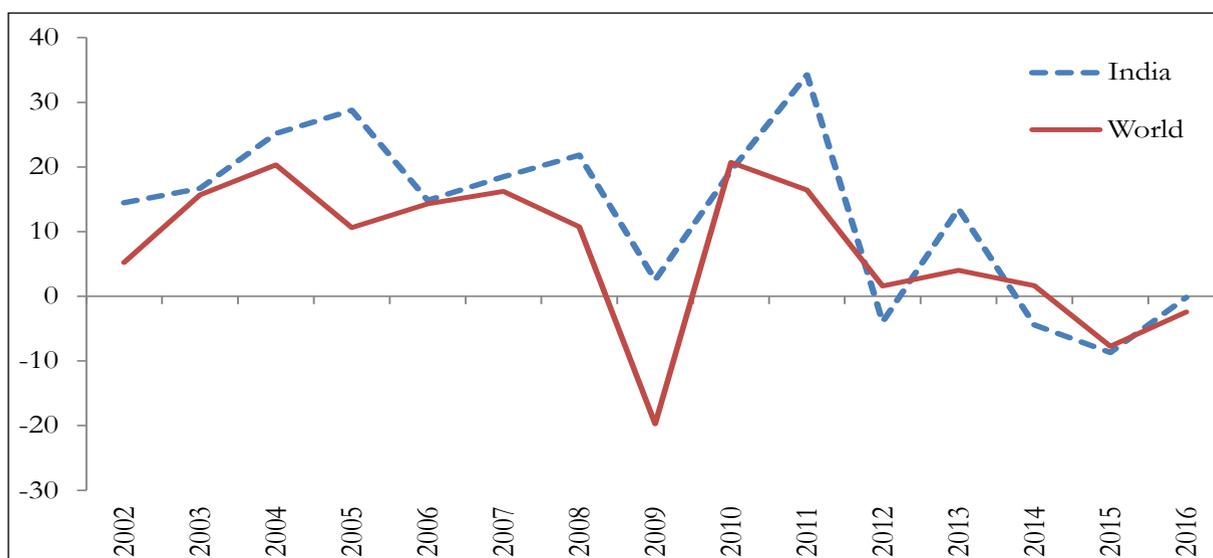
Table 2. Trade Performance

	(Value in US\$ billion)	(Growth (y-o-y) in per cent)		
	2016-17	2015-16	2016-17	2017-18 (Apr-June)*
Exports	276.3	-15.5	5.3	10.6
POL Exports	31.7	-46.2	3.7	20.4
Non POL Exports	244.6	-8.6	5.6	9.4
Imports	384.3	-15.0	0.9	32.8
POL Imports	86.9	-40.0	4.8	23.0
Non POL Imports	297.4	-3.8	-0.2	35.6
Gold & Silver Imports	29.3	-8.8	-17.3	176.3
Non-POL & Non Gold & Silver Imports	268.1	-3.0	2.1	25.0
Trade Balance	-108.0	-13.8	-9.0	108.2

Source: Based on Department of Commerce data.

* Based on latest Press Release.

Figure 2. Non-Fuel Export Value growth of World and India (per cent)



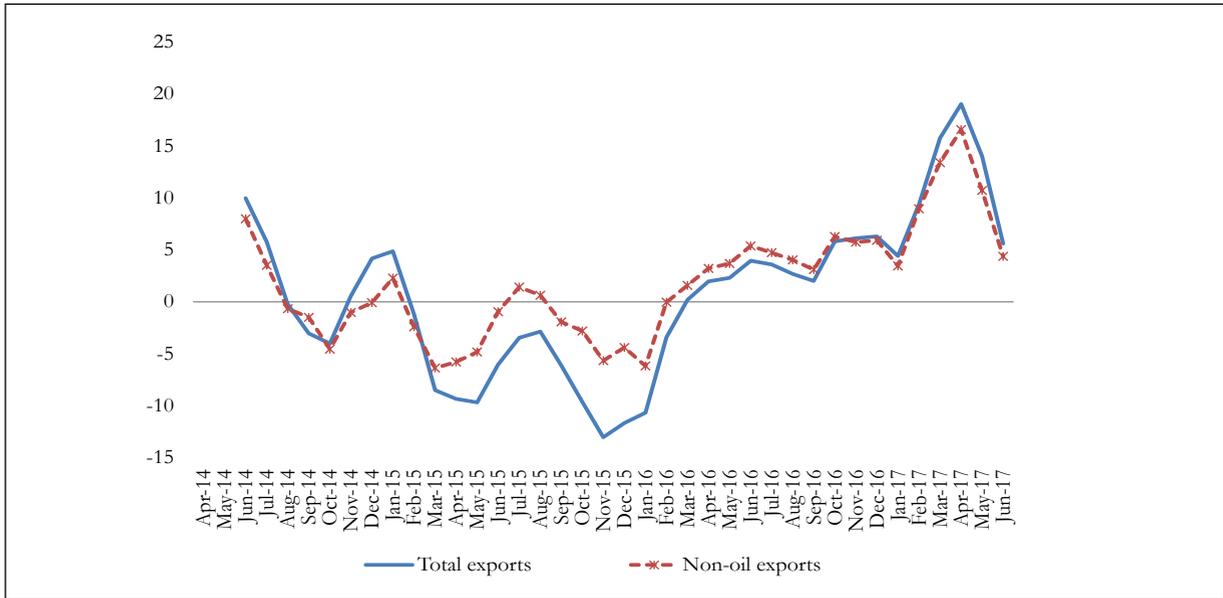
Source: Based on ITC Trade map

6.7 India's positive export growth in 2016-17 was due to the positive growth of both POL and non-POL exports at 3.7 per cent and 5.6 per cent respectively. With pick up in crude oil prices, POL export growth at 25.8 per cent was more than double the non-POL export growth of 10 per cent in the second half of 2016-17. In 2017-18 (April-June) there was double digit export growth at 10.6 per cent with POL export growth being more than two times the growth in non-POL exports.

6.8 Pick up in volume growth of both POL and non-POL exports in December 2015 which moved to positive territory in February 2016 helped in the recovery in exports, though there was a slight deceleration in May and June 2017 (Figure 3).

6.9 India's merchandise imports (on customs basis) also fell from a high level of US\$ 490.7 billion in 2012-13 to US\$ 381.0 billion in 2015-16 and registered a mild increase of 0.9 per cent to US\$ 384.3 billion

Figure 3. Growth in Volume Index of Exports: 3MMA(per cent) 2013-14=100

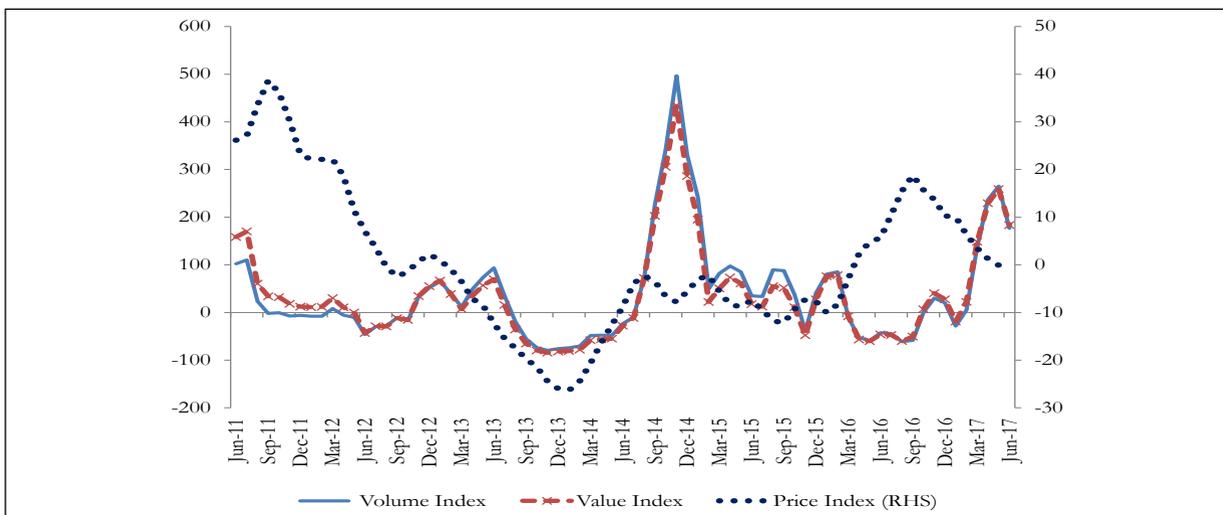


Source: In-house calculations. Monthly trade data of DGCI&S, World Bank monthly pink sheet for computing international price index in dollar terms, Ministry of Commerce & Industry wholesale price index and RBI exchange rate to convert the rupee index to dollar index.

in 2016-17. The slight increase in the value of imports in 2016-17 despite the decline in gold and silver imports by 17.3 per cent, was due to the rise in POL imports and a small increase in non-POL and non-gold and silver imports which had fallen in 2015-16. However in 2017-18 (April-June), imports grew by a whopping 32.8 per cent with POL import growth at 23.0 per cent mainly due to

rise in crude oil prices and non-POL import growth at 35.6 per cent which in turn is due to the high increase in gold & silver imports at 176.3 per cent and also non-POL and non-gold & silver imports by 25.0 per cent. Increase in value of gold imports was due to the rise in volume of gold imports. In fact gold import value index has been moving in tandem with gold volume index over the years (Figure 4)

Figure 4. Growth in Import of Gold Volume/Value & Gold Price, 3MMA (per cent) (2010-11=100)

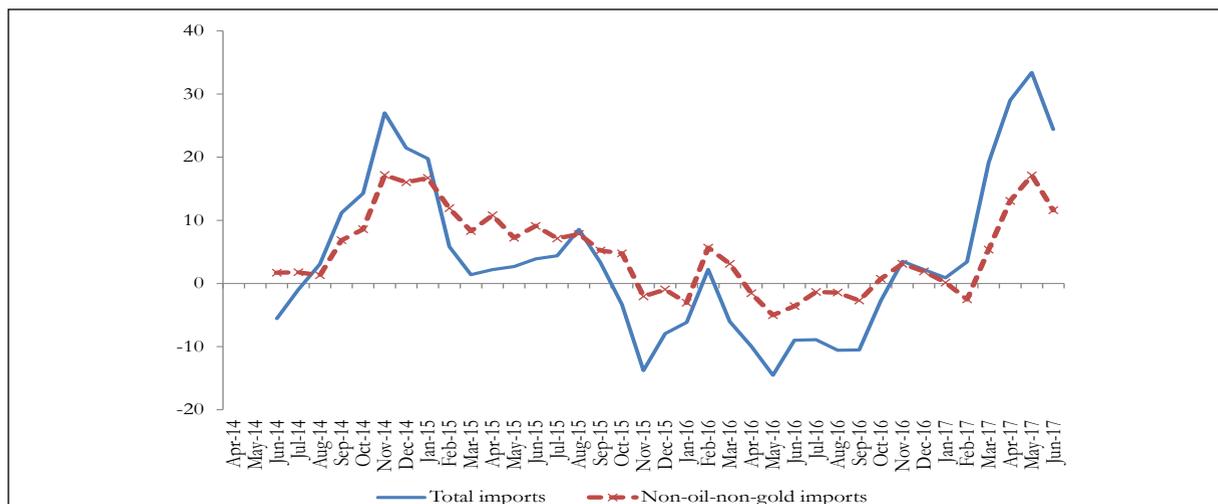


Source: Calculated from the DGCI&S monthly data.

The high increase in non-POL & non-gold & silver imports was mainly due to the growth in imports of capital goods, pearls & semi-precious stones and chemicals needed for industrial activity and exports.

6.10 Import volume growth, both total and non-oil non-gold (3MMA) have been in positive territory since October 2016, though there has been a slight deceleration in June 2017 (Figure 5).

Figure 5. Growth in Volume Index of Imports: 3MMA (per cent) 2013-14=100



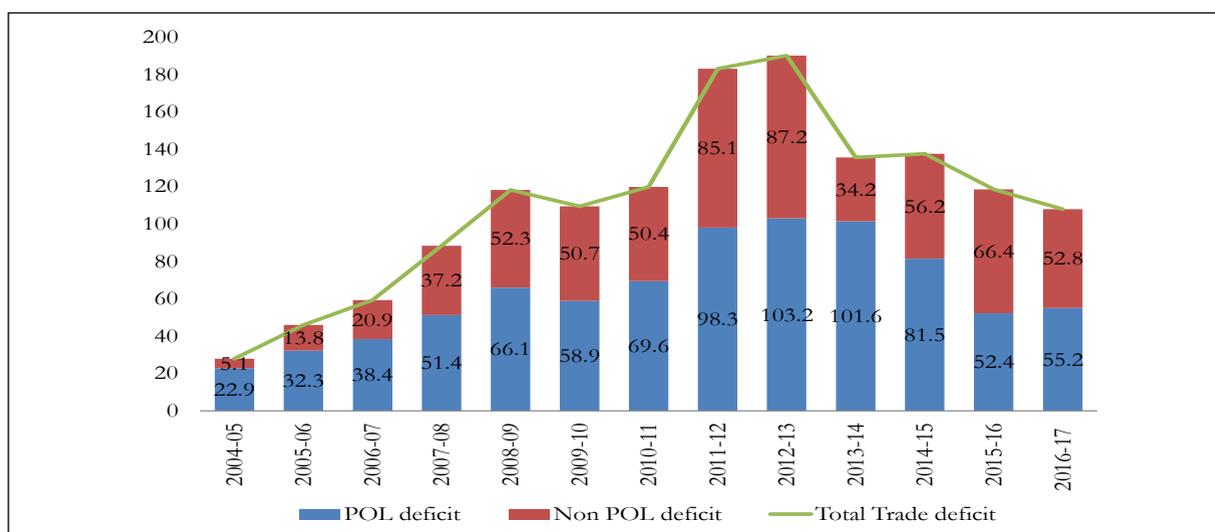
Source: Same as for figure 3.

Trade Deficit

6.11 India's trade deficit (on customs basis) which increased steadily from 2004-05 and reached the highest level of US\$ 190.3 billion in 2012-13, registered continuous decline since 2014-15, reaching a level of US\$ 108.0 billion in 2016-17. There has been a general

decline in both POL deficit and non POL deficit since 2013-14 though there were variations in some years in both (Figure 6). The fall in non POL deficit was mainly due to the fall in net gems and jewellery deficit from US\$ 21.1 billion in 2014-15 to US\$ 17.2 billion in 2015-16 and further to US 10.3 billion in 2016-17.

Figure 6. POL and Non POL Trade deficit (US\$ billion)



Source: Computed from DGCI&S data.

However in 2017-18 (April-June) trade deficit increased by 108.2 per cent with high import growth while export growth was moderate as indicated earlier.

6.12 Among India's trading partners, the top five countries with which India's bilateral trade balance is negative are

China, Switzerland, Saudi Arabia, Iraq and Indonesia, while the top five countries with which it has surplus trade balance are USA, UAE, Bangladesh, Hong Kong and Nepal. The major contributor for India's total trade deficit is its trade deficit with China, the share of which increased from 19.9 per cent in 2011-12 to 47.3 per cent in 2016-17.

Table 3. Bilateral Trade Surplus/Deficit (US\$ billion)

		2011-12	2014-15	2015-16	2016-17 (P)
Trade Surplus Countries	U S A	11.4	20.6	18.6	20.0
	U A E	-0.8	6.9	10.8	9.8
	Bangladesh	3.2	5.8	5.3	6.0
	Hong Kong	2.5	8.0	6.0	6.0
	Nepal	2.2	3.9	3.5	5.0
Trade Deficit Countries	China	-36.6	-48.5	-52.7	-51.1
	Switzerland	-34.1	-21.1	-18.3	-16.3
	Saudi Arab	-26.4	-16.9	-13.9	-14.8
	Iraq	-18.2	-13.4	-9.8	-10.6
	Indonesia	-8.2	-11	-10.3	-9.9
Total Trade Deficit		-183.4	-137.6	-118.7	-108.0

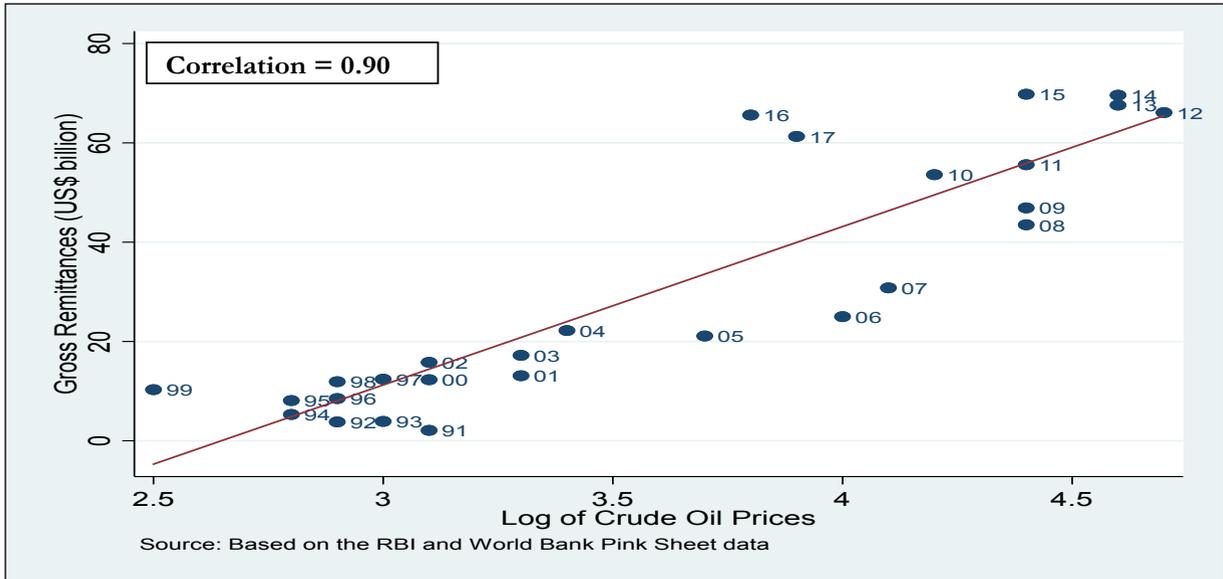
Source: Based on Department of Commerce Data.

Invisibles and Investment Income

6.13 Net invisibles receipts at US\$ 97.1 billion fell by 10 per cent in 2016-17 with both net services and net private transfers falling. Net services which act as a cushion to moderate the effect of trade deficit declined by 3.2 per cent to US\$ 67.5 billion primarily led by a decline in net receipts of software, insurance & pension services and net payments on account of financial services, charges for the use of intellectual property rights and personal, cultural and recreational services. Subdued income conditions in source countries, particularly in the gulf region due to downward spiral in oil prices continued to weigh down on remittances by Indians employed overseas.

A simple correlation analysis shows a strong positive correlation between oil prices and remittances (Figure 7). As per the World Bank's Migration and Development Brief 27 (April 2017), there was decline for two successive years for the first time in history of remittances flows to developing countries with remittances estimated to have declined by 2.4 percent, to US\$ 429 billion in 2016, after a decline of 1 percent in 2015. During the global financial crisis in 2009, though remittances flows to developing countries fell by about 5 percent, they bounced back within a year. In line with the general trend, net private transfers to India also fell from US\$ 66.3 billion in 2014-15 to US\$ 63.1 billion in 2015-16 and to US\$ 56.6 billion in 2016-17.

Figure 7. Remittances and Log of Oil Prices



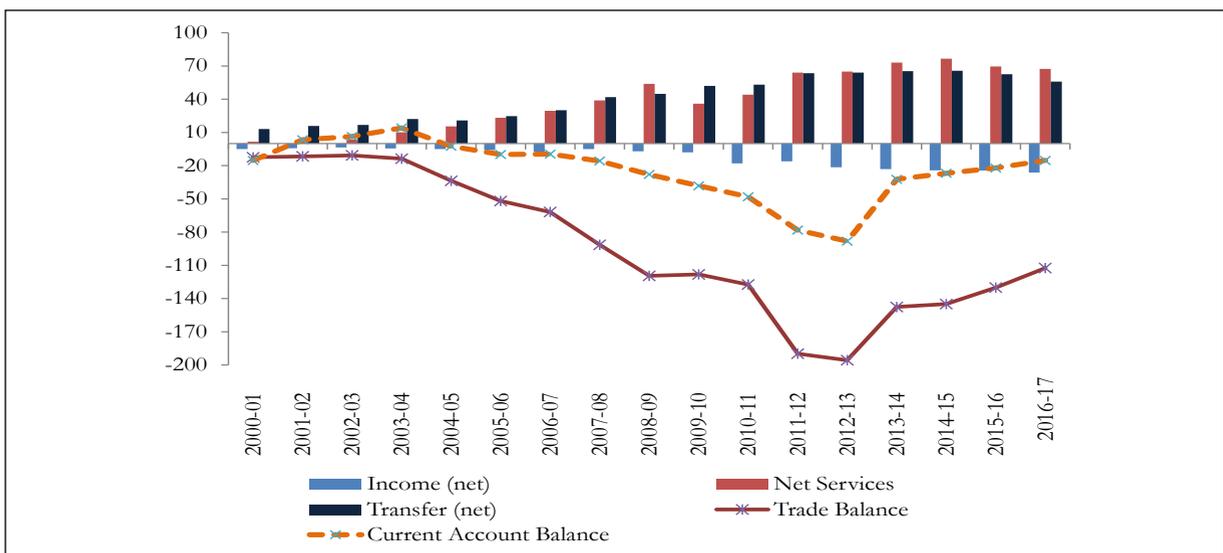
6.14 Outflows on account of net investment income which has been increasing steadily over the years, increased further by 7.9 per cent to US\$ 26.3 billion. Lower trade deficit resulted in CAD narrowing to US\$ 15.3 billion (0.7 per cent of GDP) in 2016-17 (Figure 8).

Capital/Financial Accounts Developments in 2016-17

6.15 The CAD was comfortably financed

by net capital flows in 2016-17 which was dominated by foreign direct investment. Gross FDI inflows to India increased significantly to US\$ 60.2 billion in 2016-17 from US\$ 55.6 billion in 2015-16. Net FDI inflows (i.e. net of outward FDI) at US\$ 35.6 billion, however, moderated marginally by 1.1 per cent from US\$ 36.0 billion in 2015-16. Net foreign portfolio investment flows remained prone to both global and domestic developments causing volatility in

Figure 8. Components of Balance of Payments



Source: Based on RBI data

domestic capital market. Transient volatility was evident around the period of the Brexit, US Presidential election outcome, demonetisation and hike in US Fed policy rate. Portfolio investments recorded a net inflow of US\$ 7.6 billion in 2016-17 as against a net outflow of US\$ 4.1 billion a year ago. The investment interest of portfolio buyers in the domestic capital market increased in Q4 of 2016-17 after significant outflow during April-December of 2016-17. In 2017-18 (upto July 14, 2017), net FPI inflows of US\$ 13.5 billion were higher than the US\$ 2.1 billion in the corresponding period of

2016-17. Among other forms of capital flows in 2016-17, banking capital recorded net outflow of US\$ 16.6 billion, primarily on account of building up of overseas assets by banks and redemption of FCNR (B) deposits during September to November 2016. In the case of external commercial borrowings (ECBs) there was a net outflow of US\$ 6.1 billion in 2016-17 as repayments were higher than fresh borrowings. Since net capital inflows adequately financed the CAD, there was a net accretion to India's foreign exchange reserves (Table 4).

Table 4. Summary of India's Balance of Payments

(US\$ billion)

Item	2014-15	2015-16	2016-17 P
I Current Account			
i. Exports	316.5	266.4	280.1
ii. Imports	461.5	396.4	392.6
iii. Trade Balance	-144.9	-130.1	-112.4
iv. Invisibles (net)	118.1	107.9	97.1
A. Services	76.5	69.7	67.5
B. Transfers	65.7	62.6	56
C. Income	-24.1	-24.4	-26.3
Current Account Balance	-26.9	-22.2	-15.3
II Capital Account			
i. External Assistance (net)	1.7	1.5	2.0
ii. External Commercial Borrowings (net)	1.6	-4.5	-6.1
iii. Short-term credit	-0.1	-1.6	6.5
iv. Banking Capital(net) of which:	11.6	10.6	-16.6
Non-Resident Deposits (net)	14.1	16.1	-12.4
v. Foreign Investment(net) of which:	73.5	31.9	43.2
A. FDI (net)	31.3	36	35.6
B. Portfolio (net)	42.2	-4.1	7.6
vi. Other Flows (net)	1.0	3.2	7.5
Capital Account Balance	89.3	41.1	36.5
III Errors and Omission	-1.0	-1.1	0.4
Capital Account Balance (including errors & omissions)	88.3	40.1	36.8
IV Overall Balance	61.4	17.9	21.6
V Reserves change [increase (-) / decrease (+)]	-61.4	-17.9	-21.6

Source: RBI

Note: P: Provisional

6.16 The lower CAD, rising gross FDI inflows, the smooth and successful redemption of FCNR(B) dollar funds and strong build up of foreign exchange reserves-all indicate that India's balance of payments may have stabilized for the better. Even if on the flip side, the trade deficit which fell on account of favourable terms of trade starts increasing with rise in global commodity prices, there could be an almost commensurate rise in remittances.

COMPOSITION OF TRADE

6.17 Export growth in 2016-17 was broad based with positive growth in major items except for the fall in leather & leather products by 4.1 per cent, textiles by 2.2 per cent and marginal fall in electronic goods and

drugs & pharmaceuticals (Table 5). Among the six major export sectors, there was good growth in engineering goods and gems & jewellery sectors; low growth in petroleum crude & products and chemicals and related products; marginal positive growth in agricultural and allied products; and marginal negative growth in textiles & allied products. Other export sectors with high growth were marine products and minerals. In terms of the point contribution to export growth by sectors in 2016-17, the highest contribution was from engineering goods (46.9 per cent) followed by gems & jewellery (29.9 per cent), ores & minerals (8.4 per cent), marine products (8.1 per cent), and petroleum products (7.3 per cent).

Table 5. Sector wise share and growth rate of exports

Sl. No.	Sector	Share (per cent)		Growth rate (per cent)	
		2015-16	2016-17 (P)	2015-16	2016-17 (P)
1	Engineering goods	23.1	24.3	-17.2	10.8
2	Gems and Jewellery	15.0	15.8	-4.8	10.9
3	Chemicals and related products **	14.7	14.3	0.6	2.1
	<i>of which</i>				
	Drugs & pharmaceuticals	6.5	6.1	9.6	-0.4
4	Textiles & allied products	13.7	13.0	-3.2	-0.1
	<i>of which</i>				
	Textiles	5.6	5.2	-8.5	-2.2
	Clothing	8.1	7.8	0.8	1.3
5	Petroleum crude & products	11.7	11.5	-46.2	3.7
6	Agriculture and allied products *	9.9	9.5	-17.6	0.9
7	Electronic goods	2.2	2.1	-5.3	-0.1
8	Marine products	1.8	2.1	-13.5	24.2
9	Ores and minerals	0.8	1.2	-16.4	59.1
10	Leather & leather products	2.1	1.9	-10.3	-4.1
	Total exports (including others)	100	100	-15.5	5.3

Source: Computed from Department of Commerce data.

Note: *: including plantation. **: including plastic and rubber products

P : Provisional

6.18 Sector-wise, one of the major import items, POL imports increased by 4.8 per cent in 2016-17, mainly due to the mild recovery in international crude oil price (Indian Basket) from US\$ 46.2 /bbl in 2015-16 to US\$ 47.6 /bbl in 2016-17 after the sharp falls in 2013-14 and 2014-15. Among the other important import items in 2016-17, low growth was registered by electronic goods; ores & minerals though coal, coke and briquettes registered high growth; and

high growth in agriculture & allied products. Negative growth was registered by chemicals & related products. Capital goods imports fell marginally though the sub-category transport equipments registered high positive growth. Gems & jewellery imports fell by 4.9 per cent due to negative growth in gold and silver imports despite pearls and precious stones imports used mainly for exports and manufacturing registering high positive growth (Table 6).

Table 6. Sector wise share and growth rate of imports

Sl. No.	Sector	Share (per cent)		Growth rate (per cent)	
		2015-16	2016-17 (P)	2015-16	2016-17 (P)
1	Petroleum Oil and Lubricants	21.8	22.6	-40.0	4.8
2	Capital goods	21.1	20.7	-2.5	-1.5
	<i>of which</i>				
	Machinery	8.7	8.5	3.7	-1.3
	Base metals	6.5	5.6	-8.7	-12.8
	Transport equipment	4.0	5.1	0.7	27.3
3	Gems and Jewellery	14.8	14.0	-9.4	-4.9
	<i>of which</i>				
	Gold	8.3	7.2	-7.7	-13.4
	Pearls and semi precious stones	5.3	6.2	-11.2	18.6
	Silver	1.0	0.5	-17.3	-50.9
4	Chemicals and related products **	13.3	12.4	-4.2	-5.8
	<i>of which</i>				
	Organic chemicals	2.5	2.6	-15.2	2.7
	Fertilizers	2.1	1.3	9.1	-37.7
5	Electronic goods	10.5	11.0	8.6	4.8
6	Agriculture & allied Products*	5.7	6.3	7.7	11.4
7	Ores and minerals	5.4	5.6	-23.2	4.5
	<i>of which</i>				
	Coal, Coke & Briquettes, etc.	3.6	4.1	-23.2	15.2
	Total imports (including others)	100	100	-15.0	0.9

Source: Computed from Department of Commerce data.

Note: * : including marine products and plantation; **: including plastic and rubber products P : Provisional;

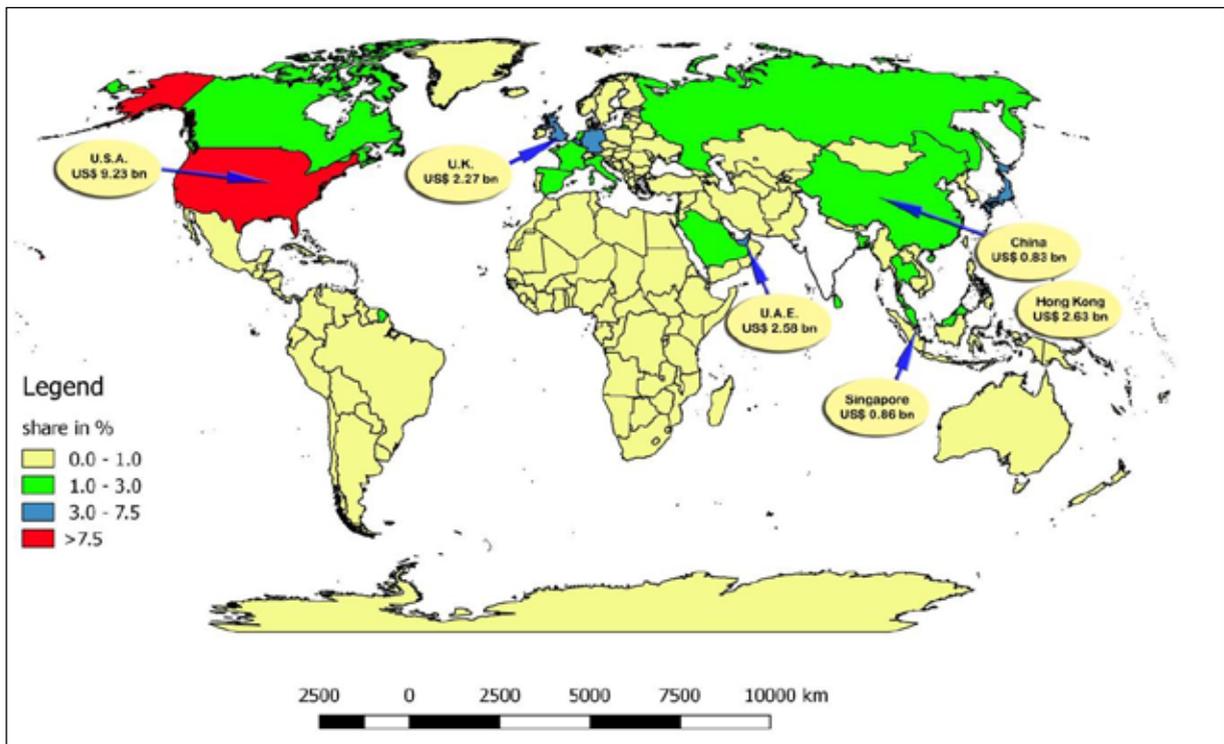
Direction of Trade

6.19 Region-wise in 2016-17, India’s exports to Asia (with export share of 50 per cent) increased by 8.0 per cent. Similarly, India’s exports to Europe, America and CIS& Baltics (with shares of 19.2 per cent, 19.9 per cent and 1.0 per cent respectively) grew by 5.5 per cent, 4.4 per cent and 16.8 per cent. However, India’s exports to Africa witnessed negative growth rate. Among India’s major export destinations, exports to all the top three destinations, i.e. the USA followed by the UAE and Hong Kong, registered positive growths of 5.0 per cent, 3.4 per cent and 17.1 per cent respectively in 2016-17. By contrast India’s exports to the UK, Saudi Arabia and Japan declined by 3.1 per cent, 19.7 per cent and 17.3 per cent respectively. India’s exports to China which is now the 4th major destination grew by 13.1 per cent. In fact, India’s exports to only 2 countries have a share of above 7.5 per cent and 4 countries have a share of 3 to 7.5 per cent in total exports in 2016-17. The changes in India’s

direction of trade between 2000-01 to 2016-17 have been mainly in the case of the UAE moving one step up to the above 7.5 per cent category and China and Singapore moving to the 3-7.5 per cent category (Figure 9 a & 9 b).

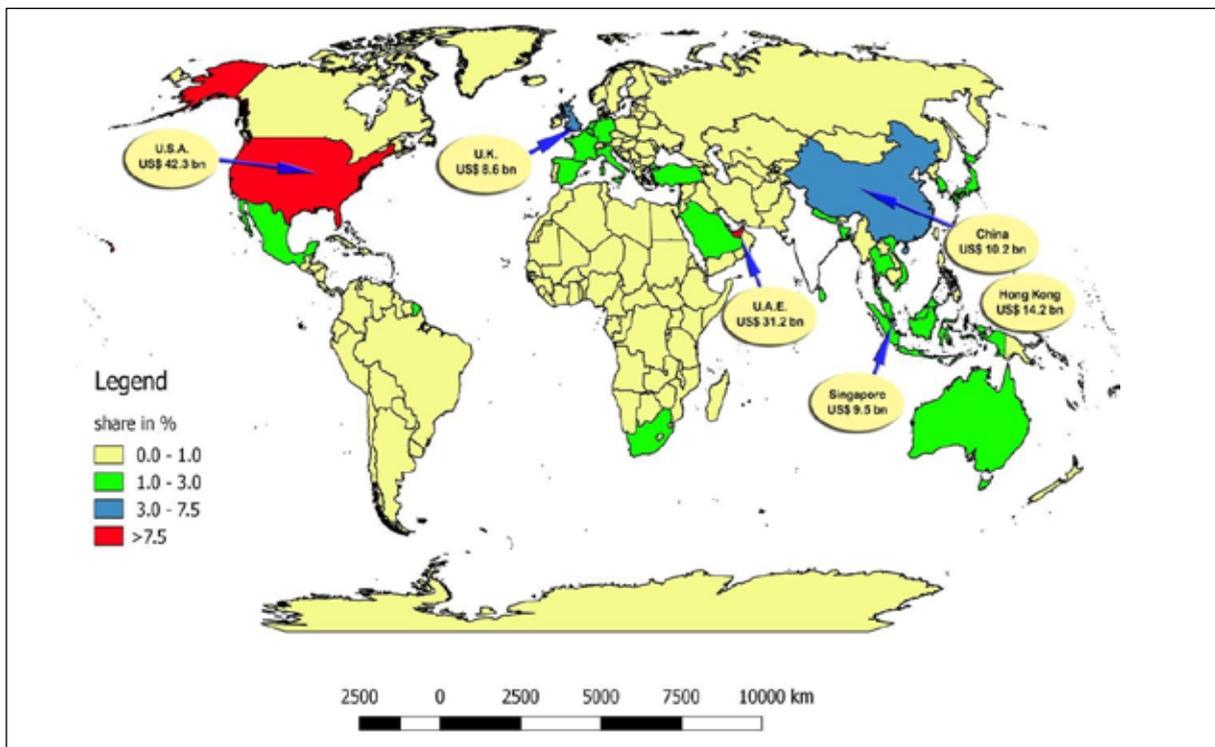
6.20 In the case of India’s imports in 2016-17, Asia continued to be the major source of imports with a share of 60.0 per cent, followed by Europe (16.0 per cent share), America (12.2 per cent share) and Africa (7.5 per cent share). Country-wise, China remained the largest source with 16.0 per cent share in India’s total imports followed by the USA (5.8 per cent), the UAE (5.6 per cent), Saudi Arabia (5.2 per cent) and Switzerland (4.5 per cent) in 2016-17. Among the top 5 sources of imports, India’s imports from China, Saudi Arabia and Switzerland registered negative growths in 2016-17, while India’s imports from the USA and the UAE registered a growth of 2.6 per cent and 10.6 per cent respectively.

Figure 9a. India's Top Export Destinations (2000-01)



Source: Based on DGCI&S data.

Figure 9b. India's Top Export Destinations (2016-17)



Source: Based on DGCIS data.

TRADE POLICY

Recent Trade Policy Measures

6.21 The new Foreign Trade Policy (2015-20) launched on 1st April, 2015 links rules, procedures and incentives for exports and imports with other initiatives such as “Make in India”, “Digital India” and “Skills India”. It consolidates 5 different incentive schemes under the earlier policy for rewarding merchandise exports into a single scheme, namely the Merchandise Exports from India Scheme (MEIS). For the services sector, the Services Exports from India Scheme (SEIS) has been introduced replacing the Served from India Scheme. The Interest Equalisation scheme on pre and post shipment rupee export credit was also approved by the Cabinet Committee on Economic Affairs (CCEA) on 18th November 2015 w.e.f. 1st April 2015 for 5 years and will be evaluated after three years. A new scheme Trade Infrastructure for Export Scheme (TIES) has been approved

to be implemented from 2017-18 for 3 years. Besides many trade facilitation measures have also been taken like reducing the number of documents, introducing simplified IEC (Importer Exporter Code) from 1st April 2016, doing away with the issuance of physical copy of IEC, sharing export realization data with states and encouraging states to prepare their export strategies resulting in 17 states preparing their export strategies, simplifying *Aayat Niryat* forms, etc.

6.22 The exercise of mid-term review of FTP 2015-20, has been initiated and the reviewed FTP is likely to be announced shortly. While this review exercise is particularly important in the light of recent international developments, special efforts are needed to not only review but accelerate India’s exports to reach a respectable share of at least 5 per cent in world exports from the present 1.7 per cent in 2016, which is very low compared to China’s 13.2 per cent (See Box 2).

Box 2. Reviving and Accelerating India's Merchandise Exports: Policy Reforms

To achieve a respectable share of 5 per cent in World exports, India's export growth rate (CAGR) has to be around 26.5 per cent for at least 5 years (2017-2021) assuming that global growth continues at the CAGR of 1.5 per cent (2010-15). For this some major strategies and trade policy reforms are needed along with specific measures.

Major Strategies and Trade Policy Reforms

- Demand based export basket diversification rather than a mere supply based strategy as the ranks of items at 4 digit level in world top imports and ranks of India's exports of these items to the world show a great deal of mismatch with India exporting 96.5 per cent of items in the World's top 100 import items at 4 digit level and 83.2 per cent at 6 digit level in terms of numbers in 2015, which however constitute only 1.6 per cent of top 100 world imports in value terms.
- Rationalizing tariffs as the realized tariffs (BCD) is very low at 2.8 per cent in 2015-16 and less than one fourth the average applied tariffs due to various exemptions. If refunds and customs duty drawbacks are deducted from gross customs revenue then the net realized tariffs (BCD) would be still less. Though different rates of tariffs are levied for various reasons, there is scope for reducing average applied tariffs by selectively reducing tariffs across many lines, while retaining higher tariffs for sensitive and important items. Consequently WTO bound tariffs could also be reduced which can help India to take a more pro-active role in WTO and bilateral negotiations.
- Streamlining Export Promotion Schemes as many duties have been subsumed under GST and if tariffs are reduced to realized or near realized levels, some export promotion schemes can be phased out. The duty drawback rates can also be revised downwards. The revenue saved could be used for export marketing efforts.
- Developing on a war footing world class export infrastructure and logistics especially port-related
- FDI linked and Value Added Exports particularly high-tech exports as in China and some ASEAN countries.
- Having useful FTAs/CECA's with some major countries while actively expanding engagement with BRICS and ASEAN where India enjoys competitive advantage.
- National Priority Sector for Exports and greater States' participation in exports by linking devolution of funds to states with export effort of states.
- Formulating a clear-cut Agri Trade Policy

Besides the major strategies, there are many cross-cutting trade policy issues and sector-specific issues like making power available at competitive rates including lower rates for non-peak hours which can be a game changer for textiles exports; and giving a big push to electronics hardware exports including a Hardware-Software combination and moving from assembling to building a robust manufacturing base with a well settled value chain.

Source: Dr. H.A.C. Prasad along with Dr. R. Sathish, Vijay Kumar, S.S.Singh, R.K. Sharma: "Reviving and Accelerating India's Exports: Policy Issues and Suggestions" Working Paper No. 1/ 2017- DEA, January 2017.

Anti-Dumping Measures

6.23 In 2015, 230 anti-dumping investigations were initiated by all countries with USA overtaking India, initiating about 42 investigations (Table 7). However in 2016, India has again become the highest initiator of anti-dumping investigations initiating 69 out of a total of 228 investigations initiated by G-20 members, followed by the USA (37) and Australia (25) (WTO, 2017).

6.24 Since the global slowdown, complaints of dumping have been rising. India conducts

anti-dumping investigations on the basis of applications filed by the domestic industry with prima facie evidence of dumping of goods in the country, injury to the domestic industry and causal link between dumping and injury to the domestic industry. During the fiscal year 2016-17, India initiated 44 anti-dumping investigations and issued preliminary findings in 5 anti-dumping investigations, final findings in 28 anti-dumping investigations, and final finding in one anti-circumvention of anti-dumping duty investigation. The major products found to

Table 7. Investigations Initiated by some major users of Anti-Dumping Measures

Country	India	USA	EU	Brazil	Argentina	Australia	China	All Countries including others
2009	31	20	15	9	28	9	17	217
2010	41	3	15	37	14	7	8	173
2011	19	15	17	16	7	18	5	165
2012	21	11	13	47	12	12	9	208
2013	29	39	4	54	19	20	11	287
2014	38	19	14	35	6	22	7	236
2015	30	42	12	23	6	10	11	230
2016	69	37	14	11	25	17	5	145*
1995-2016*	818	593	485	396	328	310	231	5132

Source: WTO

Note: *Upto 30 June, 2016

have been dumped in India and in respect of which anti-dumping duty has been imposed fall in the product group of chemicals & petrochemicals, products of steel & other metals, fibre & yarns and consumer goods. The countries involved in these investigations include China, the European Union, Korea,

Indonesia, Malaysia, Russia, Japan, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, Saudi Arabia, Chinese Taipei and the USA. Countries and products involved in some recent anti-dumping initiations by India are given in Table 8.

Table 8. Anti-dumping Initiations since 2015-16-Countries and Products Involved

Year	Major Countries	Major items targeted	Initiation of Anti-dumping investigations	Final Findings/ Termination
2015-16	China PR(23), Korea RP(5), Chinese Taipei(7), Thailand(8), Indonesia(4), USA(3), Russia(4), Malaysia(3), Vietnam(3), Pakistan(3), Iran(5)	Chemicals, Petrochemicals, Fibres and Yarns and Steel Products	36	46
2016-17	China PR(37), EU(5), Korea RP(5), Chinese Taipei(5), Thailand(3), Indonesia(7), Japan(7), USA(0), Russia(4), Malaysia(4), Iran(3), Saudi Arabia(2)	Chemicals, Petrochemicals, Fibres and Yarns and Steel Products	44	29
2017-18*	China PR(8), EU(2), Korea RP(1), Chinese Taipei(1), Thailand(2), Singapore(1), Indonesia(2), USA(1), Malaysia(1), Vietnam, Turkey, UAE(1), Pakistan(1), Hong Kong, Iran(1), Saudi Arabia(1)	Chemicals, Petrochemicals, Fibres and Yarns and Steel Products	10	11
	Total		281	276

Source: Directorate General of Anti-Dumping and Allied Duties

Note: 2017-18* (i.e. upto 30-06-2017), () No of initiations

6.25 On 12th April 2016, India initiated countervailing duty investigation concerning imports of certain hot rolled and cold rolled stainless steel flat products, originating in China. It has also initiated the process of making its investigation processes ISO 9001:2015 compliant.

MULTILATERAL AND BILATERAL/ REGIONAL NEGOTIATIONS AND INDIA

6.26 The US withdrawal from the Trans-Pacific Partnership (TPP), rising protectionism and opinion veering back to WTO negotiations in many countries have led to a window of opportunity for successful negotiations at WTO. The eleventh Ministerial Conference of the WTO (MC11) is scheduled to be held in December 2017 in Buenos Aires, Argentina. Discussions for an outcome in MC11 are underway in the WTO and in the various informal meetings at the level of Trade Ministers in the sidelines of major events. In all these meetings, India has underscored the need for implementation of Ministerial Decisions taken at previous WTO Ministerial Conferences in Bali and Nairobi, especially those relating to the issue of public stockholding for food security purposes and an agricultural Special Safeguard Mechanism for developing countries. India has also emphasized the need for outcomes on other issues in the Doha agenda, with special and differential treatment to the developing countries remaining at the core of any negotiations in the WTO.

6.27 The WTO's Trade Facilitation Agreement represents an important milestone by creating an international framework for reducing trade costs. The objectives of this agreement are in consonance with India's "Ease of Doing Business" initiative. India considers 'Trade Facilitation' to be particularly important for developing countries. Even modest reductions in the cost of trade

transactions would have a positive impact on trade for both the developed and the developing world. As per its commitment, India notified its category "A" commitments in March 2016 and later on ratified the Trade Facilitation Agreement (TFA) in April 2016. Approximately 70 per cent of the total provisions given under TFA have been notified as category "A". Remaining provisions have been classified under category "B" which are to be implemented after a transition period of 5 years. A National Committee on Trade Facilitation (NCTF) has been set up to facilitate both domestic coordination and implementation of the provisions of TFA. An Action Plan containing specific activities to further ease out the bottlenecks to trade, has also been prepared. Given the increasing importance of trade in services for the world as a whole, India has taken the initiative to launch discussions on Trade Facilitation in Services (TFS) Agreement at the WTO, as a counterpart of the goods-specific Trade Facilitation Agreement (TFA) (see chapter 9).

India has also been a part of many bilateral and regional cooperation agreements. Some recent developments related to bilateral and regional agreements of India are given in Box 3.

FOREIGN EXCHANGE RESERVES

6.28 Among the major economies running current account deficit, India is the second largest foreign exchange reserve holder after Brazil. The level of foreign exchange reserves can change due to change in reserves on BoP basis as well as valuation changes in the assets held by the Reserve Bank of India. During 2016-17, India's foreign exchange reserves increased by US\$ 21.6 billion on BoP basis (i.e., excluding valuation effect), while in nominal terms (i.e., including valuation effect) reserves increased by US\$ 9.8 billion as compared with an increase of US\$ 18.5

Box 3. Status of some recent Bilateral/Regional Cooperation Agreements of India

- **RCEP Agreement among ASEAN + 6 FTA Partners (Australia, China, India, Japan, South Korea and New Zealand):** Based on the Declaration of the Leaders during the ASEAN Summit in November, 2012, negotiations for a Regional Comprehensive Economic Partnership Agreement (RCEP) between the 10 ASEAN member states and its 6 FTA partners commenced in May, 2013. The 3rd Intersessional RCEP Ministerial was recently concluded in Hanoi from 21-22 May, 2017. India will be hosting the 19th RCEP Round from 18-28 July, 2017 in Hyderabad. The negotiations cover a number of areas like trade in goods, services, investment, intellectual property, economic & technical cooperation, competition and legal & institutional issues.
- **India-Sri Lanka ETCA:** India and Sri Lanka have an existing free trade Agreement, covering trade in goods, which was signed in 1998 and entered into force in March 2000. In December 2015, India and Sri Lanka agreed to start negotiations for a new comprehensive agreement titled 'Economic and Technology Cooperation Agreement (ETCA)'. The scope of the Agreement includes trade in services, investment issues and cooperation in various fields such as technology, customs, standards, etc apart from trade in goods. Four Rounds of Negotiations have been held so far with the latest Round held on 24th-26th April 2017 in New Delhi.
- **India - EU BTIA:** Negotiations were launched on 28th June 2007 in the areas of Goods, Services, Investment, Sanitary and Phyto-sanitary Measures, Technical Barriers to Trade, Trade Facilitation and Customs Cooperation, Competition, IPR & GIs. etc. The negotiations were revived with 4 stocktaking meetings in January, February, July and November, 2016.
- **India - Thailand CECA:** The 30th round of the Trade Negotiation Committee was held on 13-14 July, 2016 in New Delhi. The Early Harvest Scheme on 82 items has been implemented.
- **India-Korea CEPA review:** During the Joint Committee meeting at the Ministerial level held on 18 June, 2016 in New Delhi, the two sides declared commencement of negotiations for upgrading India-Korea CEPA. Two rounds of negotiations for upgrading India-Korea CEPA have been held so far with the 2nd round of negotiations held on 13-14 February, 2017 in New Delhi. .
- **India-EaEU FTA:** The joint feasibility study group (JFSG) report was finalised by India and EaEU (Eurasian Economic Union) in Sep, 2016. India has received approval from the competent authority to initiate the FTA negotiations. However, EaEU is still in the process of receiving the necessary approval from the competent authorities.

Source: Department of commerce

billion in 2015-16. The valuation loss mainly reflecting the appreciation of the US dollar against major currencies amounted to US\$ 11.8 billion during 2016-17 as against a gain of 0.6 billion in 2015-16 (Table 9). With the increase in reserves (in nominal terms) over March 2016 by US\$ 9.8 billion, the reserves cover for imports also increased from 10.9 months at end-March 2016 to 11.3 months as at-end March 2017.

6.29 RBI intervenes both in the spot and forward segments of the forex market in order to maintain orderly market conditions and curb excessive volatility. It undertakes sales and purchases of foreign currency in the forex market, basically to even out lumpy demand or supply. In the last few months,

forward purchases by RBI were higher than spot purchases. The choice of instrument (spot and forward) for intervention depends on the objective of intervention and the prevailing situation in the forex market. The decision on distribution of recent intervention operations between spot and forwards continue to be guided by a set of factors on a day-to-day basis, like rupee liquidity, impact on forward premia position of existing outstanding forward asset/liabilities, etc. During 2014-16 whenever the intervention was on the buy side, a conscious effort was made to have an appropriate portion of the purchases in forwards to cover the scheduled outflows on account of FCNR(B) and Overseas Foreign Currency Borrowings (OFCB) swap maturity.

Table 9. Summary of Changes in Foreign Exchange Reserves (US\$ billion)

Year	Foreign Exchange reserves at the end of financial year (end March)	Total Increase (+)/ decrease (-) in reserves	Increase / decrease in reserves on a BoP basis	Increase/ decrease in reserves due to valuation effect
2007-08	309.7	110.5	92.2	18.3
2008-09	252.0	-57.7	-20.1	-37.6
2009-10	279.1	27.1	13.4	13.7
2010-11	304.8	25.8	13.1	12.6
2011-12	294.4	-10.4	-12.8	2.4
2012-13	292.0	-2.4	3.8	-6.2
2013-14	304.2	12.2	15.5	-3.3
2014-15	341.6	37.4	61.4	-24
2015-16	360.2	18.5	17.9	0.6
2016-17	370.0	9.8	21.6	-11.8

Source: RBI

6.30 As per data available with the RBI, the intervention from Jan to Mar 2017 was US\$ 18 billion, of which around US\$ 5 billion was in spot and the remaining US\$ 13bn through forwards. Higher intervention by way of forwards could be due to the fact that demonetisation had resulted in surplus liquidity with the banking system and any further spot intervention would only have resulted in adding to the surplus liquidity to the system.

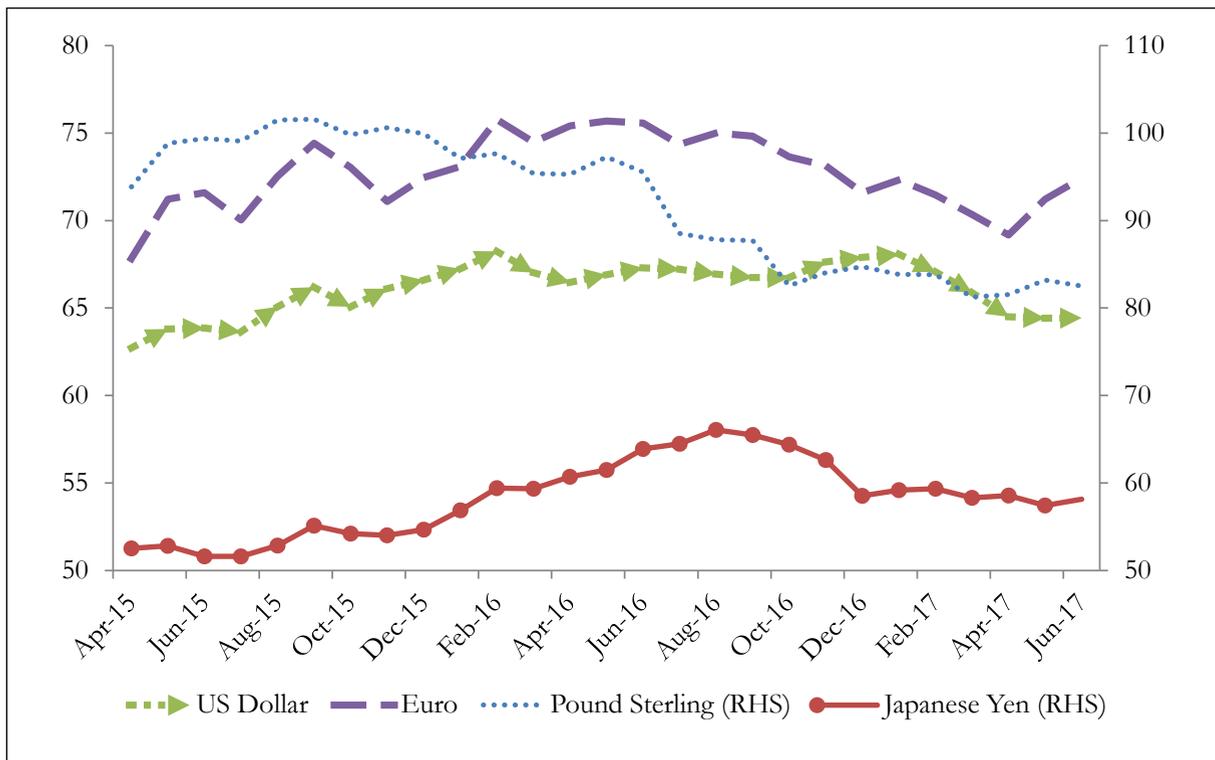
EXCHANGE RATE

6.31 The average annual exchange rate of the rupee depreciated from ₹65.5 per US dollar in 2015-16 to ₹67.1 per US dollar in 2016-17. In 2016-17, the rupee depreciated against the US dollar, Euro and Japanese Yen by 2.4 per cent, 1.8 per cent and 12.0 per cent respectively, while it appreciated against Pound Sterling by 12.6 per cent. The average monthly exchange rate of the rupee against the US dollar after depreciating continuously from November 2016 to January 2017, has

appreciated continuously from February to June 2017, while in the case of the Pound sterling, Euro and Japanese yen there have been monthly variations (Figure 10).

6.32 The rupee performed better than many other EME-currencies in 2016-17. While on a yearly average basis, the rupee depreciated against the US dollar by 2.4 per cent, there was higher depreciation against the US dollar in the case of Chinese Yuan (6.0 per cent), Argentina Peso (29.1 per cent), Malaysian Ringgit (3.7 per cent), Mexican Peso (13.5 per cent) and Turkish Lira (11.3 per cent). There was transitory downward pressure on the Indian rupee on account of uncertainty relating to post US presidential election results and demonetisation drive announced domestically in November 2016. However, the rupee has quickly recovered since December 2016, which strengthened further since February 2017 as foreign portfolio flows turned positive with receding of global risk aversion and pro-reforms Union Budget and decisive outcome of State elections.

Figure 10. Movement of Rupee against the US Dollar, Euro, Pound Sterling and Japanese Yen



Source: RBI

During 2017-18 (April-June), over the yearly average of 2016-17 the rupee appreciated against the US dollar by 4.0 per cent. While the Russian Rouble appreciated against the dollar by 10.3 per cent and the South African Rand by 6.2 per cent, the Chinese Yuan and Malaysian Ringgit depreciated by 1.9 per cent and 2.9 per cent respectively against the US dollar.

6.33 One of the recent developments in exchange rate front is the unfair currency policies to compete in trade unfairly and the monitoring of currency manipulators by the US. The US Treasury’s focus is on the 12 largest trading partners of the United States which account for around 70 percent of the U.S. trade in goods which includes India. However, India is not in the monitoring list (Box 4).

6.34 During 2016-17, while on an average (on a y-o-y basis), the Indian rupee depreciated by 2.4 per cent against the US dollar, in terms of the nominal effective exchange rate (NEER) against a basket of 6 and 36 currencies, the rupee depreciated by 0.5 per cent and 0.1 per cent, respectively. However, in terms of the real effective exchange rate (REER) against a basket of 6 and 36 currencies, it appreciated by 2.7 per cent and 2.2 per cent, respectively in 2016-17. The 6-currency and 36-currency REER (Trade-based; Base year: 2004-05=100) appreciated by 7.6 per cent and 6.3 per cent, respectively as on March 2017 over March 2016. While the rupee has been one of the most stable currencies among EMEs, the appreciation of the REER indicates that India’s exports have become slightly less competitive (Figure 11).

Box 4. Monitoring of Currency Manipulators by the US

To monitor the currency manipulating countries, the US Treasury has established thresholds for the three criteria specified in the Trade Facilitation and Trade Enforcement Act of 2015 and the US Treasury under the new administration has kept the status quo in terms of the rules classifying foreign exchange manipulators. The first criterion is significant bilateral trade surplus with the United States (at least US\$ 20 billion), while the second is Country's current account balance as per cent of GDP (at least 3 per cent of GDP) and the third is persistent one-sided intervention in the foreign exchange market and a total of at least 2 per cent of an economy's GDP on a net of 8 over a 12 month period (US Treasury report April 2017). As per the Treasury report of 2017, no major trading partners met all the three criteria for the current reporting period. However, an economy meeting two of the three criteria in the 2015 Act will be placed in the Monitoring list. Though China does not meet two out of the three criteria, the Treasury tweaked the conditions, stating that countries that account for a large and disproportionate share of the overall US trade deficit would be retained in the monitoring list. Now, countries like China, Japan, Korea, Taiwan, Germany, and Switzerland are in the Monitoring List in 2017 and will remain in the list at least for two consecutive reports. India is not in the monitoring list as it comes only under the first criteria of trade surplus with USA of US\$ 24.3 billion which is marginally higher than the threshold of US\$ 20 billion (Table 10)

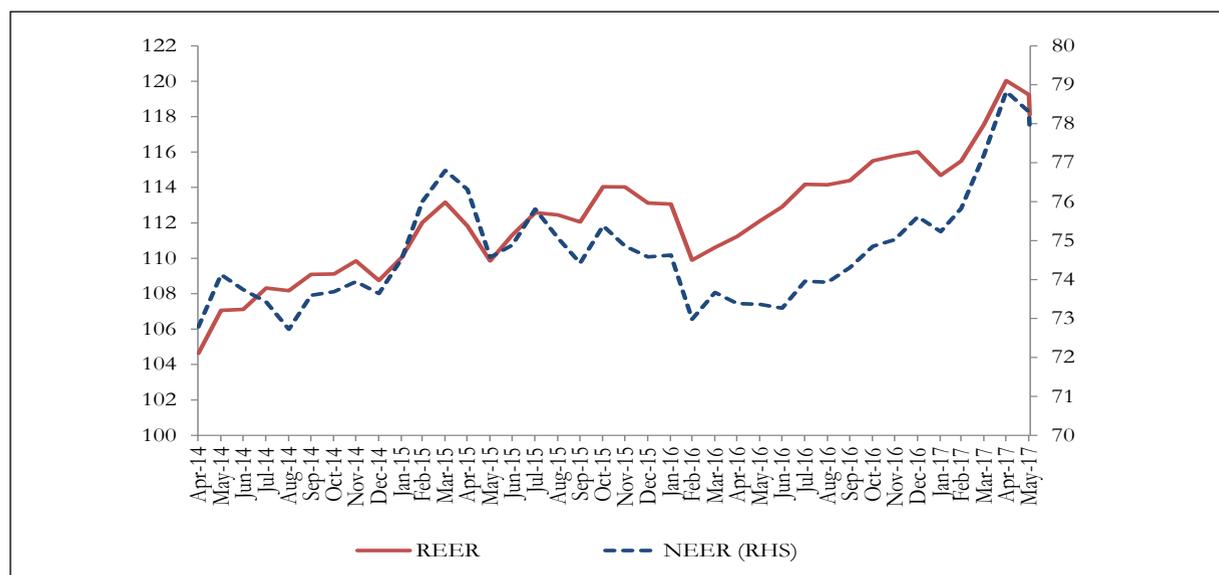
Table 10. Major Foreign Trading Partners' Evaluation Criteria by the US

Countries	Bilateral Goods Deficit (US\$ Billion, Trailing 4Q)	Current Account			Foreign Exchange Intervention		
		(Balance % of GDP, Trailing 4Q)	3 Year Change in Balance (% of GDP)	Balance (US\$ Billion, Trailing 4Q)	Net FX purchases (% of GDP)	Net FX purchases (US\$ Billion)	Net FX Purchases 8 of 12 Months
China	347.0	1.8	0.2	196	-3.9	-435	No
Japan	68.9	3.8	2.9	186	0.0	0	No
Germany	64.9	8.3	1.5	286	-	-	No
Mexico	63.2	-2.7	-0.2	-28	-0.5	-6	No
Italy	28.5	2.8	1.8	51	-	-	No
Korea	27.7	7.0	0.8	99	-0.5	-7	No
India	24.3	-0.5	2.1	-11	0.4	10	No
France	15.8	-1.2	-0.3	-30	-	-	No
Switzerland	13.7	10.7	-0.8	71	10.0	66	Yes
Taiwan	13.3	13.4	3.4	71	1.8	10	Yes
Canada	11.2	-3.3	-0.1	-51	0.0	0	No
United Kingdom	-1.1	-5.1	-1.1	-138	0.0	0	No
Memo : Euro Area	125.7	3.4	1.2	403	0.0	0	No

Source: Report to Congress, Foreign Exchange Policies of Major Trading Partners of the United States, April 2017, US Treasury Department.

Notes: Monitoring Criteria:

- Bilateral Trade Surplus with US (at least US\$ 20 billion)
- Current Account Balance (at least 3 per cent of GDP)
- Persistent one-sided intervention in the foreign exchange market and a total of at least 2 per cent of an economy's GDP on a net of 8 over a 12 month period

Figure 11. Movements in the Indices of NEER and REER (Trade based-36 currencies) 2004-05=100

Source: RBI

EXTERNAL DEBT

6.35 India's aggregate external debt stock at end-March 2017 stood at US\$ 471.9 billion registering a decline of US\$ 13.1 billion (2.7 per cent) over end-March 2016. Long term external debt at US\$ 383.9 billion at end-March 2017 registered a decline of 4.4 per cent over the end-March 2016 level while short term debt at US\$ 88.0 billion increased

by 5.5 per cent. The decline in external debt during 2016-17 was due to the fall in long-term external debt, particularly NRI deposits reflecting the redemption of FCNR (B) deposits (Box 5) and decline in commercial borrowings. The maturity pattern of India's external debt shows the predominance of long term borrowings at 81.4 per cent of total external debt at end-March 2017 (Table 11).

Table 11 Composition of India's External Debt

(per cent)

Sl. No.	Component	March 2015	March 2016 R	March 2017 P
1	Multilateral	11.0	11.1	11.5
2	Bilateral	4.6	4.6	4.9
3	IMF	1.2	1.2	1.1
4	Trade credit	2.7	2.2	2.1
5	Commercial borrowings	38.0	37.3	36.7
6	NRI deposits	24.3	26.2	24.8
7	Rupee debt	0.3	0.3	0.3
8	Long term debt (1 to 7)	82.0	82.8	81.4
9	Short term debt	18.0	17.2	18.6
10	Total external debt (8+9)	100.0	100.0	100.0

Source: RBI

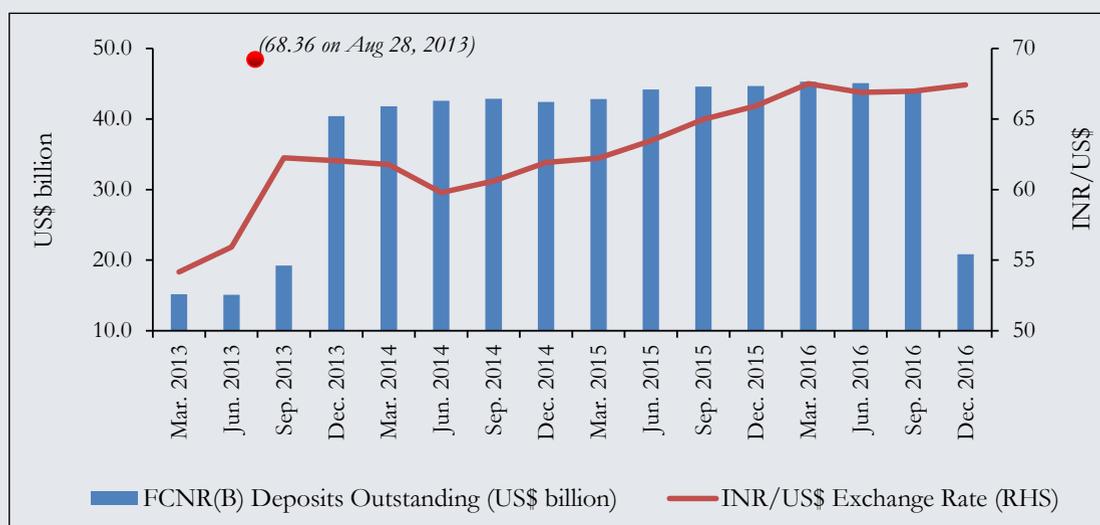
Note: R: Revised; P: Provisional.

Box 5. Redemption of FCNR (B) Dollar Funds

In May 2013, the US Fed's first indication of Quantitative Easing (QE) tapering caused sudden and large capital outflows from most emerging market economies (EMEs). These outflows caused downward pressure on EME-currencies, including India. In a span of three months since Fed's first indication of QE tapering, the exchange rate of the Indian rupee against the US dollar depreciated by around 19 per cent and recorded its lowest level of ₹68.36 on August 28, 2013.

Swap facility for FCNR (B) deposits: In order to rebuild buffers in the face of uncertainty regarding the global interest rate cycle and financial conditions, and contain the volatility in exchange rate, the RBI offered a window under a limited period special scheme (September 4–November 30, 2013) for the banks to swap the fresh FCNR(B) dollar funds with the RBI at a fixed cost of 3.5 per cent per annum, and increased their overseas borrowing limit from 50 to 100 per cent of the unimpaired Tier-I capital of banks (with the option of swap with the RBI). This resulted in capital inflows of US\$ 34.3 billion (both through FCNR (B) window and banks' overseas borrowing) under the swap facility, which helped in rebuilding foreign exchange reserves, and thus covering possible external financing requirements and concomitantly providing stability to the foreign exchange market. During the swap facility, India's external debt increased from US\$ 404.8 billion at end-June 2013 to US\$ 426.9 billion at end-December 2013 due to increase in FCNR (B) deposits (Chart 1). The swap facility for fresh FCNR (B) dollar funds mobilized was for a minimum tenure of three years. The outstanding FCNR (B) deposits which was at US\$ 15 billion at end-June 2013, increased to US\$ 40 billion at end-December 2013.

Chart 1. FCNR(B) Deposits Outstanding and Exchange Rate of Indian rupee vis-a-vis US dollar



Redemption of FCNR (B) dollar funds: The redemption of FCNR (B) dollar funds started in September–November 2016. In order to ensure smooth redemption of FCNR (B) deposits, the Reserve Bank frontloaded the liquidity provision through open market operations (OMO) and spot interventions/deliveries of forward purchases. During 2014–2016 whenever the intervention was on the buy side, a conscious effort was made to have an appropriate portion of the purchases in forwards to cover the scheduled outflows on account of FCNR(B) and OFCB (overseas foreign currency borrowings) swap maturities to avoid a sharp fall in foreign exchange reserves and also neutralize the impact on rupee liquidity. The liquidity impact was also managed by appropriately timing the OMO purchase. In 2014–15 and 2015–16, RBI made a net purchase of foreign assets to the tune of US\$ 54.8 billion and US\$ 10.2 billion respectively, so as to cover the outflows expected during the redemption period. In order to assure the market participants and discourage any volatility on account of large scale maturity of FCNR(B) and OFCB swaps, a press release was issued stating that these swaps are adequately covered by forward purchases. It was further informed that RBI is actively monitoring the on-going market developments and is ready to contain the associated market volatility, if any, in relation to completion of swap transactions as well as the concomitant changes in rupee liquidity. However, since forward purchases and the FCNR (B) swaps were not exactly synchronous in terms of maturity bands, the foreign exchange reserves witnessed significant accretions initially followed by a modest depletion during

the redemption period. This helped the RBI and Indian banking system in successfully redeeming the FCNR (B) funds during September-November 2016. Following the redemption, outstanding FCNR (B) deposits stood at US\$ 21 billion at end-December 2016, which also resulted in India's external debt stock falling by US\$ 29.0 billion (6.0 per cent) at end-December 2016 over the level at end-March 2016. The RBI maintained a comfortable foreign exchange reserves position throughout the year 2016 (Chart 2). Since the redemption period also partly coincided with the other adverse shocks such as uncertainty relating to post US presidential election results and demonetisation drive announced domestically, there was transitory downward pressure on the Indian rupee. However, Indian rupee has quickly recovered since December 2016, which strengthened further since February 2017 as foreign portfolio flows turned positive following the pro-reforms Union Budget and decisive outcome of States elections (Chart 3). Coupled with the above measures, a reduced current account deficit position and robust FDI inflows also helped in providing the cover for the outflows on account of the FCNR(B) deposits.

Chart 2. India's Foreign Exchange Reserves

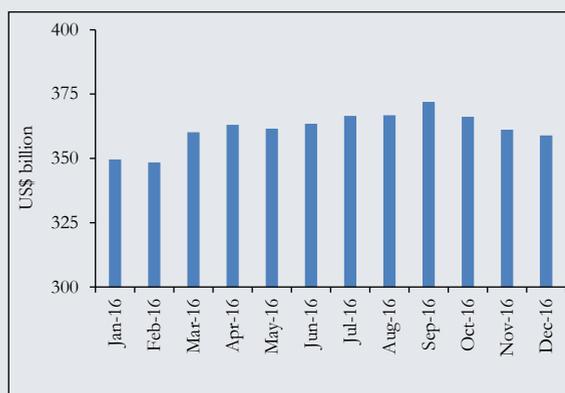


Chart 3. Exchange Rate of Indian rupee vis-a-vis US dollar



Source: RBI and Inhouse research

6.36 The currency composition of India's total external debt shows that the US dollar denominated debt accounted for 52.1 per cent of India's total external debt at end-March 2017, followed by the Indian rupee (33.6 per cent), SDR (5.8 per cent), Japanese Yen (4.6 per cent) and Euro (2.9 per cent). Government (sovereign) external debt was US\$ 95.8 billion with a share of 20.3 per cent and non-government external debt was at US\$ 376.1 billion at end-March 2017.

6.37 Over the years, the composition of the stock of India's external debt has undergone structural transformation. The proportion of concessional debt in total external debt has come down from an average 42.9 per cent during 1991-2000 to 11.7 per cent during 2011-2015 and to 9.3 per cent at end-March 2017. The share of non-government debt in total external debt increased from 45.3

per cent in the 1990s to 65.6 per cent in the decade of 2000s, and to an annual average of 80.1 per cent in the last five years with 79.7 per cent share at end-March 2017.

6.38 Most of the external debt indicators (Table 11) improved at end-March 2017 compared to end-March 2016 as given below.

- Outstanding external debt fell by 2.7 per cent (US\$13.1 billion) compared to a rise of 2.2 per cent in the previous year. Valuation loss due to depreciation of US dollar against the Indian rupee was US\$1.5 billion. Excluding valuation effect decline in external debt would have been higher at US\$14.6 billion instead of US\$13.1 billion.
- Ratio of external debt to GDP fell to 20.2 per cent from 23.5 per cent.
- Debt service ratio fell to 8.3 per cent

- from 8.8 per cent.
- Ratio of foreign exchange reserves to total debt increased to 78.4 per cent from 74.3 per cent.
- Ratio of concessional debt to total external debt increased to 9.3 per cent from 9.0 per cent.
- Short term debt (residual maturity) to total external debt fell to 41.5 per cent from 42.7 per cent. This is because the increase in short term debt (original maturity) was more than offset by the fall in FCNR (B) deposits reflecting their redemption.
- Short term debt (residual maturity) to forex reserves also fell to 52.9 per cent from 57.4 per cent.

- Only Short term debt (original maturity) to forex reserves increased marginally to 23.8 per cent from 23.1 per cent and short term debt (original maturity) to total external debt increased marginally to 18.6 per cent from 17.2 per cent due to rise in trade related credits.

6.39 India's prudent external debt management policies with emphasis on sustainability, liquidity and solvency have successfully limited the rise in the magnitude of external debt to a modest level. The composition of external debt also reflects a well-maintained longer maturity profile and is broadly balanced in terms of sources.

International Comparison

6.40 Cross country comparison of external debt indicates that India continues to be

Table 11. India's Key External Debt Indicators (per cent)

Year	2012-13	2013-14	2014-15	2015-16 R	2016-17 P
External Debt (US\$ billion)	409.4	446.2	474.7	485.0	471.9
Growth in External Debt (%)	13.5	9.0	6.4	2.2	-(2.7)
Total External Debt to GDP	22.4	23.9	23.9	23.5	20.2
Debt Service Ratio	5.9	5.9	7.6	8.8	8.3
Concessional Debt to Total External Debt	11.1	10.4	8.8	9.0	9.3
Foreign Exchange Reserves to Total External Debt	71.3	68.2	72.0	74.3	78.4
Short term External Debt ^a to Foreign Exchange Reserves	33.1	30.1	25.0	23.1	23.8
Short term External Debt ^a to Total Debt	23.6	20.5	18.0	17.2	18.6
Short term debt (Residual Maturity) to total debt	42.1	39.7	38.5	42.7	41.5
Short term debt (Residual Maturity) to foreign exchange reserves	59.0	58.2	53.5	57.4	52.9

Source: RBI

Note: R: Revised; P: Provisional a: Short term debt is based on original maturity.

Debt Service Ratio is the proportion of gross debt service payments to current account receipts (net of official transfers)

among the less vulnerable countries. India's key external debt indicators compare well with other indebted developing countries. Among the top ten developing debtor countries, India's external debt stock to gross national income (GNI) at 23.4 per cent was the fifth lowest and in terms of the cover provided by foreign exchange reserves to external debt, India's position was the sixth highest at 69.7 per cent in 2015. (Table 12)

6.41 The Quarterly External Debt Statistics (QEDS) database, jointly developed by the World Bank and the International Monetary Fund, shows that though India is the third largest debtor country among developing countries, the share of short term debt to total external debt is only 16.8 per cent and 18.4 per cent in 2016 Q3 (end-September) and 2016 Q4 (end-December), respectively compared to the top debtor country, China's 56.7 per cent and 56.4 per cent for these periods. Among the top debtor countries in the World, the US continues at the top as at end-December 2016, followed by the

UK, France and Germany. China is at 13th position, while India is at a distant 24th position.

CONCLUSION

6.42 Some green shoots have started to appear on the trade horizon with world trade growth projected at 3.8 per cent and 3.9 per cent in 2017 and 2018, India's exports continuing to be in positive territory for the fourth consecutive month in May 2017 and in double digits in April-May 2017 and all external sector indicators like reserves cover for imports, external debt to GDP ratio, foreign exchange reserve cover for external debt and debt servicing ratio being in comfort zone. However, rising trade deficits on the domestic front and rising protectionist tendencies on the global front are things to watch in the short term. Meanwhile there is a need for a well thought out strategy for India to reach a respectable share of at least 5 per cent in world exports which at present has been stagnating at 1.7 per cent from 2011 to 2016 with intermittent falls to 1.6 per cent.

Table 12. International Comparison of Top Ten Developing Debtor Countries, 2015

Sl. No.	Country	External Debt Stock to Gross National Income (per cent)	Debt Service Ratio (per cent)	Foreign Exchange Reserves to Total Debt (per cent)	Total External Debt Stock (US\$ million)
1	China	13.1	4.7	235.9	1,418,291
2	Bangladesh	18.6	4.1	69.9	38,640
3	Philippines	22.0	9.9	95.2	77,725
4	Pakistan	22.9	12.9	27.2	65,482
5	India	23.4	10.9	69.7	479,559
6	Brazil	31.3	38.1	65.2	543,399
7	Thailand	35.2	6.9	116.7	129,654
8	Peru	35.6	11.5	91.6	65,938
9	Indonesia	37.0	32.1	33.5	308,540
10	Mexico	37.5	13.2	40.7	426,334

Source: World Bank, International Debt Statistics, 2017

Note: Countries are arranged based on ratio of external debt stock to GNI.

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Agriculture and Food Management

“Agriculture not only gives riches to a nation, but the only riches she can call her own.”

– Samuel Johnson

The dual economy model of Sir Arthur Lewis explores the inter relationship between the agriculture and industrial sectors during the process of economic development of a country. Lewis model shows that economic development always entails movement of labour from agriculture sector to the more productive industrial sector and the agriculture sector becomes over time a less important part of the economy in terms of its share of GDP. However, the dual economy model does not undermine the significance of agriculture sector in developing economies. Development must happen along with rapid productivity growth in agriculture, ensuring rising farm incomes and adequate food supplies for the people.

INTRODUCTION

7.1 In India's growth story, there are reasons to focus attention on agriculture and allied sector, which will continue to play a significant role in providing employment and sustainable livelihoods for the growing population in India. However, the agriculture sector is characterised by instability in incomes owing to various types of risks related to production, markets and prices.

OVERVIEW OF AGRICULTURE AND ALLIED SECTORS

7.2 In the recent past, growth rates of agriculture have been fluctuating at 1.5 per cent in 2012-13, 5.6 per cent in 2013-14, (-) 0.2 per cent in 2014-15, 0.7 per cent in 2015-16 and 4.9 per cent in 2016-17 (PE). The uncertainties in growth of agriculture are explained by the fact that shocks

emanate mainly from deficiency in rainfall since 55 per cent of agriculture in India is rainfall dependent and there have been two consecutive years of less than normal rainfall in 2014-15 and 2015-16.

Area, Production and Yield

7.3 As a result of good monsoon during 2016-17, area sown under most crops increased in 2016-17. The largest increase was recorded under pulses which is around 43.66 lakh hectares (around 17.5 percent) more over 2015-16. The area coverage under tur, gram, urad and moong increased by around 36 per cent, 14 per cent, 24 per cent and 12 per cent respectively, over 2015-16. The area coverage under wheat and coarse cereals also increased by 2.97 lakh hectares to 307.15 lakh hectares and by 2.94 lakh hectares to 246.83 lakh hectares in 2016-17 compared to 2015-16 respectively. However,

**Table 1. Agriculture Sector –Key indicators
(per cent change at constant 2011-12 prices)**

Item	2012-13	2013-14	2014-15	2015-16	2016-17 (PE)
Growth in GVA in Agriculture & Allied Sectors #	1.5	5.6	-0.2	0.7	4.9
Share of Agriculture & Allied Sectors in total GVA at current prices #	18.2	18.6	18.0	17.5	17.4
Share of Agriculture & Allied Sectors in total Gross Capital Formation *	7.6	8.5	7.8	6.9	n.a.
Share of Crops*	6.4	7.1	6.4	5.7	n.a.
Share of Livestock*	0.7	0.8	0.8	0.7	n.a.
Share of Forestry and logging*	0.1	0.1	0.1	0.1	n.a.
Share of Fishing *	0.4	0.4	0.5	0.5	n.a.

Source: Central Statistics Office

Note: * in GVA of Agriculture and allied sectors; Calculations have been based on National Accounts Statistics, First Revised Estimates, 31st January 2017

Based on provisional estimates released on 31st May, 2017

there was a decline in the area under rice by 5.77 lakh hectares in 2016-17 as compared to the previous year.

7.4 As per the third Advance Estimates released on 9th May, 2017, (http://eands.dacnet.nic.in/Advance_Estimate/3rd_Adv_Estimates_2016-17_Eng.pdf) foodgrains production during 2016-17 is estimated at 273.38 million tonnes compared to 251.57 million tonnes during 2015-16. The total production of rice and wheat during 2016-17 is estimated at 109.2 million tonnes and 97.4 million tonnes respectively compared to 104.4 million tonnes (rice) and 92.3 million tonnes (wheat) in 2015-16. The production of pulses during 2016-17 is estimated at 22.4 million tonnes, sugarcane at 306.0 million tonnes, oilseeds at 32.5 million tonnes and cotton at 32.6 million bales of 170 kgs each. The percentage change in the yield of various crops in 2016-17 over 2015-16 shows an increase in all crops, except groundnut and sugarcane. The details of area, production and yield of different crops during 2016-17 are at Table 2 & Table 3.

7.5 The average yield of major crops has shown relatively higher growth over the decades in 1970-71 to 1990-91 (Table 3). The average yield of pulses registered negative growth rate during the period 1980-81 over 1970-71 and 2000-01 over 1990-91. The introduction of Bt. Cotton resulted in a spurt in yield of cotton during the period 2010-11 over 2000-01. The percentage change in average yields has been fluctuating as can be seen in Figure 1.

GROSS CAPITAL FORMATION IN AGRICULTURE AND ALLIED SECTOR

7.6 As per the Second Advance Estimates of National Income, released on 28th February 2017, growth in GVA in Agriculture & Allied Sectors (at 2011-12 prices) was 4.4 per cent in 2016-17. As per Provisional Estimates, it is 4.9 per cent in 2016-17 (as on 31.05.2017). The Gross Capital Formation (GCF) in Agriculture and Allied Sectors relative to GVA in this sector has been fluctuating from 16.6 per cent in 2012-13 to 16.3 per cent in 2015-16. The Gross

Table 2. Area, Production and Yield (2016-17*)

Group/ Commodity	Area (Million ha)	Percentage change (as compared to 2015-16)	Production (Million tonnes)	Percentage change (as compared to 2015-16)	Yield (kg/ha)	Percentage change (as compared to 2015-16)
Foodgrains ^a	127.6	3.55	273.38	8.67	2142	4.94
Rice	42.9	-1.33	109.15	4.54	2543	5.95
Wheat	30.7	0.98	97.44	5.58	3172	4.56
Jowar	5.1	-15.59	4.74	11.85	924	32.51
Maize	9.8	10.79	26.14	15.83	2679	4.55
Bajra	7.5	4.78	9.86	22.18	1319	16.60
Pulses	29.3	17.52	22.40	37.03	765	16.59
Gram	9.5	13.57	9.08	28.59	951	13.22
Tur	5.4	35.92	4.60	79.57	854	32.11
Oilseeds	26.5	1.45	32.52	28.80	1229	26.95
Groundnut	5.3	15.21	7.65	13.62	1445	-1.38
Rapeseed and Mustard	6.2	8.38	7.98	17.36	1281	8.29
Cotton ^b	10.8	-12.14	32.58	8.57	513	23.57
Sugarcane	4.5	-8.62	306.03	-12.17	68#	-3.89

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Note: *Third Advance Estimates; # tonnes/ha, 'a' Includes cereals and pulses; 'b' Million Bales of 170 kg each

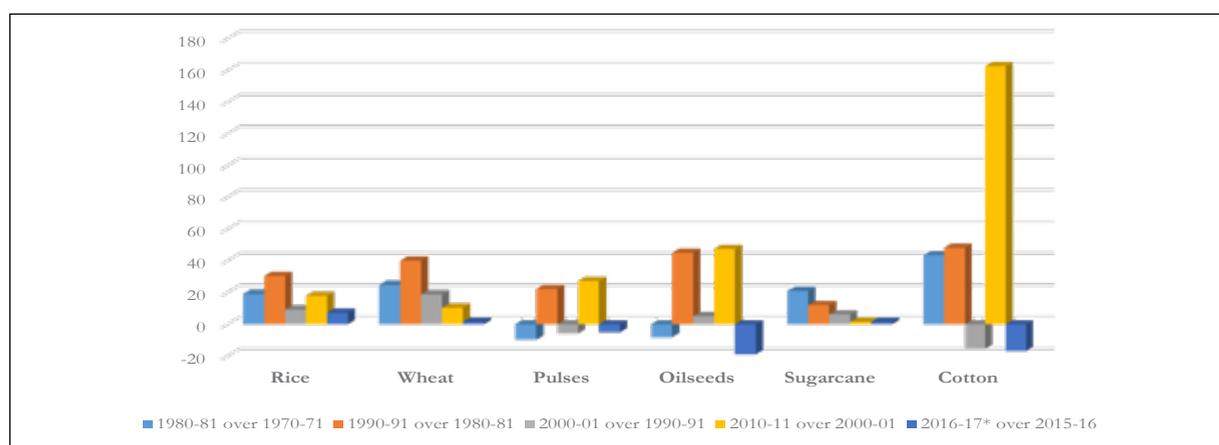
Table 3. Average Yields of Major Crops in India (kg/ha)

Crops	1970-71	1980-81	1990-91	2000-01	2010-11	2015-16	2016-17*
Rice	1123	1336	1740	1901	2239	2400	2543
Wheat	1307	1630	2281	2708	2989	3034	3172
Pulses	524	473	578	544	691	656	765
Oilseeds	579	532	771	810	1193	968	1229
Sugarcane (tonnes/ha)	48	58	65	69	70	71	68
Cotton	106	152	225	190	499	415	513

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Note: *Third Advance Estimates.

Figure 1. Percentage Change in Average Yields of major crops



Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Capital Formation (GCF) in agriculture as a proportion to the total GCF declined from 7.8 per cent in 2014-2015 to 6.9 per cent in 2015-16 at 2011-12 prices. As per the First Revised Estimates, the percentage share of GCF in agriculture & allied sector to GVA has also shown a declining trend from 17.3 per cent in 2014-2015 to 16.3 per cent in 2015-16 at 2011-12 prices (Table 4)

PATTERN OF AGRICULTURAL LANDHOLDINGS

7.7 The average farm size in India is small (1.15 ha) and has shown a steady declining

trend since 1970-71. The small and marginal land holdings (less than 2.0 ha) account for 72 percent of land holdings (Figure 2).

The predominance of small operational holdings is a major limitation to economies of scale in agriculture operations. Further, the small and marginal farmers have low bargaining power, since they have very little marketable surplus and are price takers in a market. The pre dominance of small operational holdings is a major limitation to reap the benefits of economies of scale in agriculture operations.

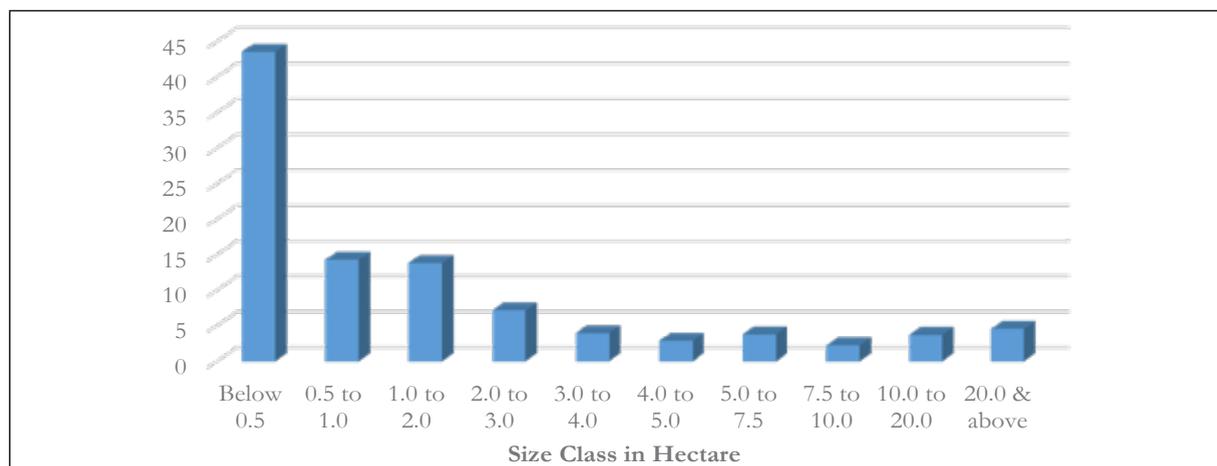
Table 4. GCF in Agriculture sector

Period	GCF in Agriculture & Allied Sectors (in ₹ Crore)			GVA in Agriculture & Allied Sectors (in ₹ Crore)	GCF in Agriculture & Allied Sectors as percentage of GVA of Agriculture & Allied Sectors		
	Public	Private	Total		Public	Private	Total
2011-12	35715	238717	274432	1501816	2.4	15.9	18.3
2012-13	36077	217201	253279	1524398	2.4	14.2	16.6
2013-14	33882	250252	284134	1609061	2.1	15.6	17.7
2014-15	36725	240711	277436	1604259	2.3	15.0	17.3
2015-16*	44852	218295	263147	1616461	2.8	13.5	16.3

Source: Central Statistics Office (CSO), M/o Statistics & Programme Implementation

*As per First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation 2015-16 (latest available) released on 31st January 2017

Figure 2. Percentage of Agricultural land holdings by size class



Source: DAC & FW, Agriculture Census 2010-11

PROFILE OF AGRICULTURAL HOUSEHOLDS

7.8 The median agricultural incomes (as measured by income from cultivation, net of cost and unsold produce valued at local market rates) at about ₹19,250 in 2012-13 or about ₹1600 per month, are still meagre (NSS, 2012-13).

Pattern of expenditure on productive assets by agricultural households

7.9 The percentage of monthly average household expenditure on productive assets shows that among the households that possess less than 0.4 hectares of land, almost 50 per cent of average expenditure is incurred on livestock and poultry (Table 5).

The marginal farmers as part of their income diversification strategy have productive assets like livestock and poultry. In a mixed (crop-livestock) farming production system, livestock can supplement incomes, provide replacement for manual labour, supplement nutritional needs and can also be used as collateral in times of financial distress.

Indebtedness among cultivator households

7.10 The indebtedness of households is an indicator of their vulnerabilities to shocks, poverty and economic insecurity. The data on indebtedness of cultivator households in India (Table 6) reflects the lack of economic security. The distribution of total rural household debts between the two categories

Table 5. Distribution of monthly average expenditure incurred on productive assets used for farm and non-farm business (in per cent)

Size class of land possessed (in hectares)	Farm business			Total	Non-farm business
	Livestock and poultry	Agricultural machinery and implements	Other productive assets		
<0.01	66.8	5.6	6.5	79.2	20.8
0.01-0.40	48.3	13.1	19.9	81.5	18.5
0.41-1.00	15.8	41.4	36.1	93.3	6.7
1.01-2.00	11.1	16.3	66.3	93.6	6.3
2.01-4.00	21.4	45.6	28.7	95.8	4.2
4.01-10.00	14.9	56.6	26.2	97.6	2.4
10.00+	6.0	45.8	46.4	98.2	1.8
All size	18.2	32.8	42.0	93.2	6.8

Source: NSS Report No. 576, Income, Expenditure, Productive Assets and Indebtedness of Agricultural Households in India, July 2012-June 2013

Table 6. Incidence of Indebtedness (IOI) and percentage share of outstanding debt by occupational categories of the households in recent rounds of AIDIS (1991, 2002 and 2012)

Year	Rural			
	Cultivator		Non-cultivator	
	IOI (%)	% of debt to total debt	IOI (%)	% of debt to total debt
1991	25.9	79.5	18.5	20.5
2002	29.7	73.3	21.8	26.7
2012	35.0	73.6	25.6	26.4

Source: NSS Report No.577, Household Indebtedness in India- All India Debt and Investment Survey

of households in the rural sector, namely, cultivators and non-cultivators, shows that 74 percent of the total debt in 2012 was accounted for by the cultivator households, declining from 80 percent in 1991. However, the percentage of cultivator households indebted increased to 35 per cent in 2012 from 26 percent in 1991 and is a cause for concern.

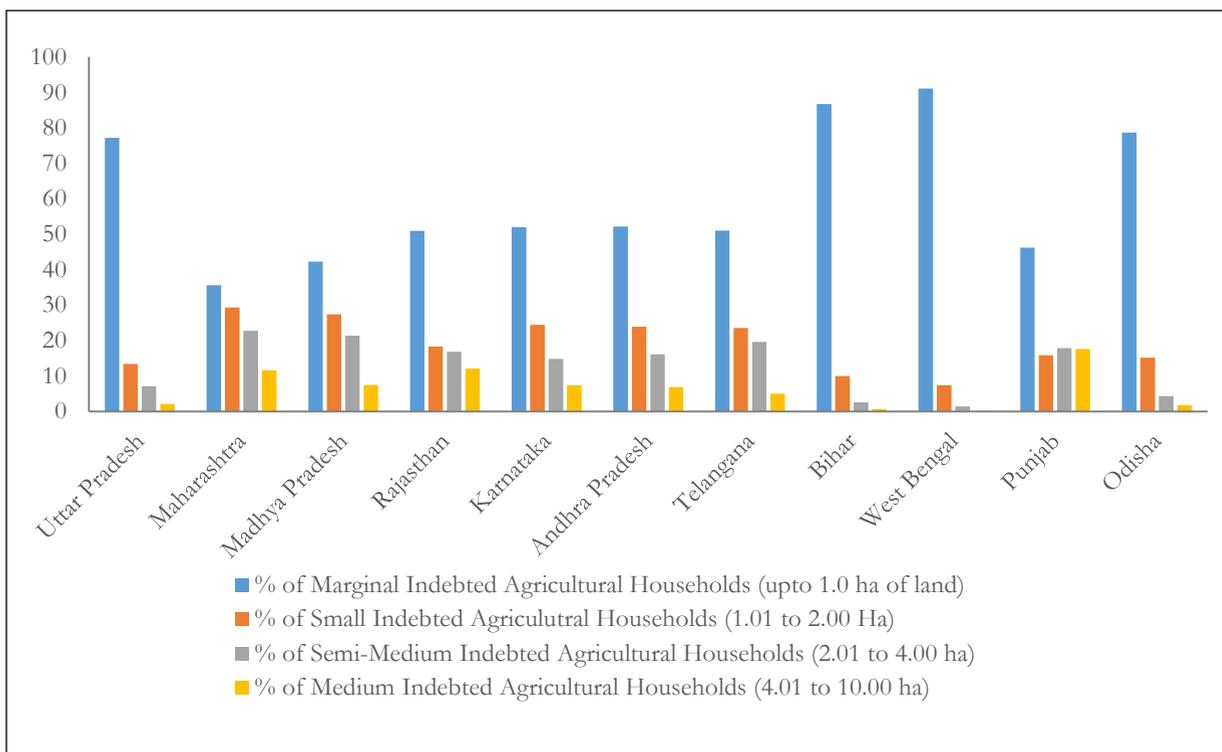
7.11 Further, the State level analysis of indebtedness among agricultural households based on the size of land holding possessed shows an inverse relationship between indebtedness and the size of land holding possessed by the agricultural households. In the States of Bihar and West Bengal, more than 80 percent of agricultural households with marginal land holdings are indebted. Indebtedness is lowest among the agricultural households with large size land holdings in all the States, as can be seen at Figure 3.

7.12 The pattern of agricultural holdings and the profile of agricultural households in India indicate that there is dominance of small farmers/small farm holdings in the agriculture sector, who are highly indebted and are vulnerable to shocks and poverty. In such a scenario, it is imperative to assess the various types of risks that farmers face in agriculture and suggest ways to reduce and mitigate risks to make agriculture an economic activity which will provide stable and sustainable incomes to the small farmers. The next section examines the various types of risks in agriculture.

RISKS IN AGRICULTURE

7.13 Agriculture, like other economic activity entails risks. Managing and reducing the risks in agriculture activities can increase the incomes, profitability, and ensure stable

Figure 3. Incidence of Indebtedness (Percentage of agricultural households) based on size of land possessed by agricultural households in select States and All India



Source: NSS Report No. 576, 2013

income flows to the farmers. In order to manage and reduce risks, there is need to analyze, categorize and address them. There are risks related to production owing to issues of inputs such as water management, market and price risks like sudden fall in prices due to bumper crop, as in the case of pulses last year, which are examined in the following section. The taxonomy of risks in agriculture is shown in Table 7.

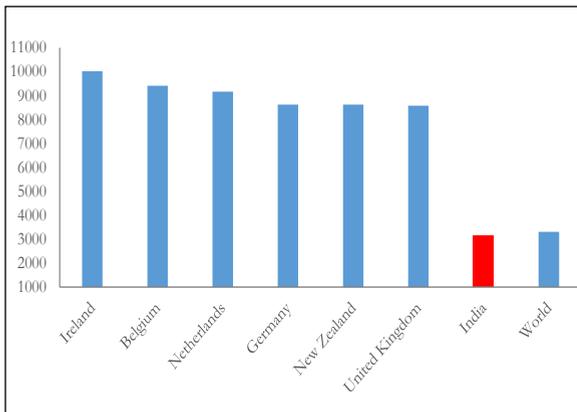
i. Production risks

7.14 The agriculture production is determined by factors like irrigation, availability of quality seeds and use/ overuse of fertilisers. The yield per hectare of wheat in India is less than the world average and less than one-third of the best performing nation, suggesting scope for significant improvement as a means to increase income of wheat farmers (Figure 4).

Table 7. Taxonomy of risks in agriculture

Type of Risks	Causes	Reasons for Severity	Suggested Solutions
Production risks	Pests, Diseases, Shortage of inputs like seeds/ irrigation	Low productivity, declining yield	Pest and disease resistant seeds, Free markets for inputs, Set and enforce standards for quality seeds
Weather and Disaster related risks	High share of rainfed agriculture, Low irrigation coverage, drought, flooding, hailstorm and unseasonal rains	Production loss, Lower than potential production	Increase share of irrigated agriculture, Restore and expand irrigation, especially small projects, Adopt outcome measure of performance such as level of water table, water management
Price risks	Lower than remunerative price	Absence of marketing infrastructure, Presence of and excessive profiteering by middlemen	Build marketing infrastructure along the value chain, Regime based on selective timely interventions
Credit risks	Predominance of informal sources of credit, money lenders, Lack of capital for short term and long term loans	Absence of stable incomes/ profits lead to defaults/ indebtedness	Increase availability of formal credit and institutional credit to farmers
Market risks	Changes in demand/ supply domestic or international	Loses market/ market share	Allow long term contracts for purchase on pre-determined prices, Start direct purchase from farmers by exempting Government purchases by PSU, Defence, Paramilitary etc.
Policy risks	Uncertain policies, regulations	Impact of Government policies, APMC Act and other regulations	Trade or policy changes to be announced well before sowing and to stay till arrivals and procurement is over

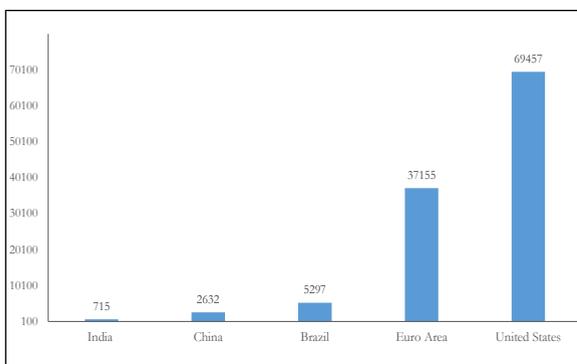
Figure 4. Comparison of Yields of Wheat (kg. /hectare)



Source: FAO Statistics

7.15 The overall agricultural labour productivity of India in terms of GVA per worker is less than a third of that in China and about 1 percent of that in the frontier countries (Figure 5).

Figure 5. Overall Agricultural Productivity: Still Very Far From Frontier (GVA per worker USD, 2005 prices)



Source: Food and Agriculture Organisation

Declining response ratio of inputs like fertilisers

7.16 The soil health is adversely impacted by the indiscriminate use of chemical fertilisers. The lower pricing of fertilisers by government has resulted in farmers resorting to larger use of fertilisers like urea. The skewed distribution of fertilizer subsidy, pricing policies, and the resultant imbalances in the use of fertilizer, require corrective measures to retain soil fertility. Towards

addressing these issues, the soil health cards initiative and the Direct Benefit Transfer (DBT) on fertilizer have been introduced on a pilot basis in selected districts, which are steps in the direction to correct distortions.

Skewed availability of certified quality seeds

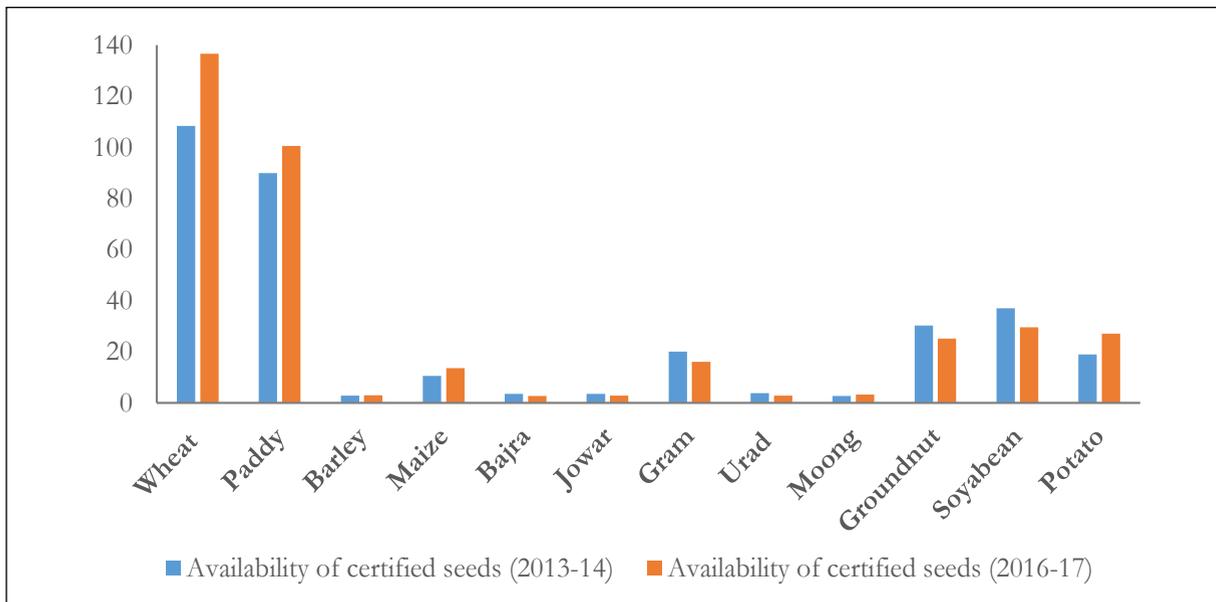
7.17 The availability of quality seeds is critical for higher productivity and yield in agriculture. The availability of quality seeds in the country has increased from less than 40 lakh quintals during the decade of 60s to 380.29 lakh quintals in 2016-17. The crop wise availability of certified seeds may be seen at Figure 6. The availability of pulses' certified/quality seeds for kharif 2017 is 10,53,814 quintals, an increase of 18.06 per cent more than that of kharif 2016.

ii. Weather related environmental risks and water stress

7.18 Water is the most critical input for agriculture and the risks associated with agriculture are directly proportional to water stress. In a scenario of water stress, cultivation of water intensive crops like sugarcane/cereal/grain need to be replaced by less water intensive crops like pulses and vegetables and shifting of water intensive crops to less water-stressed regions. The cost based water pricing can help to correct water stress and increase availability of water.

7.19 The water use efficiency in conventional irrigation ranges from 30 per cent to 50 percent against 80 per cent to 95 percent in the case of Micro Irrigation (MI) including drip irrigation. With MI system, irrigation costs across States have reduced by about 30 per cent and in case of fertilizer use, the saving is about 28 per cent in consumption in the surveyed states (PMKSY, 2015-pmksy.gov.in/microirrigation/Archive/August2015.pdf).

Figure 6. Crop wise Availability of Certified Seeds (in lakh quintals)

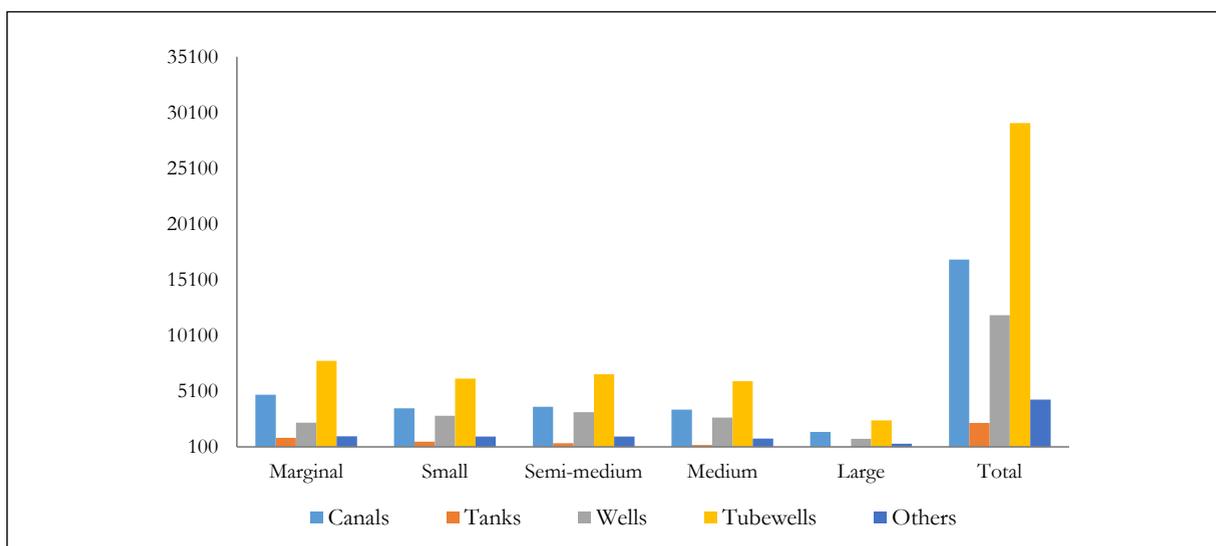


Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

7.20 The Benefit Cost (BC) ratio of installing MI (micro irrigation) system is greater than “1” across states and across crops, signifying the importance of MI systems in enhancement of the farmers net income. The BC ratio was the highest in Odisha for fruits and vegetables whereas, in flowers, Rajasthan and Haryana beneficiary farmers achieved higher BC ratio.

7.21 The area irrigated by different sources in India shows that tube wells are the most common source of irrigation across farm holdings, followed by canals (Figure 7). Both types of irrigation systems rely on flood irrigation and waste water, suggesting the need for systems efficient in the use of water like drip and sprinkler irrigation.

Figure 7. Area irrigated by different source of irrigation by size classes (ha)



Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Agro-meteorological Advisory Services (AAS)

7.22 To reduce weather/climate/environmental risks, the effective use of weather-climate forecasts along with crop model and advanced IT and communication can benefit the farming community. A study aiming to assess Economic Impact of AAS (Agro-meteorological Advisory Service (AAS), a mechanism to provide relevant meteorological and agricultural practices information to help the farmer improve agricultural production; (both in quantity and quality) carried out during 2003 to 2007 in 15 districts covering 3 kharif and 3 rabi seasons, concluded that the farmers saved significant quantity of farm inputs like seeds, water, pesticides and fertilizers, reaped better harvest and made their farming more profitable by using the AAS. In general there was a net gain ranging from 8 to 10 percent to farmers who used the information provided by the AAS system.

iii. Price Risks

7.23 The Indian farmer faces price uncertainties, for his produce in seasons during a year, across years owing to supply and demand fluctuations, speculation and hoarding by traders. The price risks emanating from an inefficient APMC market, are severe for farmers in India since they have very low resilience owing to the perishable nature of produce, inability to hold produce, hedge in surplus/shortage scenarios or to insure against losses.

7.24 The market price determined by demand and supply, gets impacted by surplus and shortages, however, the response of the farmer, impacted by expectations is only with a lag. In year/season 1, if there is a shortage of a crop, the market price increases but the farmer does not necessarily benefit because his output is low and the price increase in the market, takes place in the post procurement

sale/transaction. In year/season 2, based on higher price in the previous year/season (in the market and not necessary of the procurement) the farmers expectations soar and he alongwith other farmers, increases the sown area and so supply. The increases in output in year/season 2, result in oversupply and reduction/sharp reduction in prices, at times below the MSP and the farmer loses. In year 3, there is a curtailment of sown area and so supply reduces but price increases. The farmer is still not able to benefit from higher prices because of curtailed supply. A farmer in the above scenarios can benefit only if his pattern of sowing is contra-cyclical, akin to trading in the stock market, for which he needs to be educated. The farmer should adopt a stable pattern of sowing so that in the long run he receives the average price of the produce.

7.25 In this context, the progress in area sown under kharif crops till 07.07.2017 (latest available), (Table 8), reflects the early sowing pattern, including a decline in area coverage under arhar by 6 per cent compared to previous year. If this pattern stays the same, it may be attributed to the fall in prices of arhar in the previous season owing to bumper production. It may be premature to make a judgement since the sowing season is still in progress. However, it is essential to watch the trend in sowing of arhar and take timely measures to offload the buffer stocks if sowing declines to very low levels and results in shortage in the coming months.

7.26 There have been several reports of distress sale by farmers, especially of perishables including in the last few years of tomatoes in Odisha, Maharashtra and Tamil Nadu, coconuts in coastal Andhra Pradesh, potatoes in Andhra Pradesh, Punjab and West Bengal, onions in Maharashtra, Madhya Pradesh and Odisha. Earliest memories recall distress sale of cane sugar in 1978-79

in Western Uttar Pradesh. This compilation only intends to highlight that large expansion of output accompanied by normal demand, leaves little room for MSP operations to maintain the floor level of prices. Possible solutions lie in increasing food processing in

conventional and modern forms; staggering sowing and so outputs, an option only in irrigated areas; introduce seed varieties that have longer shelf life, take shorter time to mature, and can be planted in different seasons, soils and regions.

Table 8. Progress in Area sown under Kharif crops as on 07.07.2017

Sl. No.	Crops	Normal Area (DES)*	Normal of Corresponding week	Area Sown (in lakh hectares)		Percentage increase in area sown	
				2017-18	2016-17	Corresponding week	2016-17
1	Rice	395.94	86.70	79.81	75.28	-7.95	6.03
2	Pulses	105.58	22.00	44.11	35.88	100.53	22.92
a	Arhar (Tur)	39.25	9.11	14.25	15.10	56.37	-5.65
b	Urdbean	24.80	4.32	10.13	7.40	134.74	36.81
c	Moongbean	23.41	6.25	12.49	10.08	99.72	23.96
d	Kulthi	2.41	0.06	0.04	0.01	-33.33	-60.00
e	Other pulses	15.71	2.25	7.20	3.20	219.38	124.95
3	Coarse cereals	192.15	63.77	80.78	70.11	26.68	15.23
a	Jowar	23.46	6.94	6.21	7.19	-10.43	-13.59
b	Bajra	76.67	16.38	30.35	18.88	85.28	60.72
c	Ragi	11.73	1.73	1.36	1.46	-21.03	-6.62
d	Small millets	6.95	1.44	1.37	1.35	-5.16	1.65
e	Maize	73.34	37.28	41.49	41.23	11.28	0.64
4	Oilseeds	184.05	67.75	72.87	69.74	7.55	4.48
a	Groundnut	41.49	16.02	16.30	17.30	1.78	-5.79
b	Soybean	110.37	47.96	53.57	48.56	11.69	10.31
c	Sunflower	2.29	0.59	0.53	0.91	-10.69	-41.73
d	Sesamum	15.37	2.48	2.11	2.51	-14.93	-15.98
e	Niger	2.74	0.15	0.07	0.14	-56.02	-52.78
f	Castor	11.79	0.55	0.29	0.32	-46.55	-7.82
5	Sugarcane	50.05	45.00	47.93	45.22	6.52	5.99
6	Jute & Mesta	8.39	7.74	6.95	7.27	-10.20	-4.39
7	Cotton	122.45	71.70	71.82	67.89	0.17	5.78
	Total	1058.62	364.66	404.27	371.39	10.86	8.85

Source: Crops Division, Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Note: All figures are tentative and eye estimated by the States. *Normal Area- DES Avg. : 2011-2012 to 2015-2016

7.27 The Minimum Support Price (MSP) announced by the Government for 23 crops attempts to cover the price risks faced by the farmer. The MSP backed procurement of crops by government agencies, intends to benefit the farmers directly. However, the data on awareness of MSP and procurement among farmers as shown in Figure 8 suggests that the awareness of MSP and procurement operations is high only with regard to crops like paddy and wheat.

7.28 However, for an individual farmer who produces one or two crops, the benefits of MSP is more than offset since he consumes other crops also, for which he pays a higher price. In respect of the crop that he sells at MSP, in case he is a net buyer or a buyer at the margin, he ends up paying a higher price for the quantity purchased.

7.29 The entire focus of remunerating a

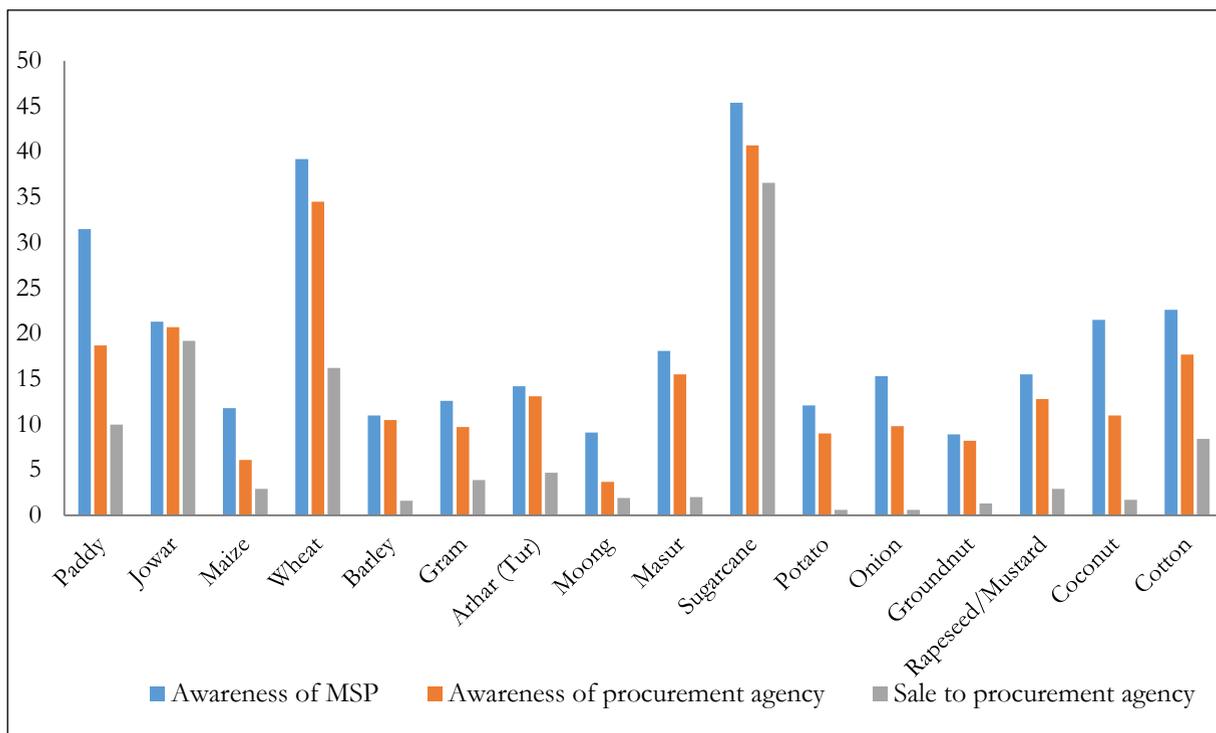
farmer with a higher income in the equation below is on increases in P. Previous section on production risk suggests large room for increasing Q. There is a need to shift the focus to Q and may entail a revisit on the present mechanism of CACP recommending MSP, on the assumption that input costs cannot be decreased and most, if not all increases in farmer income are to come from increases in P.

$$\text{Net Revenue} = \text{Price} \times \text{Quantity} - \text{Input Costs} \quad (\text{NR} = \text{P} \times \text{Q} - \text{IC})$$

Pulses procurement during 2017

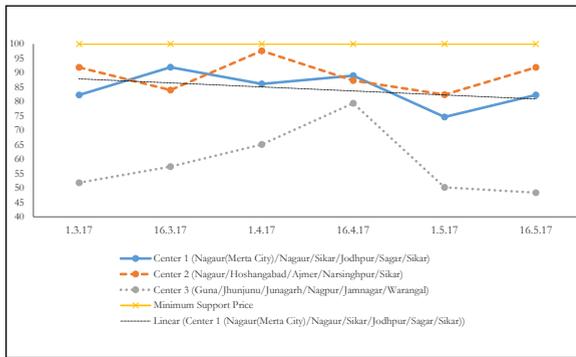
7.30 During the current year, despite significantly higher MSP for pulses and scaling up of pulses procurement to build a buffer stock close to 2 million, there were reports of sales below MSP in several markets during the procurement season as can be seen from the Figures 9 to 12 below.

Figure 8. Awareness of Minimum Support Prices (MSPs), Procurement operations and sale to procurement agency among agricultural households (in per cent)



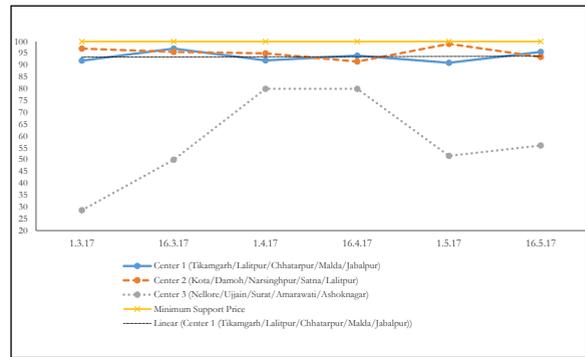
Source: NSS Report No. 573, Some Aspects of Farming in India, January 2013 to June 2013

Figure 9. Tur Modal Price (% of MSP)



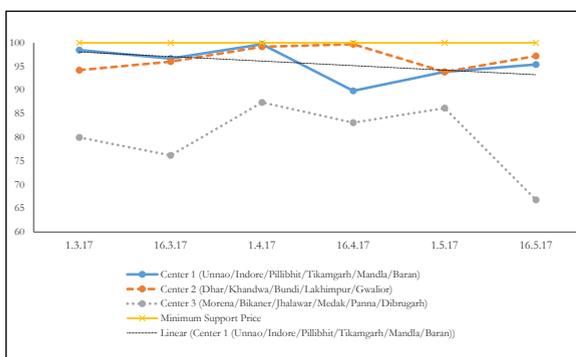
Source: Agmarknet

Figure 10. Moong Modal Price (% of MSP)



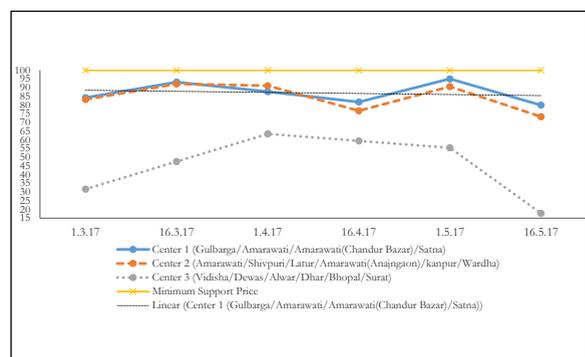
Source: Agmarknet

Figure 11. Urad Modal Price (% of MSP)



Source: Agmarknet

Figure 12. Wheat Modal Price (% of MSP)



Source: Agmarknet

7.31 Even in the case of wheat, there are reports of below MSP sales (Figure 12). This brings to the forefront the debate on the efficacy of MSP and procurement in respect of crops other than those for which there are NFSA commitments. Farmers need to be compensated for farming primarily because of inefficient markets for their inputs and outputs, which result in a high input cost and lower and volatile output price. To make farming remunerative, the delivery of inputs should be made cost effective through direct benefit transfer mode (DBT). Further, there are issues of procurement of perishables such as onions, potatoes and tomatoes for which timely disposal is necessary, and may be difficult for an agency to efficiently perform. After debating the same, support in the form of MSP for crops other than rice and wheat needs to be shifted to DBT format.

iv. Credit risks

7.32 Credit is an important mediating input for agriculture to improve productivity. Access to institutional credit enables the farmer to purchase inputs on cash, tide over periods till receipt of payment from sale of produce, which at times is delayed and staggered, and also to invest to enhance productivity and also output. Ground Level Credit (GLC) flow in absolute terms to agriculture has improved substantially over the years and stood at ₹9,59,826 crore (provisional) and the total number of agricultural loan accounts stood at ₹9.74 crore (provisional) as on 28 February 2017. Out of this, crop loan accounts stood at ₹8.09 crore (provisional). To improve agricultural credit flow, the credit target for 2017-18 has been fixed at ₹10, 00,000 crore as against ₹9,00,000 crore for 2016-17.

7.33 The predominance of informal sources of credit for farmers is a concern. As per the NSSO 70th round data (relating to January to December 2013), 40 per cent of the funds of farmers still come from informal sources. Local money lenders account for almost 26 per cent share of total agricultural credit. These borrowings are at significantly higher rates of interest. In addition to reducing the share of informal credit, there is a need to provide timely and affordable credit to the resource constrained group, the small and marginal farmer.

7.34 The ratio of agricultural credit to agricultural GDP has increased from 12 per cent in 2001-02 to around 40 per cent in 2016-17. The Government's priority to enhance capital formation in agriculture arrested the declining trend in the share of long term credit in agriculture over past few years in 2016-17, when it rose to 35 per cent. Towards this end, the corpus of Long Term Rural Credit Fund (LTRCF) of NABARD was increased to ₹15,000 crore in 2016-17.

7.35 The regional disparity in the distribution of agricultural credit also needs to be addressed. The coverage of agriculture credit is very low in the north-eastern and eastern regions of the country. Against the agricultural credit flow target of ₹ 8,737 crore in North Eastern Region (NER) for 2016-17, the achievement in terms of amount disbursed was only ₹4,756 crore (upto December 2016). The agricultural credit flow target for NER in 2017-18 has been fixed at ₹ 9,380 crore.

7.36 Crop Loans being short term in nature are meant to meet the current expenditure for raising crops on land till the crop is harvested and are for seasonal agricultural operations and do not result in major investments in agriculture. Under the Interest Subvention Scheme (ISS) in 2016-17, farmers availed crop loans up to ₹ 3 lakh at 7 per cent interest

and the effective rate of interest was lowered to 4 per cent for those who repaid their loans promptly.

v. Other risks (market and policy risks)

7.37 The market risks that arise in agriculture trade, both domestic and international are mainly due to uncertainty in the policies of agricultural trade and market policies pursued by the government from time to time. The agriculture markets under the Agricultural Produce Market Committee (APMC) Act of the State Governments, with around 2,477 principal regulated markets based on geography (the APMCs), and 4,843 sub-market yards are regulated by the respective APMCs. The posts in the market committee and the market board – which supervises the market committee are occupied by the politically influential, who enjoy a cosy relationship with the licensed commission agents, who in turn exercise monopoly power, at times by forming cartels. The farmers lose out in the APMC market dynamics.

7.38 There is need to remove all restrictions on internal trade on agricultural commodities and dismantle fragmented legislations that govern agriculture. At present, there are four legislations in existence/formulation to regulate agriculture markets,

- i. Model APMC Act, 2016 to replace the present state legislations on markets,
- ii. Agricultural Produce Trading (Development and Regulation) Act, 2017,
- iii. A law that would regulate contract farming and
- iv. A law/regulation that would regulate e-NAM.

7.39 Several legislations of the State and Centre ensure that the agricultural markets are fragmented and the benefits to the farmers remain low. The above legislations

need to be dismantled and move towards a Common National Agriculture Market as envisaged in the e-NAM initiative.

7.40 The perishable farm produce needs to be kept outside the purview of present APMC, Act/ proposed Model APMC, Act 2016 as has been stated in the Budget Speech (2017-18), in para 29, by the Finance Minister that, “Market reforms will be undertaken and the States would be urged to denotify perishables from APMC.” This will give opportunity to farmers to sell fruits and vegetables through the government created electronic trading portal and get remunerative prices.

Stock limits under the Essential Commodities Act (ECA), 1955

7.41 The stock limits imposed under ECA, 1955 end up curtailing demand for farm produce and so price. The analysis of the stock limits in select states indicates that a wholesaler is permitted a stock limit of around between 16 to 50 times in urban areas and between 10 and 80 times in other areas than the stock limits for the retailer, which is uniform for the entire year. This sharp difference needs to be rationalized by permitting the maximum limit commencing the sowing period till two months after procurement, to be gradually reduced to a ceiling of half. In the higher ceiling the farmer shall benefit due to higher demand and in the reduced ceiling the consumer shall benefit due to increased offloading. In contrast, requests for enhancing stock limits come when procurement process has commenced or is completed. However, the ideal situation relates to doing away with the stock holding limits along with the ECA, 1955 as envisaged in the ‘Removal of Licensing requirements, Stock limits and Movement Restrictions on Specified Foodstuffs Order, 2016,’ according to which all restrictions on permit/licensing requirements, stock limits and movement restrictions were to be removed.

High Yielding Variety (HYV) and Genetically Modified (GM) Seeds

7.42 An important measure that can reduce risk is the introduction of HYV and GM seeds that have been stuck in controversies over decades. Table 9 below suggests a matrix that can form a basis to resolve the same.

Table 9. Matrix on introduction of HYV and GM seeds

Sl. No	Issue	Tick
1	Terminator Gene	X
2	High cost	X
3	Disease and pest resistant	√
4	Moisture variation resistant	√
5	Resistant to soil variation	√
6	Longer shelf life	√
7	Shorter crop duration	√
8	Tree format of crop	√
9	Non food crops	√

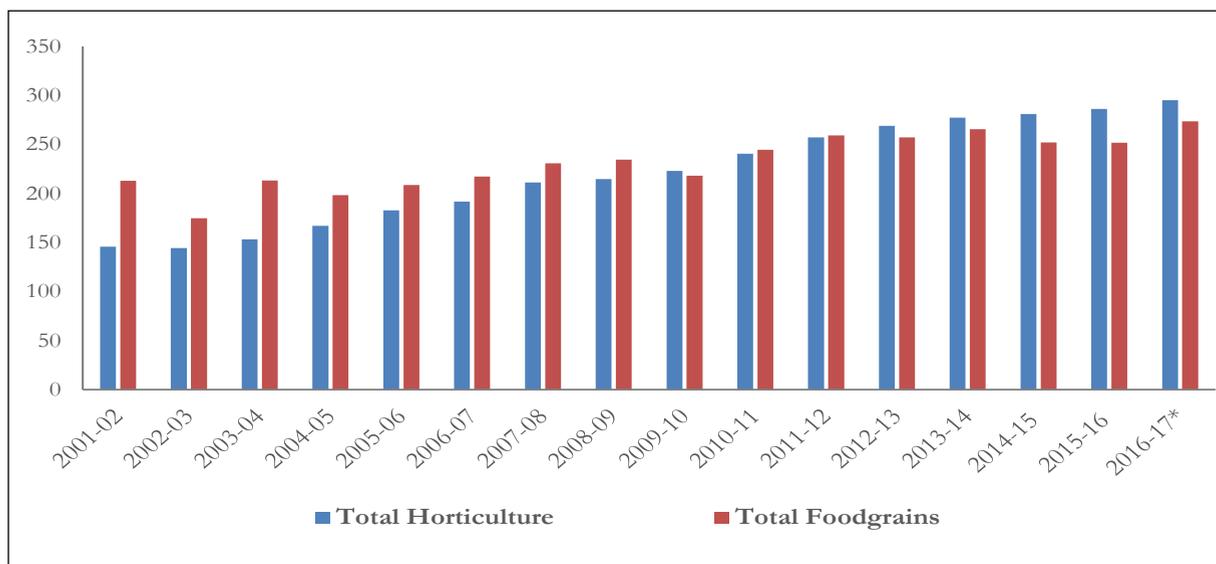
HORTICULTURE

7.43 India witnessed sharper increase in acreage of horticulture crops compared to foodgrains over the last five years (from 2012 to 2014-15). Between 2012 to 2014-15 there has been an increase of 10 per cent in horticulture production compared to an increase of 6 per cent in foodgrains. Since 2012-13, the production of horticulture has outpaced the production of foodgrains (Figures 13 & 14).

7.44 Over the last decade, the area under horticulture increased by about 3.1 per cent per annum and annual production increased by about 6 per cent. During 2015-16 the production of horticulture crops was about 286.2 million tonnes from an area of 24.47 million hectares.

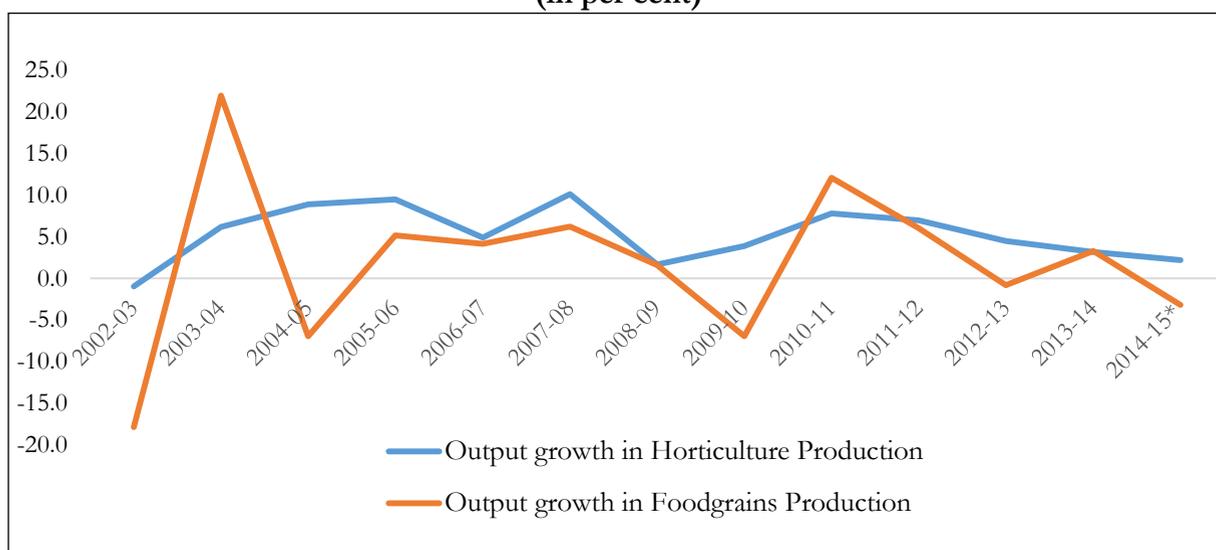
7.45 The production of fruits has increased from 28,632 thousand tonnes to 90,183 thousand tonnes and the production of vegetables has increased from 58,532

Figure 13. Production of Horticulture vis-à-vis Foodgrains (in Million Tonnes)



Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Figure 14. Growth rates in Horticulture production vis-a-vis Foodgrains production (in per cent)

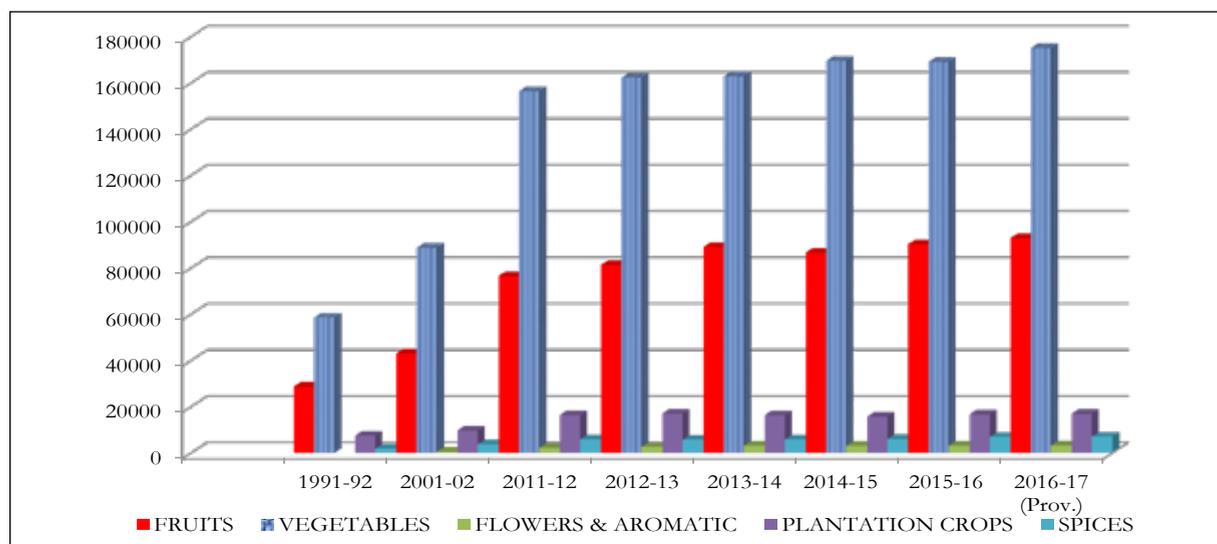


Source: Central Statistics Office

thousand tonnes to 1,69,064 thousand tonnes since 1991-92 to 2015-16 as depicted in Figure 15. Among the horticulture crops, vegetables constitute more than 50 per cent of total horticulture production. The export growth of fresh fruits and vegetables in terms of value is around 14 per cent and of processed fruits and vegetables is around 16 per cent. The vegetable and fruit segments

of the horticulture sector can be key drivers of agricultural growth and can be further developed by appropriate investments in harvesting, low cost storage facilities and processing technologies along with development of marketing infrastructure.

7.46 The key challenge that the horticulture sector faces in India are post harvest losses, availability of quality planting material and

Figure 15. Production of various Horticulture Crops (in Thousand Tonnes)

Source: Department of Agriculture, Cooperation and Farmers Welfare.

lack of market access for horticultural produce of small farmers. The combined wastage (harvest and post harvest) for horticulture crops between 5 to 15 per cent in the case of fruits and vegetables is very high, compared to the range of 5 to 6 per cent in the case of cereals, around 6 to 8 per cent for pulses and 5 to 10 per cent for oilseeds (CIPHET, 2015). During 2016-17, 7554 post-harvest infrastructure, 801 markets infrastructure were established under MIDH (Mission for Integrated Development of Horticulture), to reduce wastages which range between 5 to 16 percent in the case of horticultural crops.

7.47 The availability of quality planting material, specially processable and exportable varieties, has been another area of concern in the horticulture sector. Under MIDH, financial assistance is provided for setting up and modernization of nurseries, tissue culture labs, seed and planting material production, seed processing infrastructure and import of planting materials. To further step up the availability of quality planting material, the fund allocation for interventions related to planting material under MIDH has been enhanced to about 10 per cent from

this financial year along with accreditation of nurseries.

7.48 The majority of the horticultural producers are small and marginal farmers. This, along with high perishability of the produce, present challenges to marketing of horticultural produce. The weakness in the horticultural supply generally results into cyclical glut/shortages and price spike/troughs. To improve the market access for horticulture producers, several steps have been initiated under MIDH. The small and marginal farmers have been mobilized to form Farmer Producer Organisation (FPO)/ Farmer Interest Group (FIG). From this year, the FPO model – enabling FPOs to directly market their produce – is being implemented on pilot basis.

ALLIED SECTORS: ANIMAL HUSBANDRY, DAIRYING AND FISHERIES

7.49 In India's predominantly mixed crop-livestock farming system, dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income

generating opportunities particularly for marginal and women farmers. Most of the milk is produced by animals reared by small, marginal farmers and landless labourers. About 15.46 million farmers have been brought under the ambit of 165835 village level dairy corporative societies up to March 2015. Government of India is making efforts for strengthening the dairy sector through various Central sector Schemes like “National Programme for Bovine Breeding and Dairy Development”, National Dairy Plan (Phase-I) and “Dairy Entrepreneurship Development Scheme”.

7.50 India continues to be the largest producer of milk in world. Several measures have been initiated by the Government to increase the productivity of livestock, which has resulted in increasing the milk production significantly. During the years 2014-15 and 2015-16 the milk production registered an annual growth rate of 6.27 per cent. The per capita availability of milk is around 337 grams per day in 2015-16.

7.51 It is noteworthy that women have played a key role in the development of the dairy sector as producers, women cooperatives and in marketing. As per NDDDB, the annual growth rate of all women Dairy Cooperative Societies is about 10 per cent. Hence measures to enhance women’s involvement in the dairy projects of the government needs emphasis through appropriate mechanisms and fund allocation earmarked for specific gender components. There are approximately 43.8 lakh women producers of which 3.29 lakh are Management Committee Members (2013, NDDDB). Representation of women in Management Committees also needs to be increased.

7.52 The economics of livestock farming and the future of this source of livelihood depends on the terminal value of assets, in this case the no-longer-productive livestock.

If social policies drive this terminal value precipitously down, private returns could be affected in a manner that could make livestock farming less profitable. This declining terminal value arises both because of the loss of income from livestock as meat and the additional costs that will arise from having to maintain unproductive livestock. It is possible that social policies could affect social returns even more adversely. However, the cultural and social norms will influence to a great extent the behavior and choices made by the population.

7.53 The poultry production in India has taken a quantum leap in the last four decades, emerging from an unscientific farming practice to commercial production system with state-of-the-art technological interventions. The total poultry population in our country is 729.21 million (as per 19th Livestock Census) and egg production is around 82.93 billion during 2015-16 (Table 10). The per capita availability (2015-16) is around 66 eggs per annum.

Table 10. Production of Major Livestock Products and Fish

Year	Milk (Million tonnes)	Eggs (Millions Nos.)	Fish (Thousand tonnes)
1990-91	53.9	21101	3836
2000-01	80.6	36632	5656
2006-07	102.6	50653	6869
2007-08	107.9	53583	7127
2008-09	112.2	55562	7620
2009-10	116.4	60267	7914
2010-11	121.8	63024	8400
2011-12	127.9	66450	8700
2012-13	132.4	69731	9040
2013-14	137.7	74752	9572
2014-15	146.3	78484	10334
2015-16	155.5	82929	10795

Source: Department of Animal Husbandry, Dairying and Fisheries.

7.54 India is the second largest producer of

fish and also the second largest producer of fresh water fish in the world. Fish production has increased from 41.57 lakh tonnes (24.47 lakh tonnes for marine and 17.10 lakh tonnes for inland fisheries) in 1991-92 to 107.95 lakh tonnes (35.8 lakh tonnes for marine and 72.10 lakh tonnes for inland fisheries) in 2015-16.

FOOD MANAGEMENT

7.55 The main objectives of food management is procurement of foodgrains from farmers at remunerative prices, distribution of foodgrains to consumers, particularly the vulnerable sections of society at affordable prices and maintenance of food buffers for food security and price stability. The instruments used are Minimum Support Price (MSP) and Central Issue Price (CIP). The nodal agency which undertakes procurement, distribution and storage of foodgrains is the Food Corporation of India (FCI). Procurement at MSP is open-ended, while distribution is governed by the scale of allocation and its offtake by the beneficiaries. The offtake of foodgrains is primarily under the Targeted Public Distribution System (TPDS) and other welfare schemes of the Government of India.

7.56 To ensure adequate availability of wheat and rice in central pool, to keep a check on the open market prices, to augment the domestic availability and to ensure food security, the Central Government has taken following steps for prudent management of foodgrains stocks:-

- (a) Steps have been taken to maximize procurement of wheat and rice and MSP of wheat and paddy has been increased successively. (*Table on MSP fixed for main crops is at Appendix Table.*)
- (b) State Governments, particularly through the Decentralized Procurement (DCP) States are encouraged to maximize procurement of wheat and rice by taking

up procurement of paddy from farmers by State Agencies.

- (c) Strategic reserves of 5 million tonnes of food grains over the existing buffer norms has been maintained to be used in extreme situations.
- (d) Sale of wheat and rice was undertaken through Open Market Sale Scheme (OMSS) (Domestic) to check inflationary trend in food security.
- (e) Central Issue Prices (CIPs) of rice and wheat have not been revised since July, 2002.

Procurement of Foodgrains

7.57 Foodgrains, pulses and minor crops are procured at the Minimum Support Price (MSP) fixed by the Government. In the case of food grains, during Kharif Marketing Season (KMS) 2016-17, the procurement of rice/paddy is estimated to be 380.00 lakh tonnes of rice. Till 18.05.2017, a quantity of 359.58 lakh tonnes of rice has been procured. During the Rabi Marketing Season (RMS) 2016-17 (April 2016 to March 2017), 229.61 lakh tons of wheat was procured for the Central Pool against 280.88 lakh tonnes during RMS 2015-16.

Decentralised Procurement Scheme

7.58 The DCP has the objectives to ensure that MSP is passed on to the farmers, to enhance the efficiency of procurement of PDS and to encourage procurement in non-traditional States. The system enables extending the benefits of MSP to local farmers, to save on transit losses and costs and enables procurement of foodgrains more suited to local taste for distribution under the TPDS.

7.59 The DCP, introduced in 1997-98, is operationalised through food grains procurement and distribution by the State Governments themselves. Under this scheme, the designated DCP States procure,

store and issue foodgrains under TPDS and other welfare schemes of the Government of India. The Central Government undertakes to meet the entire expenditure incurred by the State Governments on the procurement operations as per the approved costing. While the Central Government monitors the quality of foodgrains procured under the scheme and reviews the arrangements made to ensure that the procurement operations are carried on smoothly, there have been instances of diversion of stocks. The States which are under DCP system are listed in the Table 11.

Table 11. States which adopted DCP system

Crops	States with Decentralised Procurement (DCP)
Rice	A&N Islands, Karnataka, Kerala, Odisha, Tamil Nadu, Andhra Pradesh, Telangana, Maharashtra, Jharkhand (for 1 district)
Wheat	Gujarat, Punjab, Rajasthan (in 9 Districts)
Rice/ Wheat	Bihar, Chhattisgarh, Madhya Pradesh, Uttarakhand, West Bengal

* Exempted for RMS 2017-18

Foodgrain stocking norms for the central pool (Buffer norms)

7.60 The main objectives of the foodgrain stocking Norms (Buffer Norms) is to meet the prescribed minimum stocking norms for food security, to ensure monthly releases of foodgrains for the TPDS/Other Welfare Schemes and to augment supply in eventualities like emergency situations arising out of unexpected crop failure, natural disasters etc. The Government of India has revised the Buffer Norms w.e.f. January, 2015 and the nomenclature of buffer norms has been changed to "Foodgrain Stocking Norms for the Central Pool". The Government has revised the norms for better management of foodgrain stocks. The minimum stocking norms of foodgrains in the Central Pool with effect from January, 2015 are as follows:

Table 12. Minimum Stocking norms of food grains (in million tonnes)

As on	Rice	Wheat	Total
1st April	13.58	7.46	21.04
1st July	13.54	27.58	41.12
1st Oct	10.25	20.52	30.77
1st Jan	7.61	13.80	21.41

Source: Department of Food and Public Distribution

7.61 The above norms include a Strategic Reserve of 30 lakh tonnes of wheat and 20 lakh tonnes of rice.

National Food Security Act, 2013 (NFSA)

7.62 The National Food Security Act, 2013 (NFSA) is an important initiative for food security of the people. With a view to make receipt of foodgrains under TPDS a legal right, Government of India has enacted NFSA which came into force w.e.f. 5-7-2013. The Act provides for coverage of upto 75 per cent of the rural population and upto 50 per cent of the urban population for receiving subsidized foodgrains under Targeted Public Distribution System (TPDS), at Rs.1/2/3 per kg for coarse grains/wheat/rice respectively at 35 kg per family per month to households covered under Antyodaya Anna Yojana (AAY) and at 5 kg per person per month to priority households.

7.63 The Act is now being implemented in all the States/UTs, covering 80.54 crore persons, against the total targeted coverage of 81.35 crore persons. In Chandigarh, Puducherry and urban areas of Dadra & Nagar Haveli, the Act is being implemented in the cash transfer mode, under which food subsidy is being transferred into the bank accounts of beneficiaries who then have a choice to buy foodgrains from open market. There is a case for expanding the cash transfer to other states also.

7.64 During the Financial Year 2016-17, ₹2500 crore has been released to State

Governments as Central assistance to meet the expenditure incurred on intra-State movement of foodgrains and fair price shop dealers' margins. Such an arrangement has been made for the first time under the NFSA. Earlier, States/UTs were required to meet this expenditure or they could pass it on to beneficiaries (except AAY beneficiaries).

Allocation of foodgrains under NFSA/TPDS

7.65 As on 1st November, 2016, NFSA has been implemented in all the 36 States/UTs and they are receiving monthly allocation of foodgrains under NFSA. The States/UTs which had not implemented NFSA, 2013 were receiving foodgrains under erstwhile TPDS at 35 kg per family per month for AAY and BPL families and at 10-35 kg per family per month for APL families as per March, 2000 population estimates of Registrar General of India and 1993-94 poverty estimates of erstwhile Planning Commission. During the year 2016-17, Government of India allocated 628.91 lakh tonnes of foodgrains to States/UTs/Welfare Institutions, etc. (Table 13).

Table 13. Food grains allocation under NFSA/ Non-NFSA

Sl. No.	Category	Quantity (in lakh tonnes)
1.	Non-NFSA	29.27
2.	NFSA	513.45
3.	Addl.APL/BPL Allocation	1.87
4.	Festival calamity etc.	29.03
5.	Other Welfare schemes	55.29
Total		628.91

Source: Department of Food & Public Distribution

Open Market Sale Scheme (Domestic)

7.66 In addition to maintaining buffer stocks and for making a provision for meeting the requirement of the TPDS and other

Welfare Schemes, FCI on the instructions from the Government sells excess stocks out of Central Pool through Open Market Sale Scheme (Domestic) (OMSS-D) in the open market from time to time at predetermined prices to achieve the following objectives:-

- To enhance the supply of food grains especially during the lean season and thereby to have a healthy and moderating influence on the open market prices.
- To offload the excess stocks in the Central Pool and to reduce the carrying cost of food grains to the extent possible.
- To save the food grains from deteriorating in quality and to use food grains for human consumption.
- To release valuable storage space for stocks procured during the ensuing marketing season of wheat/rice.

Sale of wheat and rice under OMSS (domestic) during 2016-17

7.67 A target of 65-75 lakh MT was set for sale of wheat by FCI out of Central Pool under OMSS-D during 2016-17. A target of 20 lakh MT of Grade 'A' rice was also kept for sale under OMSS (D) during 2016-17. The reserve for the sale of wheat under OMSS (D) in 2016-17 to private bulk buyers/traders was kept as ₹1640 per quintal. For sale from the depots of FCI outside surplus procuring States of Punjab, Haryana and Madhya Pradesh, freight/road transport charges upto the concerned depots of FCI, ex-Ludhiana were to be added in this reserve price. For sale under dedicated movement, the handling and transportation charges from FCI depot to the loading in Railway rake were also added in the reserve price. The overall reserve price for sale of Grade 'A' rice under OMSS (D) was kept at ₹2400 per quintal for 2016-17. The quantities of wheat and rice sold under the OMSS (D) during the last 5 years are at Table 14.

**Table 14. OMSS (Domestic)
(Qty. in lakh MT)**

Year	Wheat	Rice
2012-13	68.67	0.99
2013-14	61.16	1.68
2014-15	42.37	*NIL
2015-16	70.77	1.11
2016-17	45.67	1.78

Source: Department of Food & Public Distribution

Note: * Sale of rice was not conducted in 2014-15

Food Subsidy

7.68 The provision of minimum nutritional support to the poor through subsidized foodgrains and ensuring price stability in different states are the twin objectives of the food security system. In fulfilling its obligation towards distributive justice, the Government incurs food subsidy. While the economic cost of wheat and rice has continuously gone up, the issue price has been kept unchanged since 1st July, 2002. Due to implementation of NFSA, CIP has further gone down for APL and BPL categories. The Government, therefore, continues to provide large and increasing amounts of subsidy on food grains for distribution under the TPDS/NFSA and other nutrition-based welfare schemes and open market operations (Table 15).

**Table 15. Quantum of food subsidies released
by Government**

Year	Food Subsidy (₹ in crore)	Annual growth (in per cent)
2010-11	62,929.56	8.05
2011-12	72,370.90	15.00
2012-13	84,554.00	16.83
2013-14	89,740.02	6.13
2014-15	1,13,171.16	26.11
2015-16	1,34,919.00	19.22
2016-17	1,05,672.96	-21.68
2017-18*	69,273.00	

Source: Department of Food & Public Distribution

Note: *Figures as on 08.05.2017

THE WAY AHEAD

7.69 The response to the agrarian distress needs to be addressed by increasing the productivity, mainly by increasing the coverage of water saving irrigation systems like micro irrigation systems and routing inputs through direct benefit transfer mode in a crop neutral manner. The progress needs to be evaluated in terms of outcomes such as catching up with global yields as a means to increase income of farmers. The dissemination of scale neutral technology suited to small scale farming and use of IT is necessary to improve the productivity of small farm holdings which dominate the Indian agriculture sector. The controversies on the adoption of HYV and GM seeds need to be resolved and extended to all crops, not just mustard.

7.70 To address the agrarian concerns, the primary among the changes required is to allow a greater role for market forces; recognizing that market does not necessarily have a physical form.

7.71 The stock limits imposed under ECA, 1955 end up curtailing demand for farm produce and so price. There is need to lift all restrictions on permit/licensing requirements, stock limits and movement restrictions alongwith the laws on which they are based.

7.72 The challenge of enhancing access to formal and institutional credit for farmers for long term investments needs to be addressed. Providing timely and affordable credit to the small and marginal farmers is the key to inclusive growth.

Industry and Infrastructure

A higher industrial growth supported by well-connected infrastructure facility is vital for India to maintain the momentum of higher sustainable economic growth. Moderation of industrial growth in 2016-17 can be attributed to decelerated global economic growth, twin balance sheet problem and depressed private investment cycle. Meanwhile, the eight core infrastructure supportive industries have achieved reasonable growth in the same period. The Government has initiated a number of measures in crucial sectors to accelerate higher manufacturing growth and create jobs for millions. The Government's commitment to provide qualitative physical infrastructure has been reflected in global ranking of the World Bank's 2016 Logistics Performance, where India jumped to 36th rank in 2016 from 58th rank in 2014. Although initiatives are being taken for bringing well-structured infrastructure projects, yet some issues continue to constrain the development of road, railways, port, civil aviation, telecom and power sector etc. It is some of these challenges that are discussed in the chapter. The chapter has also attempted to make an initial assessment of the programme Ujwal DISCOM Assurance Yojana (UDAY) in addressing some of the problems with the power sector.

TRENDS IN INDUSTRIAL SECTOR

8.1 The Industrial sector in India, including construction, is an important contributor to the growth with the sector accounting for 31.1 per cent of the total Gross Value Added (GVA) in 2016-17. A strong and a robust industrial and manufacturing sector helps in promoting domestic production, exports and employment, all of which can be catalysts for higher growth in the economy.

8.2 As per latest Central Statistics Office provisional data, the overall growth of GVA for 2016-17 is estimated at 6.6 per cent, and the industrial performance has declined from 8.8 per cent during 2015-16 to 5.6 per cent in 2016-17 (Table 1). This is against the

background of decelerated overall global economic activity.

8.3 The slowdown of manufacturing sector of the economy can be attributed to the Twin Balance Sheet (TBS) problem (Economic Survey 2016-17 Vol I, Ch.4). The TBS refers to impaired balance sheets of public sector banks due to higher Non-Performing Assets (NPAs) and precarious financial position of corporates slowing down credit offtake, thereby leading to a further slowdown in Gross Fixed Capital Formation (GFCF) and hence industrial growth. Credit to industry in 2016-17 has contracted by 1.6 per cent, while GFCF has slowed down to 2.4 per cent in 2016-17 as compared to 6.5 per cent last year.

Table 1. Gross Value Added Growth Rate at Constant Prices (per cent) 2011-12

	2015-16	2016-17
Industry	8.8	5.6
<i>of which</i>		
Mining & quarrying	10.5	1.8
Manufacturing	10.8	7.9
Electricity, gas, water supply & other utility services	5.0	7.2
Construction	5.0	1.7

Source: CSO

8.4 However, industrial growth when seen in terms of Index of Industrial Production (IIP) which is the lead indicator of industrial activity shows positive growth (Table 2). As per the new series of 2011-12, overall IIP grew at 5.0 per cent in 2016-17 as compared to 3.4 per cent last year. The growth for April-May 2017-18 has been 2.3 per cent.

Table 2. Growth as per Index of Industrial Production (per cent) (Base Year 2011-12)

	2015-16	2016-17
IIP General	3.4	5.0
Mining	4.3	5.4
Manufacturing	3.0	4.8
Electricity	5.7	5.8
Use Based Classification		
Primary Goods	5	4.9
Capital Goods	2.1	3.2
Intermediate Goods	1.5	3.4
Construction/Infrastructure Goods	2.8	3.9
Consumer Durable Goods	4.2	5.1
Consumer Non-Durable Goods	2.7	8.5

Source: CSO

Table 3. Comparison of Index of Industrial Production growth rates (Base year 2004-05 and 2011-12)

	General		Mining		Manufacturing		Electricity	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
2012-13	1.1	3.3	-2.3	-5.3	1.3	4.8	4.0	4.0
2013-14	-0.1	3.4	-0.6	-0.1	-0.8	3.6	6.1	6.1
2014-15	2.8	4.0	1.5	-1.4	2.3	3.9	8.4	14.8
2015-16	2.4	3.4	2.2	4.3	2.0	3.0	5.7	5.7
2016-17	0.7	5.0	2.2	5.4	0.0	4.8	4.7	5.8

Source: CSO

8.5 With the new base year of 2011-12, there has been an upward revision in IIP growth rates (Figure 1). The two series do not move in the same direction and show a contrasting trend in 2016-17 growth rates. In 2016-17 Q1, the new series showed a rise in growth to 7.8 per cent, while the old series showed deceleration to 0.7 per cent. The new series captured the slowdown in industrial growth in Q3 and Q4 post demonetization, while the old series showed an acceleration in growth in the same period. The improved data is a

reflection of expansion of the item basket, the frame of factories and revision of weights in the new IIP series.

8.6 Divergence between GVA (Manufacturing) and IIP (Manufacturing) has reduced with the new series as can be observed from Figure 2. It is also important to note that the difference between GVA (Manufacturing) and IIP (Manufacturing) has reduced to about 3 percentage points as compared to 8 percentage points earlier.

Figure 1. Comparison of growth rates between Index of Industrial Production (General) 2004-05 and Index of Industrial Production (General) 2011-12

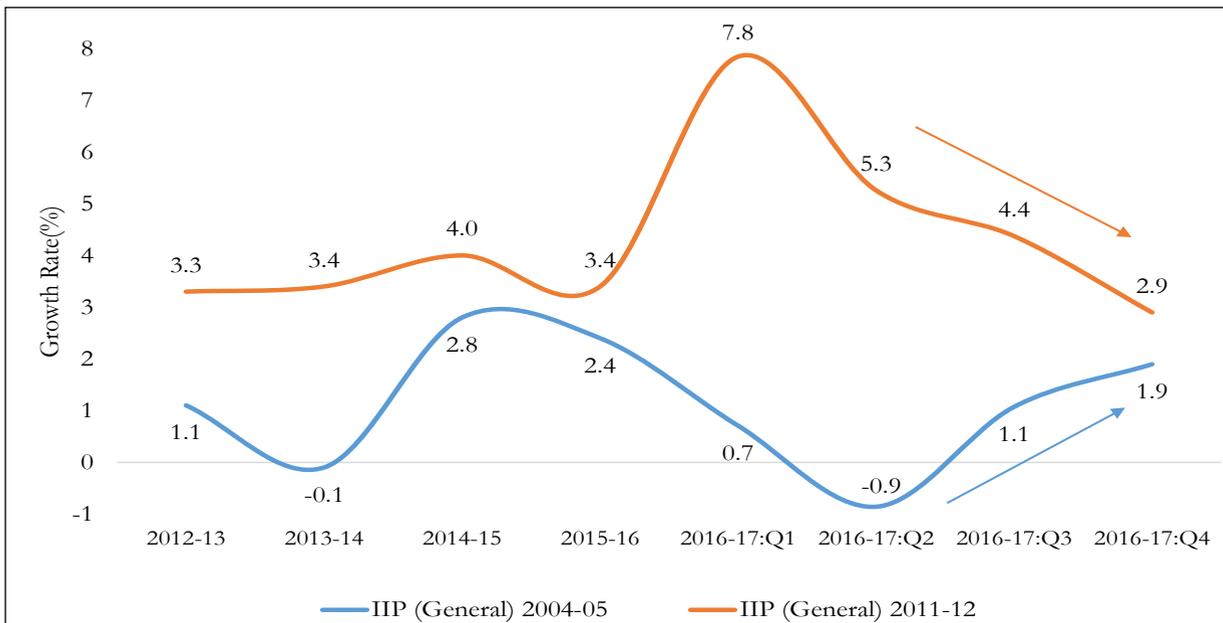
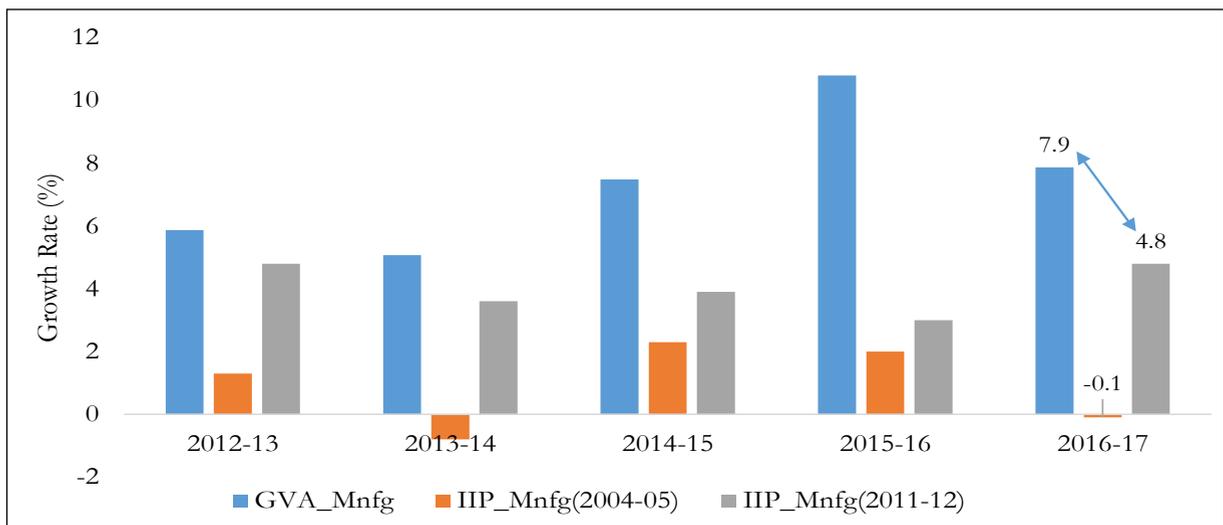


Figure 2. Comparison of Gross Value Added (Manufacturing) and Index of Industrial Production (Manufacturing)



Source: CSO

PERFORMANCE OF THE EIGHT CORE INDUSTRIES

8.7 The industries covered in the Index of Eight Core are namely Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. The Base Year of the Index of Eight Core Industries has been revised from the year 2004-05 to 2011-12 from April, 2017 in line with the new base

year of Index of Industrial Production (IIP). The Index of Eight Core Industries growth during 2016-17 was 4.8 per cent as compared to 3 per cent in 2015-16 (Table 4). The first two months of 2017-18 has shown a growth of 3.2 per cent. The revised Eight Core Industries have a combined weight of 40.3 per cent in the IIP. Performance of some of the critical sectors is discussed in detail in the chapter subsequently.

Table 4. Growth Rates of Eight Core Industries (Base Year 2011-12) (per cent)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17
Coal	10.3	3.2	1.0	8.0	4.8	3.2
Crude Oil	8.9	-0.6	-0.2	-0.9	-1.4	-2.5
Natural Gas	6.8	-14.4	-12.9	-5.3	-4.7	-1.0
Refinery Products	28.0	7.2	1.4	0.2	4.9	4.9
Fertilizers	2.6	-3.3	1.5	1.3	7.0	0.2
Steel	17.9	7.9	7.3	5.1	-1.3	10.7
Cement	5.4	7.5	3.7	5.9	4.6	-1.2
Electricity	19.9	4.0	6.1	14.8	5.7	5.8
Overall Index	100.0	3.8	2.6	4.9	3.0	4.8

Source: Office of the Economic Adviser, DIPP

Box 1. Changes in new IIP series 2011-12

The basket of goods for Index of Industrial Production has been revised from the base year of 2004-05 to 2011-12. The methodological changes introduced are summarised as below:

The IIP in the new series consists of three sectors i.e. Mining, Manufacturing and Electricity. The new basket consists of 407 item groups with 259 item groups common with the old basket. The weights for the new series at the sectoral level have been calculated using the GVA figures from National Accounts Statistics (NAS) with base year 2011 – 12. Table 1 shows the comparative weights for two base years at sectoral level.

Table 1. Weights of the New and Old Series of IIP

Sector	Base Year 2004-05	Base Year 2011 - 2012
	Weight (%)	Weight (%)
Mining	14.2	14.3
Manufacturing	75.5	77.6
Electricity	10.3	7.9
Total	100	100

In the revised IIP basket, data on a total of 109 item groups have been collected in value terms rather than in quantities. This is done so as to avoid jumps in data since many of these products have a life span of greater than one month. Such items have been classified as 'work under progress'. The value data collected for these item groups have been deflated using the Wholesale Price Index (WPI) 2011-12 in absence of a Producers Price Index. The Use based classification has replaced Basic Goods with Primary Goods. A new category named Infrastructure/ Construction Goods has been introduced. Weights of the new use based classification as compared to the old one are shown in Table 2.

Table 2. Weights for the New and Old Use Based Classification

	Base Year 2004-05		Base Year 2011-12		Weights (%)
	Item Groups	Weights (%)	Item Groups	Weights (%)	
Basic Goods	88	45.7	Primary Goods	15	34.1
Intermediate Goods	106	15.7	Intermediate Goods	110	17.2
Capital Goods	73	8.8	Capital Goods	67	8.2
NA	--	--	Infrastructure/Construction Goods	29	12.3
Consumer Durables	43	8.5	Consumer Goods	86	12.8
Consumer Non-Durables	89	21.3	Consumer Non-Durables	100	15.3
Total	399	100	Total	407	100

CORPORATE SECTOR PERFORMANCE

8.9 The corporate sector sales have shown moderate growth since Q2 of 2016-17. Net profit shows high growth till Q3 (Table 5). However, the last quarter shows a decline in growth of net profits. This decline could be attributed to lower non-operating income for companies, as well as impact of transition to Indian Accounting Standards in line with International Financial Reporting Standards (IFRS).

Table 5. Growth of Sales and Profit 2016-17¹ (per cent)

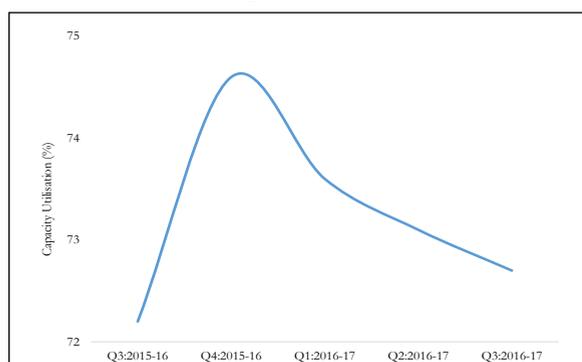
	Q1	Q2	Q3	Q4*
Sales	-1	3.7	4.9	18.8
Net Profits	28.8	27.5	57.5	6.6

Source: RBI

*Based on early results of Manufacturing companies available for Q4:2016-17 as of May 18, 2017

8.10 It is also noteworthy to mention that the capacity utilisation of the manufacturing industries has shown a declining trend since Q1 of 2016-17 (Figure 3). Capacity utilisation depicts the extent to which a manufacturing company uses its installed capacity, which in turn depends on the demand conditions as well as the level of inventory. Lower capacity utilisation reflects a slowdown in industrial activity and investment in the economy.

Figure 3. Capacity Utilisation in Industry (per cent)



Source: RBI

8.11 The industrial slowdown is also reflected in growth of credit to industry. Figure 4 shows that rate of growth of nominal credit to industries turned negative in August 2016, and has remained in the negative territory for most of the period, with a slight upward trend since February 2017. Growth of real credit has also been declining and became negative in July 2016. This may be due to movement of inflation based on the Wholesale Price Index (WPI) in the positive zone since July 2016. Real credit growth has remained negative since then. For the year as a whole, growth in credit flow to industrial sector including mining and manufacturing has declined in 2016-17 to (-) 1.6 per cent as compared to 4.9 per cent in 2015-16. Major sectors which are affected by the low credit disbursement are Power, Telecom, Textiles and Mining and Quarrying.

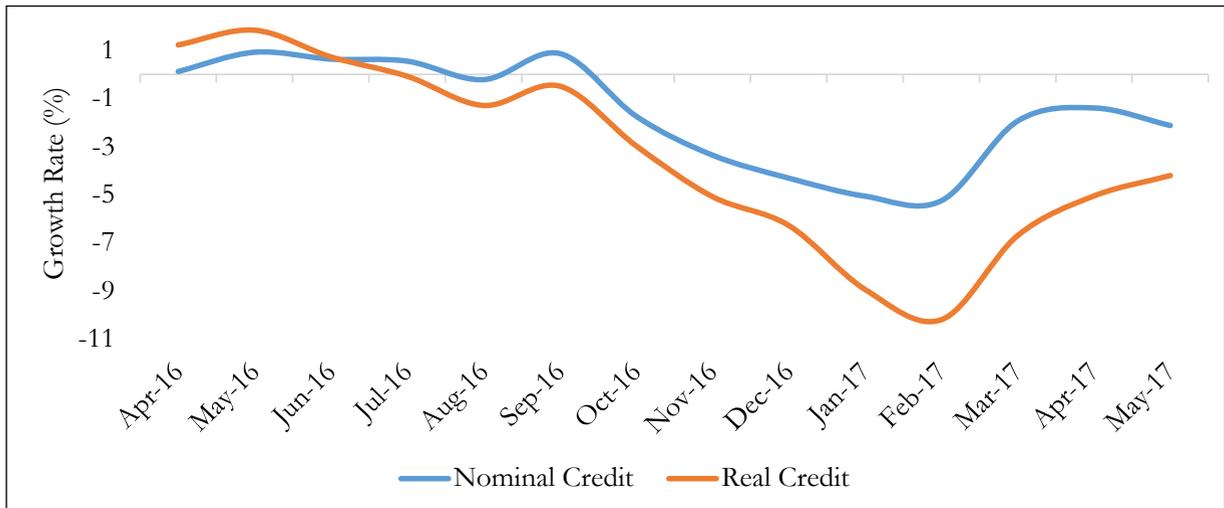
CENTRAL PUBLIC SECTOR ENTERPRISES

8.12 The Central Public Sector Enterprises (CPSEs) play a significant role in the growing Indian economy. In 2015-16, 165 CPSEs garnered a profit of Rs 1.4 trillion while there were 78 sick CPSEs in the economy, generating a loss of Rs 287.5 billion. The scale of such a magnitude of loss can lead to wastage of fiscal resources resulting in 'crowding out' of private investment. This is significant, especially when the banking sector is already riddled with a large amount of NPAs.

8.13 To address this problem, Department of Public Enterprises has issued guidelines on 07.09.2016 for "Time bound closure of Sick/ Loss Making Central Public Sector Enterprises (CPSEs) and disposal of Movable and Immovable assets". Under the scheme closure of Hindustan Cables Ltd, Tractor Unit of HMT Ltd, Kota Unit of Instrumentation Ltd, Indian Drugs and Pharmaceuticals Ltd,

¹ Number of firms for which the sample is taken- Q1-1808, Q2-1775, Q3-1818, Q4-389

Figure 4. Growth of Nominal and Real Credit (Deflated by WPI) to Industry (2016-17) (Month Wise)



Source: RBI

Rajasthan Drugs and Pharmaceuticals Ltd. National Jute Manufactures Corporation Ltd and Bird Jute Exports Ltd has been initiated.

SECTOR- WISE ISSUES AND INITIATIVES

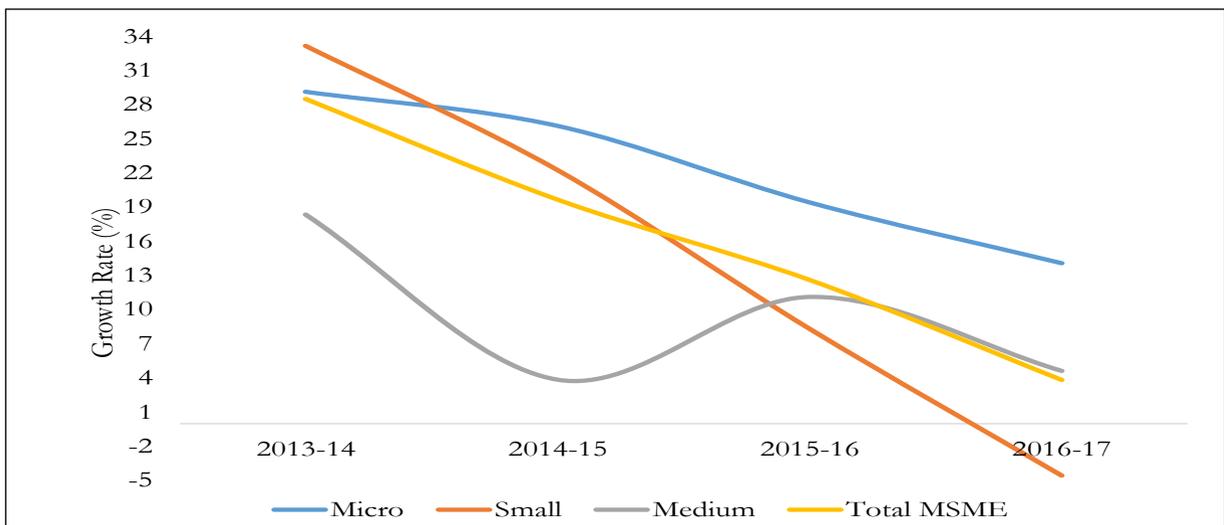
MSME Sector

8.14 The Micro, Small and Medium Enterprises (MSME) sector in India plays a crucial role by providing large employment opportunities, industrialization of rural areas, reducing regional imbalances etc. The MSME sector contributed 33% of industrial

GVA and 31% of industrial Gross Domestic Product (GDP) at constant prices (base 2011-12).

8.15 The sector faces problems in terms of getting adequate, cheap and timely availability of institutional credit. Figure 5 shows that rate of growth of credit to MSME sector as a whole, as well as sectorally to Micro, Small and Medium enterprises has been declining, and is negative for Small enterprises in 2016-17. The decline in credit to MSME sector can be attributed to deteriorating health of public

Figure 5. Rate of Growth of Total Credit to Micro Small and Medium Enterprises (per cent)



Source: RBI

sector banks due to piling up of NPAs.

8.16 In order to tackle this problem, Ministry of Micro, Small and Medium Enterprises along with Reserve Bank of India (RBI) have been continuously monitoring the progress of credit devolved to MSME sector. Recently RBI has brought some changes in priority sector lending guidelines for MSME Sector by including a sub-target of 7.5% of Adjusted Net Bank Credit for lending to 'Micro' enterprises. The Government has also initiated the Pradhan Mantri Mudra Yojana for development and refinancing activities relating to micro industrial units. The purpose of MUDRA is to provide funding to the non-corporate small business sector. The Government has also set up Micro Units Development and Refinance Agency (MUDRA) Bank.

Steel sector

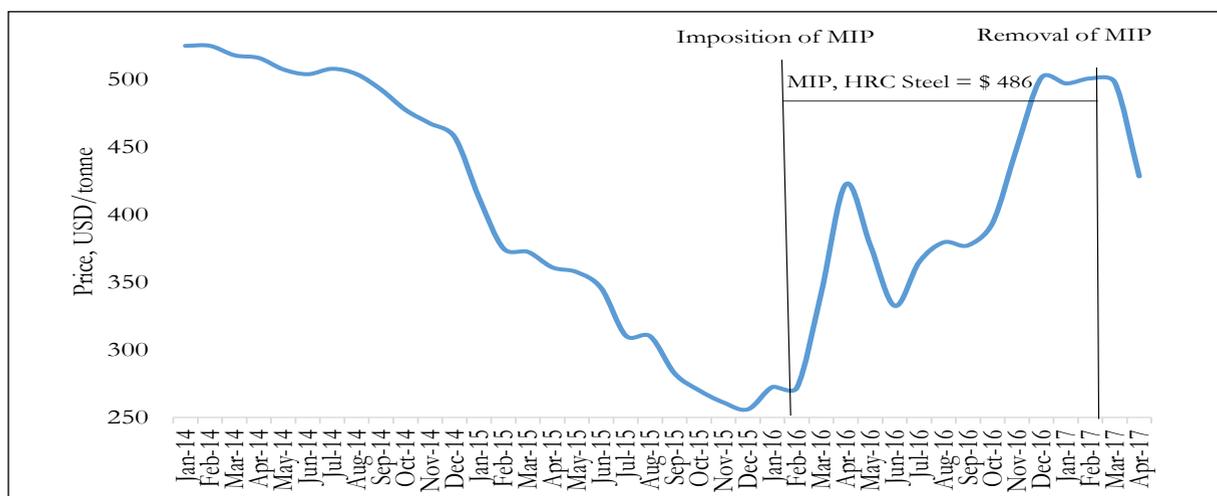
8.17 The steel sector is one of the core industries in the economy. India is the 3rd largest producer of Steel in the world. The domestic production of total finished steel in 2016-17 has been 101.3 million tonnes as compared to 91 million tonnes in 2015-16.

8.18 In the backdrop of China's recent

economic slowdown, the global steel industry has faced major distress due to decline in global demand including China's demand for steel. In addition, excess capacity in steel production led to dumping of steel by China, South Korea and Ukraine into Indian markets at low prices. In response to this, the Government in 2016, introduced a host of measures like raising Basic Customs Duty, imposition of Minimum Import Price (MIP) and anti-dumping duties in order to shield the domestic producers. The Indian Government notified the Minimum Import Price of steel in February 2016 for a period of one year (Figure 6).

8.19 These steps taken by the Government have borne fruit. During 2016-17 imports of steel have declined, while exports of steel have doubled (Table 6). It is interesting to note that Indian exports of steel have been growing amidst a stable exchange rate of the rupee. The rise in exports of steel may also wipe away the excess capacity built up in the steel sector. Due to rise in demand for steel globally and slowdown in imports, domestic production of steel has risen by 11 per cent after accounting for the possible excess capacity in the sector.

Figure 6. Price of Hot Rolled Steel in China, Minimum Import Price of Hot Rolled Steel in India (USD/tonne)



Source: Joint Plant Committee, Ministry of Steel.

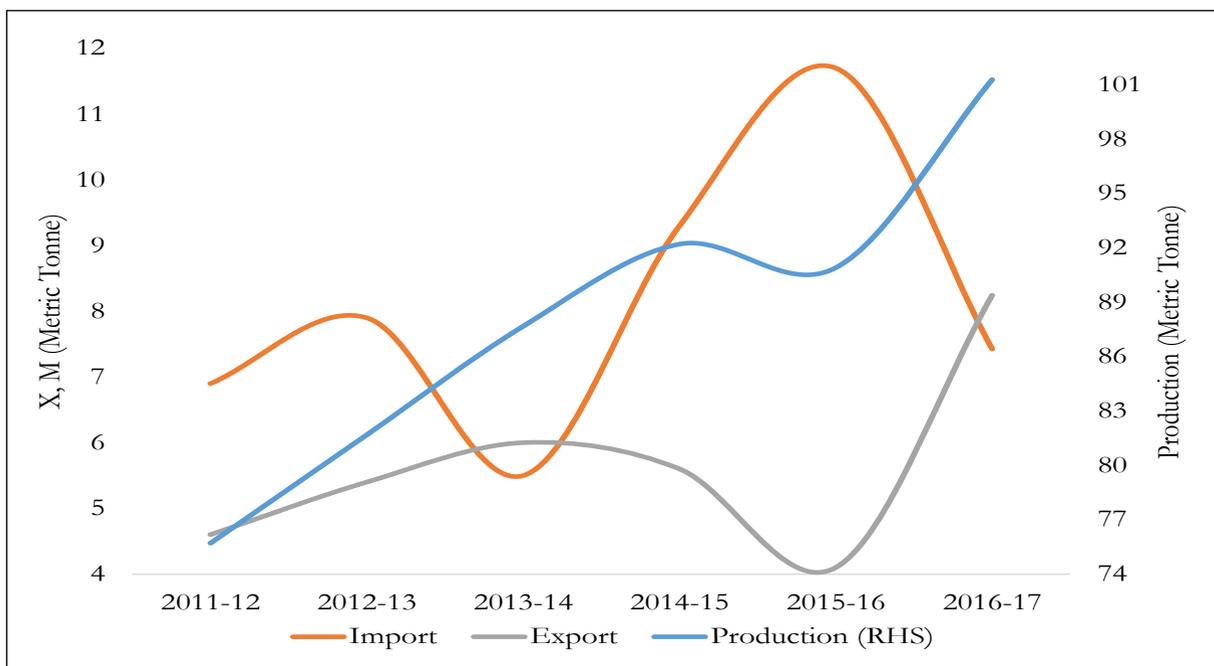
Table 6. Production, Import & Export of Finished Steel

	2015-16	2016-17	Growth (%)
Production (mt)	91	101.3	11.3
Import (mt)	11.7	7.4	-36.6
Export (mt)	4.1	8.2	102.1

mt - metric tonne

Source: Joint Plant Committee, Ministry of Steel.

Figure 7. Production, Import, Export of Steel for 2011- 2016 (Metric Tonne)



Source: Joint Plant Committee , Ministry of Steel.

Clothing and Textiles Sector

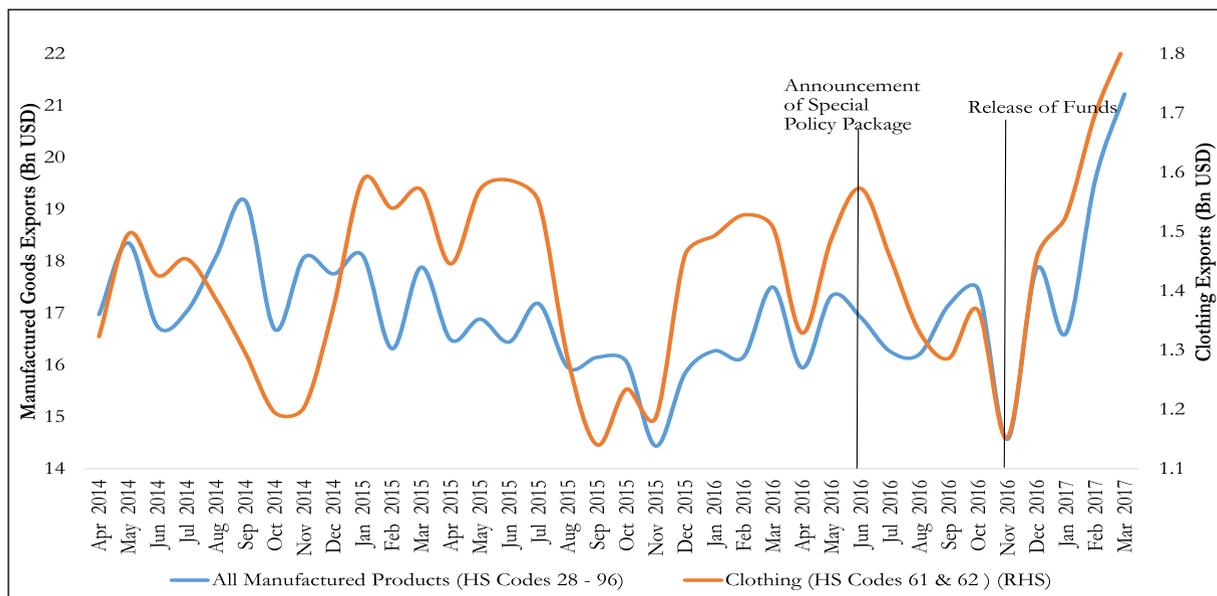
8.20 The Apparel sector is a highly employment intensive industry especially for women. In the perspective of China losing share in the global market for exports in the apparel sector on account of rising costs of production, the time is ripe for India to make forays into this market. However, various challenges exist before India can reap the benefits of this situation. India's competitors like Bangladesh and Vietnam's exports have duty free access to markets of USA, EU and Japan. Other challenges include, high domestic taxes on man-made fabrics vis a vis cotton based fabrics; stringent labour

regulations; and high logistics cost.

8.21 To address these constraints, the Government on 22nd June 2016 approved Rs.6,000 crore special package for textile & apparel sector to boost employment creation, exports and investment. Among other incentives, the subsidy under Amended Technology Upgradation Fund Scheme (ATUFS) was increased from 15% to 25% for the garment sector. A unique feature of the scheme is to disburse the subsidy only after the expected jobs are created.

8.22 A major component of the package announced for the textile and clothing sector is the Rebate on State Levies (ROSL)

**Figure 8. Exports of Clothing and Manufactured Goods (US\$ billion)
(April 2014- March 2017)**



Source: Ministry of Commerce and Industry data

Scheme. Disbursement under the scheme has been released to exporters in the month of November 2017. Figure 8 shows the exports of clothing and manufactured goods (Bn USD). Post the release of funds, it may be observed that there has been a marked rise in clothing exports, which is in fact more than overall growth in manufactured exports.

Leather and Footwear Sector

8.23 Just like the clothing sector, the leather and footwear sector is a highly employment intensive sector with lower capital requirements. With China ceding space, it is a favourable time to promote the footwear industry. However, many challenges persist. The global demand for footwear is moving towards non leather footwear, while Indian tax policies favour leather footwear production. India faces high tariffs in partner country markets in exports of leather goods and non-leather footwear.

8.24 In order to address these challenges, as also mentioned in the Economic Survey,

2016-17 (Vol I-Chapter 7), the Government has announced a special package for the leather sector in the Budget of 2016-17, the benefits of which will be visible in due course. Implementation of GST is expected to rationalize discrimination against non-leather footwear.

FOREIGN DIRECT INVESTMENT

8.25 Foreign Direct Investment (FDI) is an enabler of economic growth since it enhances productivity by bringing capital, skills and technology to the host country. In 2016, the Government has brought most of the sectors under automatic approval route, except a small negative list comprising atomic energy, manufacture of cigars and tobacco, real estate business, lottery, gambling and chit fund etc. With these changes, India is now one of the most open economy in the world for FDI. The Government has also abolished Foreign Investment Promotion Board (FIPB) as most of the sectors are under the automatic route now.

**Table 7. Foreign Direct Investment
(US\$ billion) (2012 to 2016)**

Year	FDI in Manufacturing	FDI in Services
2012-13	10.3	4.8
2013-14	15.6	2.2
2014-15	16.5	4.4
2015-16	13.4	6.9
2016-17	20.3	8.7

Source: DIPP

8.26 The measures taken by the Government has resulted in FDI equity inflow of 43.4 Billion USD in Financial Year 2016-17, which is not only an increase of 8 per cent over previous year but also highest ever FDI Equity inflows. Table 7 shows FDI Inflow segregated into Manufacturing and Services sectors respectively for the years 2012-13 to 2016-17. It can be observed that FDI in Manufacturing is substantially higher than FDI in Services. In terms of the sectors receiving FDI equity inflows, Services (Finance, Banking, Insurance etc.) sector received the highest FDI(19.9%) followed by Telecommunications (12.8%) and Computer Software & Hardware (8.4%). Looking at the source countries of FDI inflows, it may be noted that Mauritius, Singapore and Japan have been top three countries in India contributing 36.2 per cent, 20.0 per cent and 10.8 per cent respectively of the total FDI equity inflows during 2016-17.

IMPLEMENTATION OF GST AND ITS IMPACT ON INDUSTRY

8.27 The GST is a game changing reform introduced by the government. It is expected that implementation of GST will facilitate the creation of one common market in the country by removing tax barriers; eliminate cascading of taxes thereby reducing cost of production of manufacturing goods; and enhance ease of doing business by cutting down transaction costs associated with the complex tax regime. The implementation of GST is also going to cover the unorganized sector industries.

KEY INITIATIVES TAKEN BY THE GOVERNMENT TO BOOST INDUSTRIAL PERFORMANCE

Make In India

8.28 The 'Make in India' programme has been launched globally on 25th September 2014 which aims at making India a global hub for manufacturing, research & innovation and integral part of the global supply chain. This initiative is based on four pillars of New Processes, New Infrastructure, New Sectors and New Mindset.

Startup India

8.29 Startup India is a flagship initiative of the Government of India, intended to build a strong eco-system for nurturing innovation and Startups in the country that will drive sustainable economic growth and generate large scale employment opportunities. The Government through this initiative aims to empower Startups to grow through innovation and design.

Ease of Doing Business

8.30 The Government has taken up a series of measures to improve Ease of Doing Business. The emphasis has been on simplification and rationalization of the existing rules and introduction of information technology to make governance more efficient and effective. The "distance to frontier" (DTF) score measurement used by the World Bank to ascertain the distance between each economy and the best performance in that category has improved for seven of the 10 indicators in the World Bank's Doing Business report-2017, released in October, 2016. States too have been brought on board in the process to expand the coverage of these efforts.

Intellectual Property Rights (IPR) Policy

8.31 In May, 2016, Government for the first time adopted a comprehensive National Intellectual Property Rights (IPR) policy to lay future roadmap for intellectual property.

This aims to improve Indian intellectual property ecosystem, hopes to create an innovation movement in the country and aspires towards “Creative India; Innovative India” “रचनात्मकभारत; अभिनवभारत”.

Objective of this policy is to increase IPR awareness; stimulate generation of IPRs; have strong and effective IPR laws; modernize and strengthen service-oriented IPR administration; get value for IPRs through commercialization; strengthen enforcement and adjudicatory mechanisms for combating IPR infringements; and to strengthen and expand human resources, institutions and

capacities for teaching, training, research and skill building in IPRs.

8.32 A Cell for Intellectual Property Rights Promotion and Management (CIPAM) has been created under the aegis of Department of Industrial Policy and Promotion (DIPP) for addressing the 7 identified objectives of the Policy. An MOU has also been signed with U.K, Singapore and E.U in the field of Intellectual Property Trademark. Pendency in awarding patents has also come down from 3 months in 2015-16 to 1 month by the end of Financial Year 2016-17. In addition to this, India’s rank in Global Innovative Index has gone up from 81 in 2015 to 66 in 2016.

INFRASTRUCTURE SECTOR PERFORMANCE - ISSUES AND INITIATIVES

“You and I Come By Road Or Rail, But Economists Travel By Infrastructure”

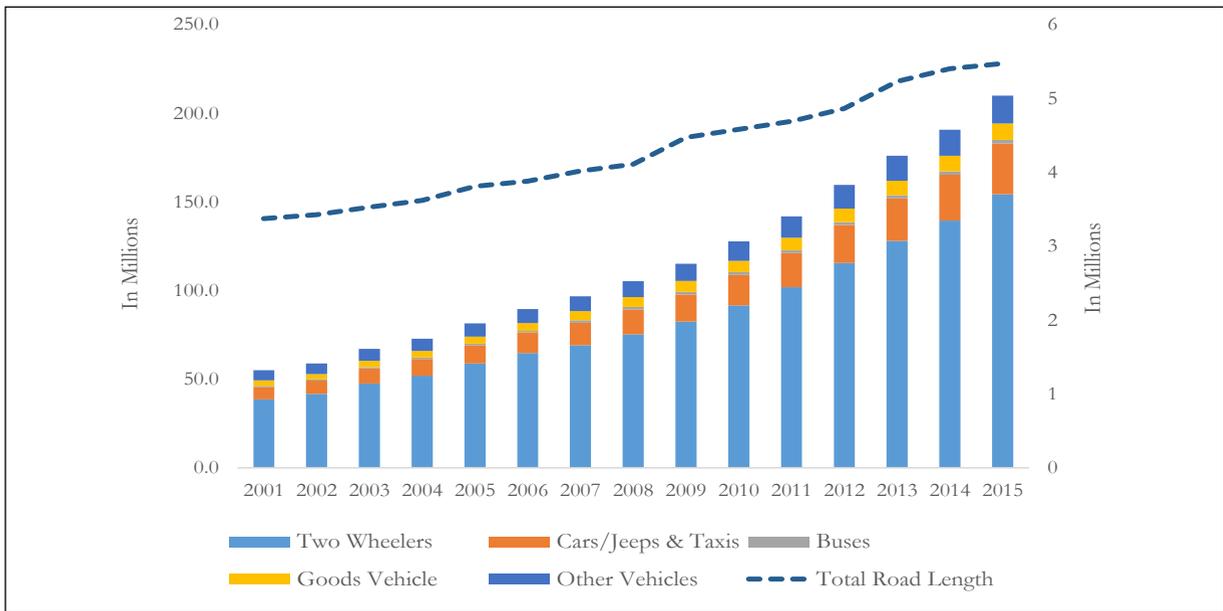
– Margaret Thatcher

8.33 To maintain the momentum of higher economic growth and to satisfy the expectations of all the diversified stakeholders of an emerging economy like India, it is indispensable to invest more on infrastructure sector. The Government is committed to invest more on qualitative infrastructure with an aim to make India an advanced, inclusive and a just economy. As per global ranking of the World Bank’s 2016 Logistics Performance, India jumped to 36th rank in 2016 from 58th rank in 2014 in terms of providing qualitative physical infrastructure, which is quite remarkable achievement. The infrastructure sector is still facing multiple issues, for which the Government has adopted a multi-pronged strategy to address them through various schematic interventions like UDAN and Bharatmala.

8.34 This chapter has made an assessment of UDAY in terms of its contribution in improving the health of power distribution companies. The chapter has also highlighted some issues in the critical sector like civil aviation with a positive outlook.

8.35 World Bank has rightly pointed out that ‘infrastructure development is critical to delivering growth, reducing poverty and addressing broader development goals. In a developing country like India, it is imperative to increase investment in infrastructure considering the infrastructure deficit in India to sustain a high economic growth momentum. A safe, inter connected and qualitative infrastructure is the key driver of growth and per capita income. Among emerging countries with same level of per capita income, India has performed significantly better in constructing qualitative infrastructure. Figure 9 shows how the quality of trade and transportation related infrastructure like road, railways, port and information technology has a positive relationship with the GDP per capita in emerging economies. In contrast to popular belief, though India’s per capita income is low, India is far ahead of many emerging economies in terms of providing qualitative transportation related infrastructure (Figure 9).

Figure 10. Road Network and Composition of Vehicle in India



Source: Ministry of Road, Transport & Highways

Note: Total Road Length in RHS.

8.39 The Government had proposed “Bharatmala Programme” with a view to develop the road connectivity to Border areas, development of Coastal roads including road connectivity for Non Major ports, improvement in the efficiency of National Corridors (the NHs developed under various phases of NHDP), development of Economic Corridors/ Feeder routes, removal of choke and congestion points, construction of ring roads, logistics parks, etc. The Government has initiated separate programme ‘Setu Bharatam’ in 2016 for construction, rehabilitation & widening of 1500 major bridges and 208 Railway Over Bridges (ROBs) / Railway Under Bridges (RUBs) on National Highways.

8.40 In the year 2016-17, around 88% of the projects involving around Rs 1,00,000 crores of investment have been appropriately re-engineered and restructured by proactive policy interventions and rigorous monitoring by the Ministry of Road, Transport and Highways (MORTH) and National Highways

Authority of India (NHAI). This sector is still facing constraints like availability of land for NH expansion and upgradation; significant increase in land acquisition cost; lack of equity with developers; too many bottlenecks and checkpoints on NHs which could adversely impact benefits of GST; higher cost of financing; and lesser traffic growth than expected shortfall in funds for maintenance.

Railways

8.41 Among different modes of transportation, Railways is still preferable means for majority of Indians for long distance travel. During 2016-17, Indian Railways (IR) carried 1106.6 million tonnes of revenue-earning freight traffic (P), as against 1101.5 million tonnes during 2015-16 translating into an increase of 0.5 per cent. However, during 2016-17, freight earnings at Rs.104339 crore (P), registered a negative growth of 4.5 per cent over 2015-16 due to carrying larger volume of low fare freight in the year. Passenger earnings at Rs.46280

crore (P) registered an increase of 4.5 per cent during 2016-17.

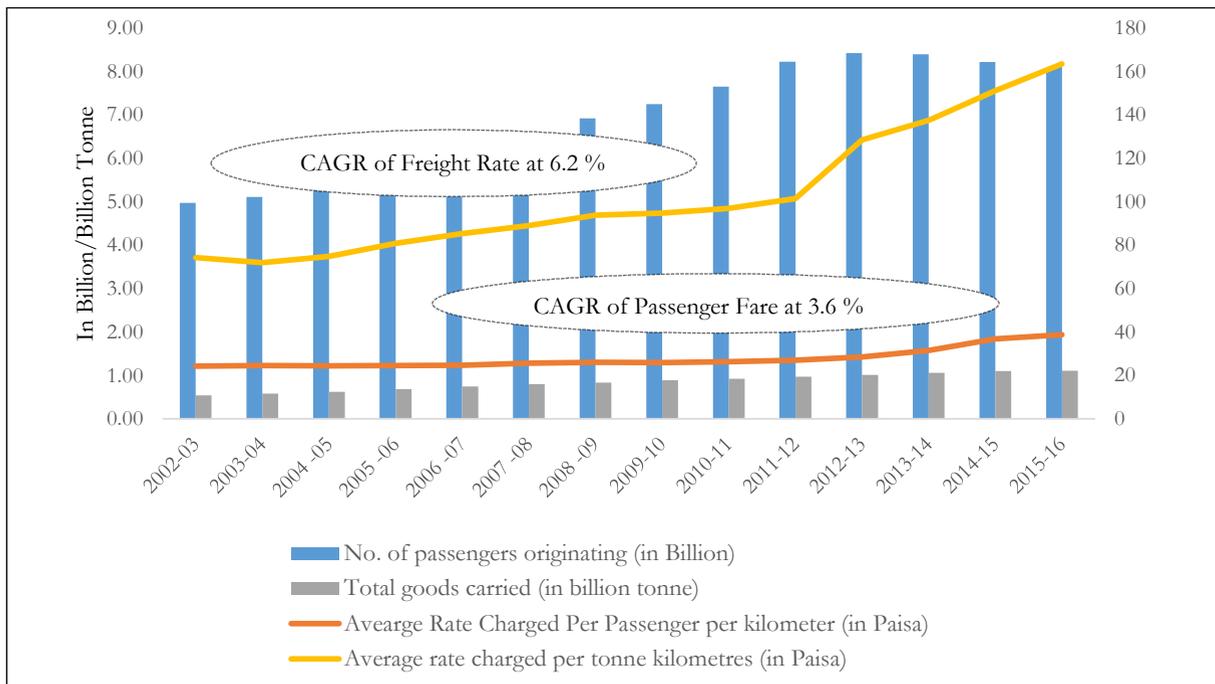
8.42 After a consistent rise from 2002-03 to 2012-13, the number of passengers travelling by train has started declining since 2013-14 while the freight traffic has increased over the years. However, during 2002-03 to 2015-16 while the passenger fare increased at a CAGR of 3.6 per cent, the freight fare increased at a CAGR of 6.2 per cent (Figure 11). Thus passenger fare has remained more or less flat, the freight fare has increased sharply since 2012-13.

8.43 The recently introduced dynamic pricing model is aimed at enhancing higher passenger revenue without compromising on the passenger volume. For generating revenue, the Railways should go for more non-fare sources along with station redevelopment and commercially exploiting vacant buildings at the station, monetizing land along tracks by leasing out to promote horticulture and

tree plantation, and through advertisement and parcel earnings.

8.44 In order to provide safe, secured and comfortable journey to passengers and attract more freight to be transported through rail, the Government has taken a number of steps like implementation of Safety Action Plans to reduce accidents caused by human errors; computerized Passenger Reservation System (PRS); Unreserved Ticketing System (UTS) through Smart card based Automatic Ticket Vending Machines (ATVM); fitment of Bio-toilets in order to improve cleanliness/sanitation in Indian Railways(IR); and electrification of the railway tracks with a view to make the Railway System more eco-friendly. As on 01.04.2017, 30,012 route kilometers (RKM) have been electrified which is 45% of the total network length of 66,687 route kilometers. During 2016-17, all-time record of 2,013 RKM have been electrified against the target of 2000 RKM.

Figure 11. Comparison of Passenger Fare and Freight Fare



Source: Railways Statistical Year Book, MOSPI and Ministry of Railways

Note: Average Rate charged per passenger per kilometer and per tonne kilometers in RHS

Civil Aviation: *Are Indian Air Carriers taking off?*

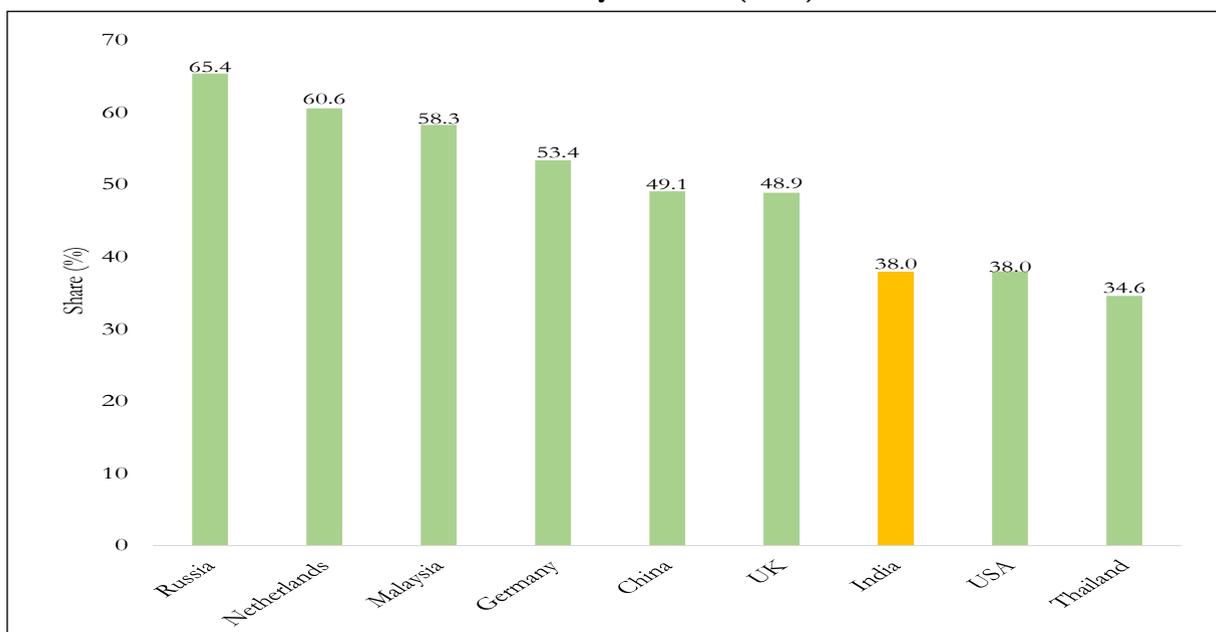
8.45 The civil aviation is a potential sector in the country which can be a sunrise sector of growth. Our country has favorable conditions which are highly conducive for the sector’s growth i.e. favorable demographics, a rising middle class population, high disposable incomes, and faster economic growth. Since 2001, domestic air passengers have increased 6 fold to 85.2 Million, while passengers travelling internationally have risen 4 fold to 49.8 Million in 2015.

8.46 Despite a strong home market for air travel, Indian (domestic) airlines have not captured the Indian market for international travel unlike many other countries. Figure 12 shows that Indian (domestic) airlines are utilising only 38 per cent of its international Available Seat Kilometres (ASKs) in 2016 compared to 60.6 per cent for Netherlands, 49.1 per cent for China and 48.9 per cent for

UK. ASKs refer to the sum of the products obtained by multiplying the number of seats available for sale on each flight by the corresponding distance flown by the flight. In other words, Indian (domestic) airlines have not been able to carry out import substitution in the case of international air travel services to and from India.

8.47 In terms of passenger load, Indian (domestic) airlines carry only 36.6 per cent of international traffic to and from India in 2015 (Figure 13). It is surprising that a bulk of Indian traffic (to and from) are serviced by foreign airlines. Among foreign carriers, the countries of the Gulf and some of the South East Asian nations have proven to be our major competitors (for countries' names see footnote to Figure 13). The share of Gulf carriers in Indian traffic increased from 27 per cent in 2008 to 33 per cent in 2015. The share of the South East Asian countries increased over two times from 5.9 per cent in 2008 to 12.3 per cent in 2015.

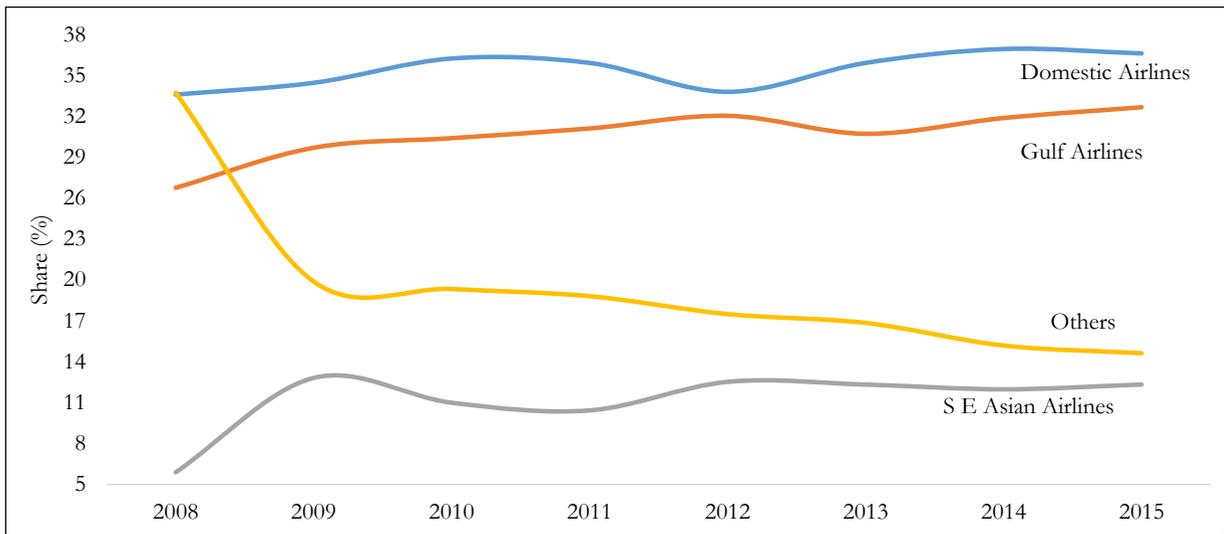
Figure 12. % Share of scheduled international ASKs* flown by home-country airlines (2016)



Source: IATA

*ASKs refer to the sum of the products of the number of seats available for sale on each flight multiplied by the corresponding distance flown by the flight. ASKs are a measure of supply of aviation service.

Figure 13. Share of International Passengers flown (to and from India), airline wise* (per cent)



Source: DGCA data

*Gulf Airlines include UAE, Bahrain, Oman, Qatar, Saudi Arabia, Kuwait; SE Asian Airlines include Singapore, Malaysia, Thailand & Hong Kong

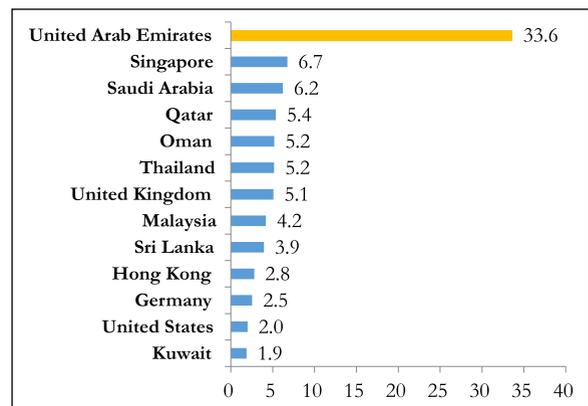
What can be the explanation for low share of Indian airlines in Indian origin international traffic?

A. Round Tripping of Passengers via international hubs of Dubai and Singapore, utilization of the 6th freedom of the air and increase in capacity entitlements under Bilateral Air Service Agreements (ASAs)

8.48 Figure 14 shows that top destinations of passenger traffic to and from India are the Gulf countries of UAE, Saudi Arabia, Qatar, Oman and the South East Asian countries of Singapore, Malaysia and Thailand. UAE alone accounts for 33.6 per cent of the total passenger flows. However, these countries are not the end destinations of all passengers. In fact, these countries are invariably being used as stop-overs/ hubs by their respective home airlines to carry passengers for onward destinations of USA, Canada, Europe etc. This is the 6th freedom of air which allows foreign airlines to fly from a foreign country to another while stopping in one's own country. The 6th freedom has to a large

extent been responsible for reducing the share of direct long haul flights for Indian carriers from 25 per cent in 2011-12 to 20.5 per cent in 2015-16.²

Figure 14. Destination Wise Share of Passengers to and from India (per cent) (2015)



Source: DGCA Data

8.49 Table 8 shows the total number of passengers flown by foreign airlines to their respective countries segregated into point to point traffic (i.e. direct traffic between India and the foreign country), and the 6th freedom traffic. The percentage of sixth

² Source: DGCA Database & Survey calculations; Definition of long haul flight taken to be greater than 4000 km.

freedom traffic for most of the Gulf and South East Asian airlines is greater than 50 per cent. For countries of Qatar and UAE, this figure is greater than 60 per cent. This large utilization of the 6th freedom in turn has been made possible due to expansion in capacity entitlements under Bilateral Air Service Agreements (ASAs). Air Service Agreements between two nations negotiate the right of the home and foreign country airlines to fly passengers between them. These rights are reciprocal in nature. ie. both countries grant each other the same quantum of rights.

8.50 During 2003 and 2017, the capacity entitlements (seats per week each direction) between Dubai and India have increased 6 fold (Table 9). The same for Oman and Qatar have increased 9 and 12 fold respectively. While capacity entitlements are reciprocal in nature, the benefit of such increases in capacity entitlements have accrued more to the foreign partner vis a vis India. This is because India's utilization of these rights is lower than the foreign counterparts (Figure 15).

Table 9. India's Capacity Entitlements with Select Countries

	Seats Per Week Each Direction (Summer Schedule) (In '000s)	
	2003	2017
Dubai(UAE)	10.4	66.5*
Oman	3.8	27.4
Kuwait	5.2	12
Bahrain	11.2	11.5
Qatar	2.9	24.8
Saudi Arabia	8.5	20(seats) +DMM Open Sky#
Singapore	23.05 units [^] + 1650 seats @	29.4 seats@
Thailand	9.8	26.3
Malaysia	7 (+1500 negotiable)	20.7 @

Source: CAG & MoCA

* However, 137.2 thousand seats are the capacity entitlement for UAE (including, Dubai, Sharjah and Abu Dhabi) as a whole in 2017

Open sky Agreement with Dammam city of Saudi Arabia as per which only India Airlines can fly unlimited seats to Dammam

[^] 1 unit = 400 seats

@ 18 Destinations with unlimited seats on particular cities as agreed upon in the Bilateral ASAs

Table 8. Percentage of Sixth Freedom Passengers Carried by Foreign Airlines to and from India (2015-16)

Name of Airline	Country	Total Passengers (Bidirectional) (Lakh)	Point to Point Passengers to & from India (Lakh)	6th Freedom Passengers (Lakh)	Percentage (of sixth freedom carriage)
UAE Airlines*	UAE	102.4	33.7	68.7	67.1
Gulf Air (Bahrain)	Bahrain	8.8	1.7	7.1	81.0
Kuwait Airways	Kuwait	6.0	3.5	2.5	41.6
Oman Airways	Oman	15.0	6.2	8.8	58.6
Qatar Airways	Qatar	18.3	3.8	14.5	79.4
Malaysia Airlines	Malaysia	8.9	3.7	5.2	58.7
Singapore Airlines	Singapore	15.0	6.3	8.7	58.3
Thai Airlines	Thailand	13.3	8.5	4.8	35.9

Source: CAG

*UAE Airlines include Air Arabia, Emirates, Etihad Airways and Fly Dubai

Thus, large increase in capacity entitlements under Air Service Agreements; the resultant use of the 6th freedom of the air by Gulf and South east Asian airlines; and underutilization of India’s own entitlements are responsible for India’s lower share in international traffic to a large extent.

B. The 5/20 rule and Fleet Constraints

8.51 The 5/20 mandates that for an airline to carry out international operations, it needs to have 5 years of domestic flying operations and would have to deploy 20 aircraft or 20 per cent of total fleet of aircraft, whichever is higher, towards domestic operations. As a result of this rule, only three private airlines had been eligible to fly abroad – Jet Airways, Spice Jet and Indigo. In 2016, the Indian Government had relaxed this rule to 0/20. It is expected that more private players will now take advantage of this relaxation and take to international flying operations, thereby contributing to increasing the share of domestic airlines in international operations to and from India.

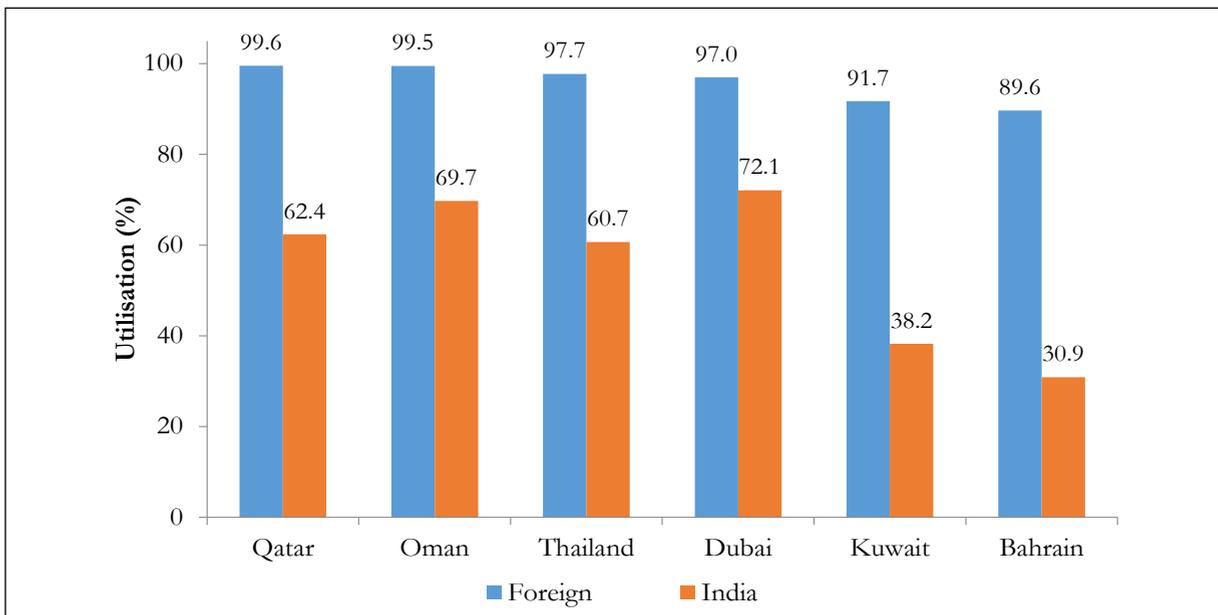
8.52 Another constraint has been that majority of fleet of Indian airlines consists largely of narrow body aircraft and not wide body aircraft, which are required for international long haul flights. With the exception of Jet Airways and Air India, which have 22 and 44 wide bodied aircrafts respectively in their fleet, all other Indian carriers have a narrow body fleet.

Policy Prescriptions

8.53 The following solutions are proposed for enhancing the Indian air carriers' share in international traffic:

- There is a need for committed action plan on privatization/ disinvestment of the national carrier Air India to enhance its operational and management efficiency because it is a major carrier of international traffic to and from India, accounting for 11.4 per cent of the total international travel. The recent announcement of the Government towards privatization of Air India is a

Figure 15. India’s & Partner Country’s Utilization of Capacity Entitlements (2017 Summer Schedule)



Source: MoCA

well thought out decision.

- There is need to reconsider the 0/20 rule so as to allow private airlines to fly abroad. In return, private airlines can be mandated to fly to under-served airports in Tier 2 and Tier 3 cities in order to have greater regional connectivity (UDAN is a good initiative in this direction).
- The Government may consider identifying major cities as aviation hubs because India is as advantageously placed in terms of geographic location as Dubai or Singapore.

8.54 UDAN (Ude Desh ka Aam Naagrik), a key element of National Civil Aviation Policy 2016, is an innovative Regional Connectivity Scheme to supplement air traffic growth in regional aviation through a market based mechanism. UDAN provides few seats at affordable passenger fares of Rs. 2,500 for an hour-long flight. Under UDAN, 70 airports and 128 routes are connected, and over 100 more unserved airports are to be connected in the next rounds of bidding of routes.

The Government offers fiscal support through Viability Gap Funding (VGF) and infrastructural development of under-utilized airport facilities to incentivize regional air

Regional Connectivity through UDAN

Map 1



Source: Ministry of Civil Aviation

traffic. UDAN ensures route profitability to airlines to sustain their operations through reducing operating costs by eliminating airport charges on UDAN routes, subsidizing ATF, providing market based subsidy for half of the seats, and guaranteeing three years exclusivity on routes. Under UDAN, 13 Regional Connectivity Scheme airports have been covered in the Eastern and North-Eastern regions, 12 each in Northern and Western regions, and 8 in the Southern Region in the first round.

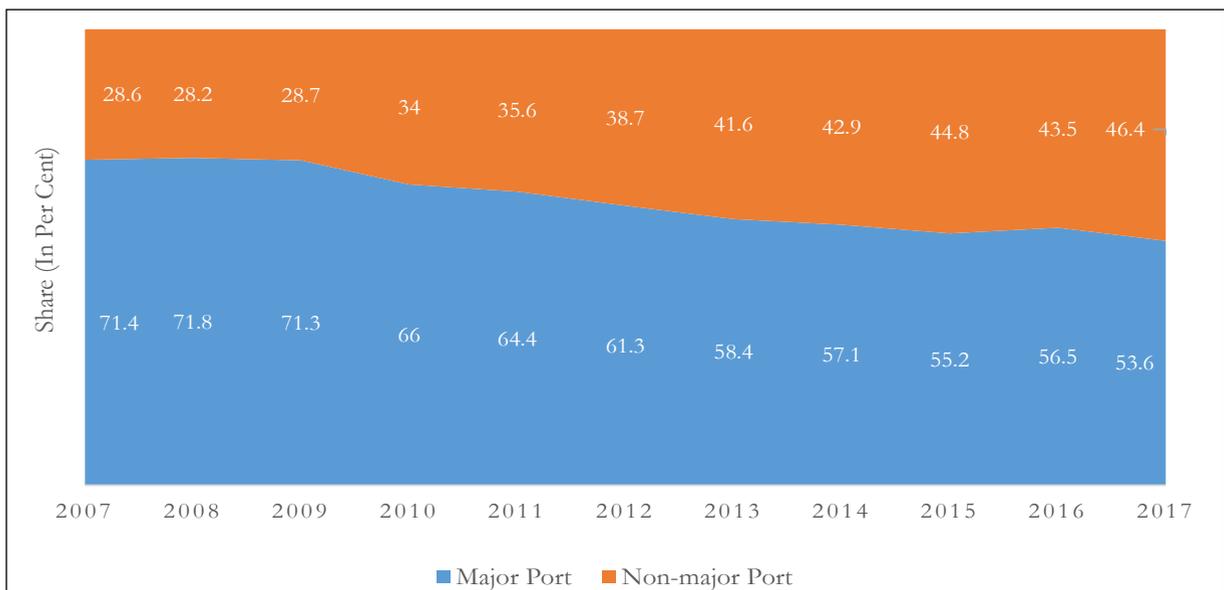
Port and Shipping

8.55 Connecting the non-major ports with hinterland: India having more than 7,517 KM coast line with more than 200 ports has both strategic and competitive advantages since most of the cargo ships that sail between East Asia & America, Europe & Africa pass through Indian territorial waters. Around 95% of India’s trade by volume and 68% in terms of value is transported by sea. As on 30th April, 2017, India had a fleet strength of 1,323 ships with dead weight tonnage (DWT) of 17.50 million (11.70 million

Gross Tonnage) including Indian controlled tonnage, with Shipping Corporation of India (SCI) having the largest share of around 34%. Of this, around 410 ships of 15.79 million DWT (10.17 million Gross Tonnage) cater to India’s overseas trade and the rest to coastal trade. The cargo traffic of Indian Ports increased by 5.9 per cent to 1135.63 million tonnes in 2016-17, of which the traffic at Major Ports was 647.63 million tonnes and approx. 448 million tonnes at non-Major Ports. During the last few years the non-major ports are gaining more share of cargo handling compared to major ports (Figure 16). The contribution of non-major port’s traffic to total traffic rose to 43.5 per cent in FY 2016 from 28.6 per cent in FY 2007. It is required to develop non-major port and also enhance their efficiency and operational capacity. The focus will be to connect the non-major ports with hinterland since the share of non-major port cargo handling is rising.

8.56 The year 2016 saw Indian shipping industry once again expertly sail through the choppy waters of volatile freight rates,

Figure 16. Share of Major and Non-Major Port handling cargo



Source: Ministry of Shipping

IMO rulings with onerous commercial implications and an improving but still non-competitive operating environment. Some of the following issues related to Indian shipping sector need to be focussed:

- Globally, maritime freight rates in most shipping segments endured volatility and overall downward movements. Weak demand and high fleet growth pushed fleet utilizations further down and intensified deflationary pressure on freight rates in most markets, except for tankers.
- There has been a sharp decline in the share of Indian ships in the carriage of India's overseas trade from about 40 per cent in the late 1980s to 7 per cent in 2015-16.
- The existing Indian fleet is also ageing, with the average age increasing from 15 years in 1999 to 19.3 years as on 1 January 2017 (45.0% of the fleet is over 20 years old and 12.2% is in the 15 to 19-year age group).

8.57 To encourage the growth of Indian tonnage and for higher participation of Indian ships in Indian trade, the Government has implemented several measures which include making fuel tax free for all Indian flag coastal vessels engaged in container trade; giving income tax benefit to Indian seafarers working on Indian ships, thereby making the cost of personnel more competitive for the Indian shipping industry.

Time for Looking at Coastal Shipping and Inland Waterways

8.58 A vision for coastal shipping, tourism and regional development has been prepared, with a view to increasing the share of the coastal/inland waterways transport mode from 7 per cent to 10 per cent by 2019-20. Coastal cargo handled by ports in India in

2016-17 was 189.7 million tonnes. The key elements of the initiative include development of coastal shipping as an end-to-end supply chain, integration of inland water transport (IWT) coastal route development of regional centres to generate cargo for coastal traffic, development of lighthouse tourism.

8.59 However, certain intrinsic impediments such as additional cost due to first mile and last-mile connectivity, high duties on bunker fuel and other taxes and absence of assured return cargo that results in higher cost of transportation through coastal shipping thereby dissuading shipper's to prefer this mode. An analysis of the costs of coastal transportation by Indian ships as compared to foreign ships has indicated that operating costs of Indian ships are higher by 24% on account of duty on bunker (9%), Income Tax on Seafarers (6%), Service Tax (1%), Capital Gains Tax (5%) and Tonnage Tax (3%). Additionally, the cost due to inefficiency of Indian shipping companies is 6%.

8.60 To promote Inland Waterways Transport (IWT) several steps have been taken. The National Waterways Act, 2016 has been enacted and enforced to provide for the declaration of 106 additional inland waterways to be National Waterways (NWs) in addition to already existed five National Waterways.

8.61 The 'Jal Marg Vikas Project' (on NW-I: River Ganga), a large integrated IWT project, has been launched with the purpose of ensuring navigation of 1500 to 2000 tonne vessels by developing infrastructure and a fairway of 2.2 to 3 meters depth between Varanasi and Haldia covering a distance of 1380 kms at an estimated cost of Rs. 5369 crore. The project is being implemented by the Inland Waterways Authority of India (IWAI) and is to be completed in six years, with technical and investment support of World Bank.

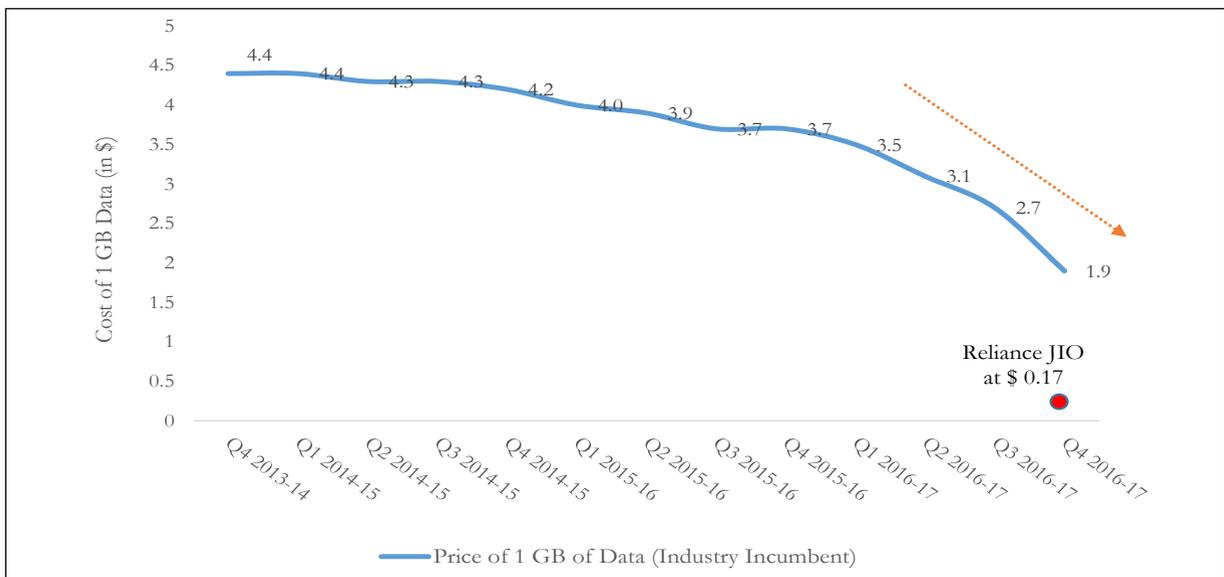
Telecom Sector

8.62 The Indian telecom sector has made rapid strides during the last few years because of several reforms and initiatives undertaken by the Department of Telecommunications. India now has the second largest network in the world, next only to China. India crossed the landmark of one billion telephone subscribers in the year 2015-16, and the total subscribers now stands at 1195.0 million as on 31.3.2017. Out of this, 501.8 million connections are in rural areas and 693.2 million in the urban areas. The wireless telephony constitutes 98.0 per cent (1170.6 million) of all subscriptions whereas share of the landline telephony now stands at only 2.0 per cent (24.4 million) at the end of March, 2017. The overall tele-density in India stands at 93.0 per cent as on 31.3.2017. In rural areas, tele-density was 56.9 per cent and in urban areas it was 171.5 per cent at the end of March, 2017. India, with 275 million smart-phone subscribers, has outpaced the United States to become the second largest smart-phone subscriber base

in the world. Since September 2015, 38 new mobile manufacturing units have been set up, which has ramped up the manufacturing of mobile phone units in 2015-16 by 90 per cent. The mobile industry in India, currently contributes 6.5 per cent (USD140 billion) to country’s GDP, and employing over 4 million people (direct and indirect). It is projected to grow rapidly in the coming years.

8.63 With the introduction of the new entrant Reliance Jio Infocom Ltd. on 5 September 2016, the competition extended from cheaper calls to cheaper data. As per Telecom Regulatory Authority of India, the Q3 of 2016-17 had recorded 1,127.4 Million wireless subscribers, which is 7.7 per cent higher than the previous quarter Q2 of 2016-17. Reliance Jio Infocom Ltd. recorded the highest net addition of 56.2 million subscribers which is much higher than the others service providers like Idea with 11.7 million and Bharti Airtel with 5.9 million subscribers during Q3 of 2016-17. Reliance Jio's pricing scheme forced incumbent telecom firms to cut voice and data tariffs to

Figure 17. Data Prices per GB of Telecom Industry



Sources: JP Morgan, Bharti Airtel, Idea Cellular, Reliance JIO.

Note: Industry incumbent average calculated using weighted average cost of 1 GB of data realization from Bharti Airtel/Idea Cellular. Reliance JIO data assumed at 10 INR/GB based on March’17 Realization.

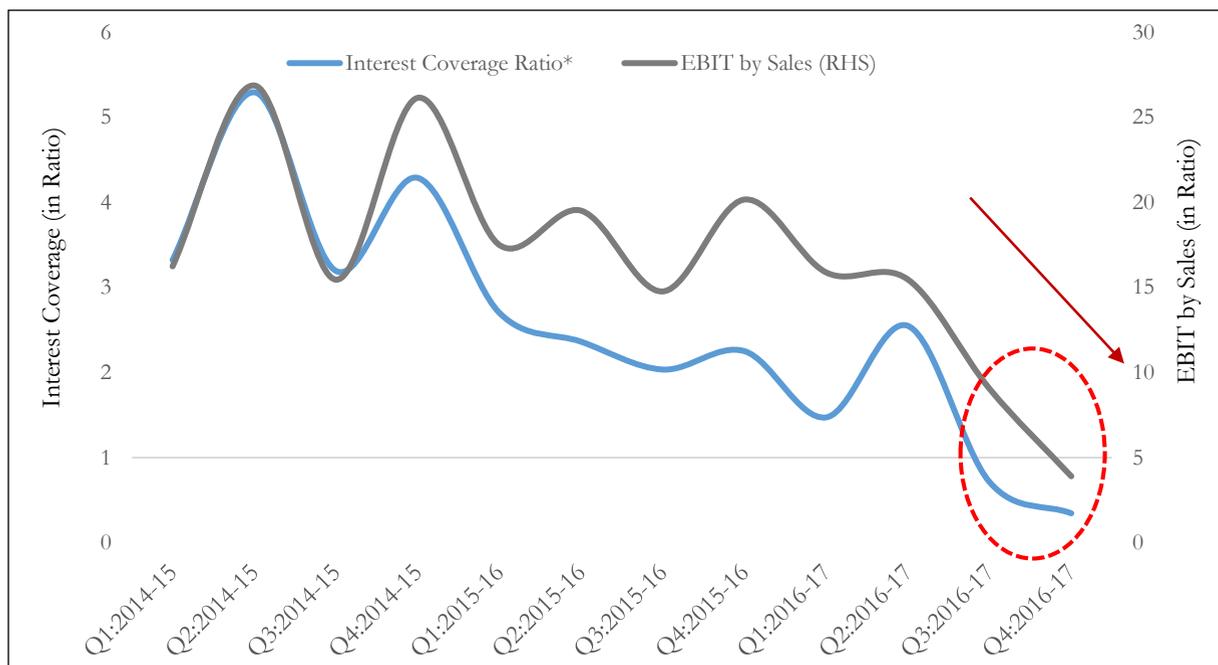
\$1.9 per 1 GB data during January-March of 2017 (Figure 17). The cut in tariff due to stiff competition with JIO, the revenue of other operators fell. The adjusted gross revenue of the top three telecom companies in India i.e., Bharti Airtel, Vodafone India and Idea Cellular decreased by 7.98 per cent, 5.14 per cent and 4.91 per cent respectively during Q3 of 2016-17 as compared to its previous quarter.

8.64 Stiff competition, price war, reduced revenue has trapped telecom sector into highly leveraged with interest coverage ratio turning less than 1 since Q3 of 2016-17 (Figure 18). It has also witnessed declining Earnings before Interest and Taxes (EBIT) by Sales ratio (Figure 18). The industry also faces the issue of higher spectrum charges. However, what's worrying is that the share of the telecom sector in the non-performing assets (NPAs) has now increased. Though the total NPAs of telecom sector in Public Sector Banks (PSBs) has fallen to Rs. 2,335

crores in 2016-17 from Rs. 3,465 crores in 2015-16, the share of NPAs of telecom sector in total NPAs of infrastructure sector increased to 8.7 per cent in 2016-17 from 5.0 per cent in 2015-16.

8.65 The Government has placed emphasis on growth of telecom sector in the country for the success of Digital India campaign. The Government has brought reforms in spectrum management through the process like spectrum sharing, spectrum trading, spectrum harmonization and most importantly, spectrum auction. The Government is also committed to extend the reach of the mobile network to all over India especially the remote and rural villages in order to convert India into a digital economy and knowledge society. For the deeper digital penetration in rural areas, the Government has taken up 'Bharat Net' programme, in mission mode to link each of the 2.5 lakh Gram Panchayats of India through Broadband optical fibre network. On its

Figure 18. Interest Coverage Ratio and Earnings before Interest and Taxes by Sales Ratio



Source: RBI

Note: EBIT by Sales in RHS

completion, Bharat Net would facilitate Broadband connectivity (with a 100 Mbps of bandwidth) for over 600 million rural citizens of the country. This is the largest rural connectivity project of its kind in the world, and is the first pillar of Digital India Programme. It will facilitate the delivery of various e-Services and applications including e-health, e-education, e-governance and e-commerce in the future.

Power Sector

8.66 The Government has unveiled an ambitious plan to provide electricity supply for all by 2019. India has already made a great effort in improving access to energy, by reducing the number of people without electricity. Power generation capacity has surged over the years, but the issue of power outages remains a major concern. According to the ‘The Global Competitiveness Report 2016-17’ released by World Economic Forum, India ranks 88th position out of 138 countries in terms of the quality of electricity supplied. Efforts towards 100 per cent village electrification, 24*7 power supply and clean energy cannot be successful without improving the performance of the electricity distribution companies (DISCOM). Power outages also adversely affect national priorities like ‘Make in India’ and ‘Digital India’. In addition, default on bank loans by financially stressed DISCOMs tends to seriously impact the banking sector and the economy at large.

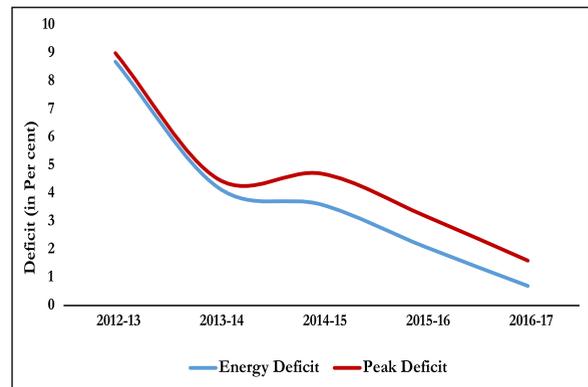
8.67 The growth rate in electricity generation was 4.7 per cent in 2016-17 as compared to 5.7 per cent in 2015-16 and 8.9 per cent in 2014-15. In 2013-14, total installed capacity was 2,45,259 MW in 2013-14 which increased to 3,26,649 MW as on March 2017. During the period 2012-2017, 1,00,468 ckm against the target of 1,07,440 ckm of transmission lines and 2,88,458 MVA against the target of 2,82,750 MVA of transmission capacity

have been completed. The peak deficit (the percentage shortfall in peak power supply vis-à-vis peak hour demand) has also shown a steep fall and was at (-) 1.6 per cent during 2016-17 as shown in Figure 19.

A special focus on the performance of Ujwal DISCOM Assurance Yojana (UDAY)

8.68 The Government formulated and launched the UDAY scheme for financial turnaround of power distribution companies on November 20, 2015. It is noteworthy to mention that the scheme envisages reduction in interest burden, cost of power and Aggregate Technical & Commercial (AT&C) losses. 27 states/UTs have already come under UDAY. A multilevel monitoring mechanism for UDAY has been put in place to ensure a close monitoring of performance of the participating States under UDAY. Also a web portal (www.uday.gov.in) has been created for monitoring purpose.

Figure 19. Reduction in Power Deficit (Per cent)



Source: Central Electricity Authority

8.69 As per UDAY scheme, the State Governments are allowed to take over 75 per cent of power distribution companies (DISCOMs) debt and pay back lenders by issuing bonds. The remaining 25 per cent of the debt to be paid back through DISCOMs issued bonds. As on 30.09.2015 total debt of all state owned DISCOMs was Rs. 3.95

lakh Cr. The 26 states and 1 UT which have joined the UDAY scheme account for total outstanding debt of Rs. 3.82 lakh Cr., which is 97 per cent of total outstanding debt of all state DISCOMs. So far, fifteen states have issued UDAY bonds totaling Rs.2.09 lakh Cr. and DISCOMs have issued Bonds worth Rs. 0.23 lakh Cr. A brief of issuance of bonds under UDAY is given in Table 10.

8.70 After the introduction of UDAY the states have made significant effort to reduce AT&C losses as shown in Figure 20. National average (all UDAY states) of

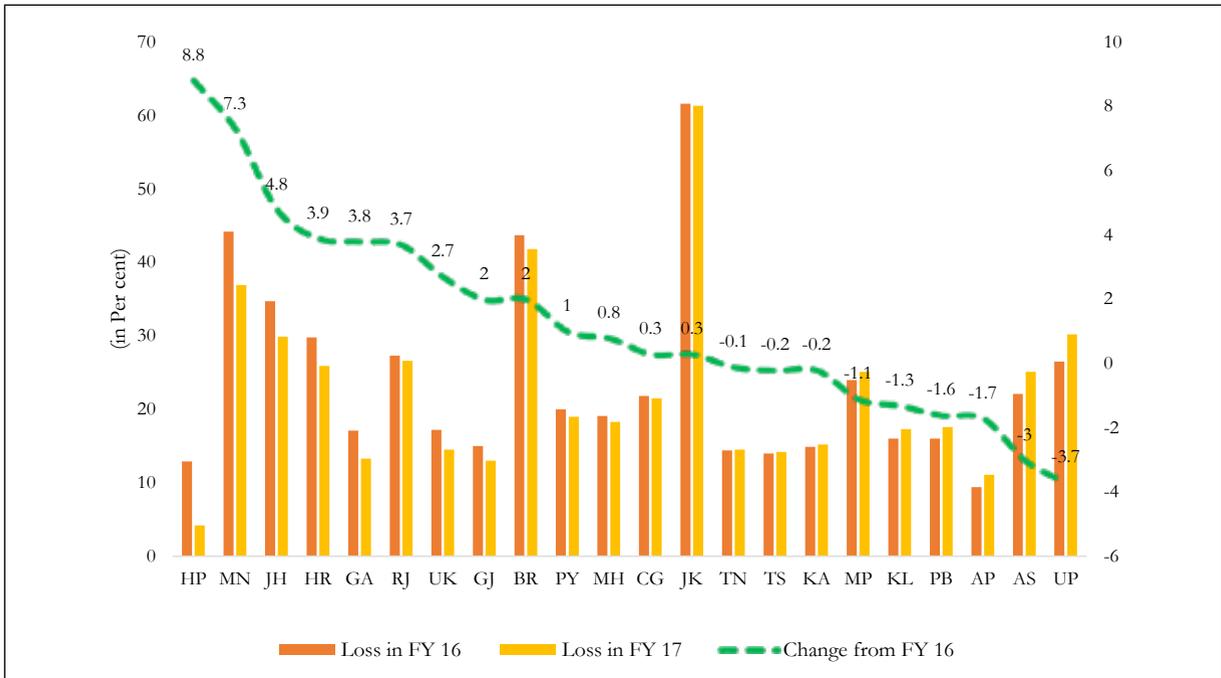
AT&C loss has come down to 20.2 per cent in FY 2017 from 21.1 per cent in FY 2016. Himachal Pradesh, Haryana, Goa, Rajasthan, Uttarakhand, Gujarat and Puducherry have shown significant improvement. States like Chhatisgarh, Maharashtra, Manipur, Jharkhand, and Bihar have also reduced the AT&C losses but needs further improvement. Thirteen DISCOMs have reported improved AT&C loss at the end of Q3 of FY 2016-17 from FY 2015-16 level. The performance of some DISCOMs is shown in Figure 21.

Table 10. Summary of Issuance of Bonds Under UDAY till 31st March 2017

States	Net DISCOM Liabilities (to be restructured/Bonds to be issued) as on 30.09.2015 (in Rs. Crore)	Total Bonds Issued by States till Date (in Rs. Crore)	Total Bonds issued by DISCOM (in Rs. Crore)	Total Bonds issued under UDAY (in Rs. Crore)
Rajasthan	76120	59722	12368	72090
Uttar Pradesh	49847	39133	10714	49847
Chhatisgarh	870	870	-	870
Jharkhand	6136	6136	-	6136
Punjab	20262	15629	-	15629
Bihar	3109	2332	777	3109
Jammu & Kashmir	3538	3538	-	3538
Haryana	34158	25951	-	25951
Andhra Pradesh	14721	8256	-	8256
Madhya Pradesh	11899	7360	-	7360
Maharashtra	6613	4960	-	4960
Himachal Pradesh	3854	2891	-	2891
Telangana	11244	8923	-	8923
Assam		State Govt. Loan, Bonds not to be issued		
Tamil Nadu	30420	22815	-	22815
Meghalaya	167	125	-	125
Total	273318	208641	23859	232500

Source: Ministry of Power

Figure 20. State wise AT&C Loss (in Per cent) of UDAY States

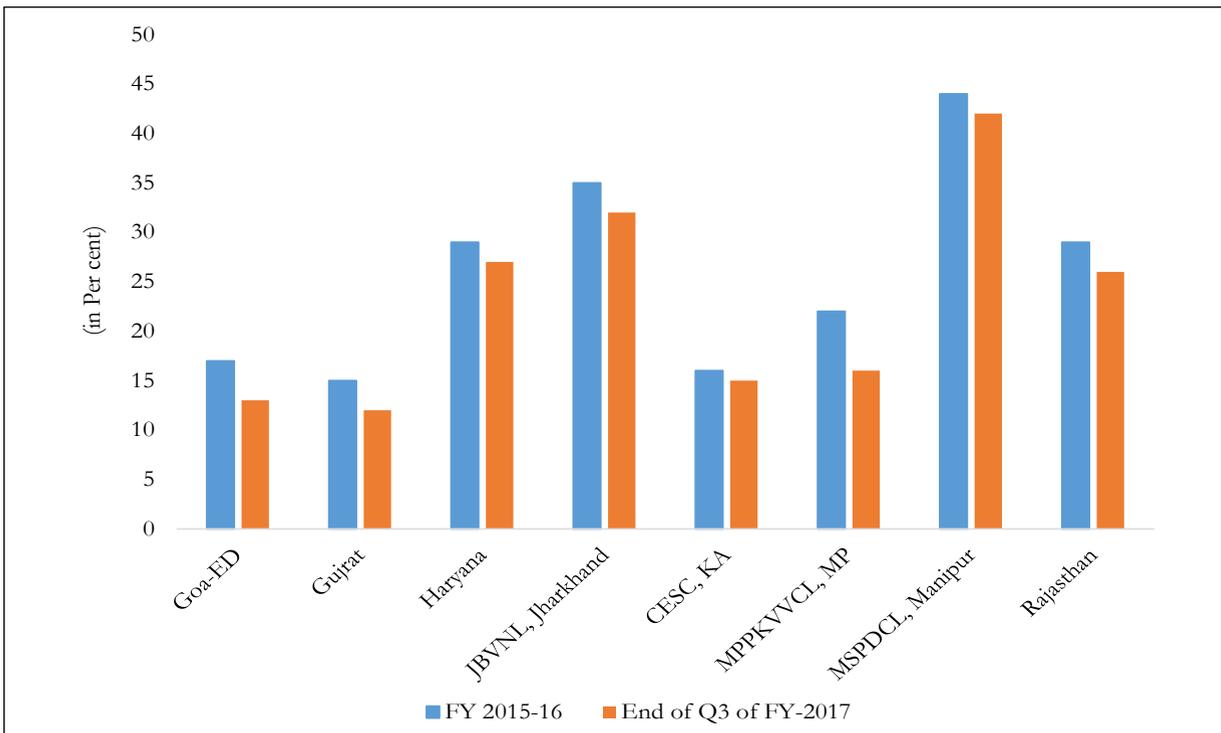


Source: UDAY Cell, REC

Note: Change of AT&C Loss from FY 16 in RHS

*Abbreviation of State Names in Appendix 2

Figure 21. Aggregate Technical & Commercial (AT&C) loss of DISCOMs (in %)



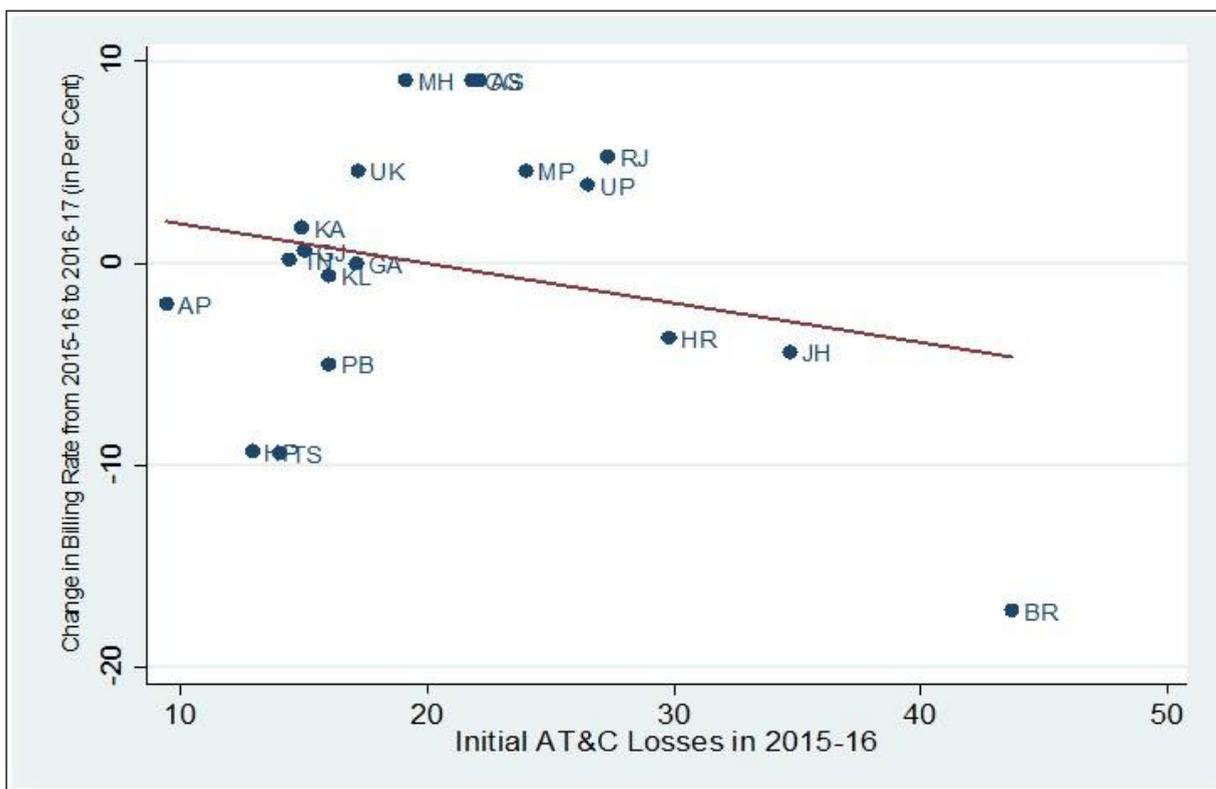
Source: Ministry of Power

8.71 After the introduction of UDAY, the primary focus has been given on billing and collection efficiency of DISCOMs. As per the information of Ministry of Power, at all India level, billing efficiency has been increased by 2 per cent from 81 per cent in 2015-16 to 83 per cent in 2016-17. The States with high AT&C losses should have increased their billing rate after the introduction of UDAY. Figure 22 shows the initial AT&C losses that prevailed in 2015-16 and change in billing rate from 2015-16 to 2016-17 in UDAY States. The expected relationship should have been positive. But many states with higher initial AT&C losses like Bihar, Jharkhand, Haryana and Punjab have not increased their billing rate, and in fact further reduced rates, Bihar being amongst the worst offender. However, States like Rajasthan, Uttar Pradesh and Madhya

Pradesh with higher initial AT&C losses have increased their billing rate from 2015-16 to 2016-17. Unless States make timely revision of tariff, the problem of losses and debts of DISCOMs may not be resolved.

8.72 Electricity is a merit good. The tariff structure must reflect this. States with the highest losses are those where tariffs fail to cover costs on average. In states such as Rajasthan, Tamil Nadu, Jharkhand, Madhya Pradesh and Uttar Pradesh (top ranking states in loss distribution), the per unit average tariff (AT) is lower than the average cost of supply (ACS). After the introduction of UDAY, 15 states have issued tariff-revisions for FY 2017-18 by their respective Commissions to cover cost of supplies till date. The tariff revision of all the UDAY states has been given in the Table 11.

Figure 22. Initial AT&C Losses and Change in Billing Rate



Source: UDAY Cell, REC

Table 11. Tariff Revision in 2017-18

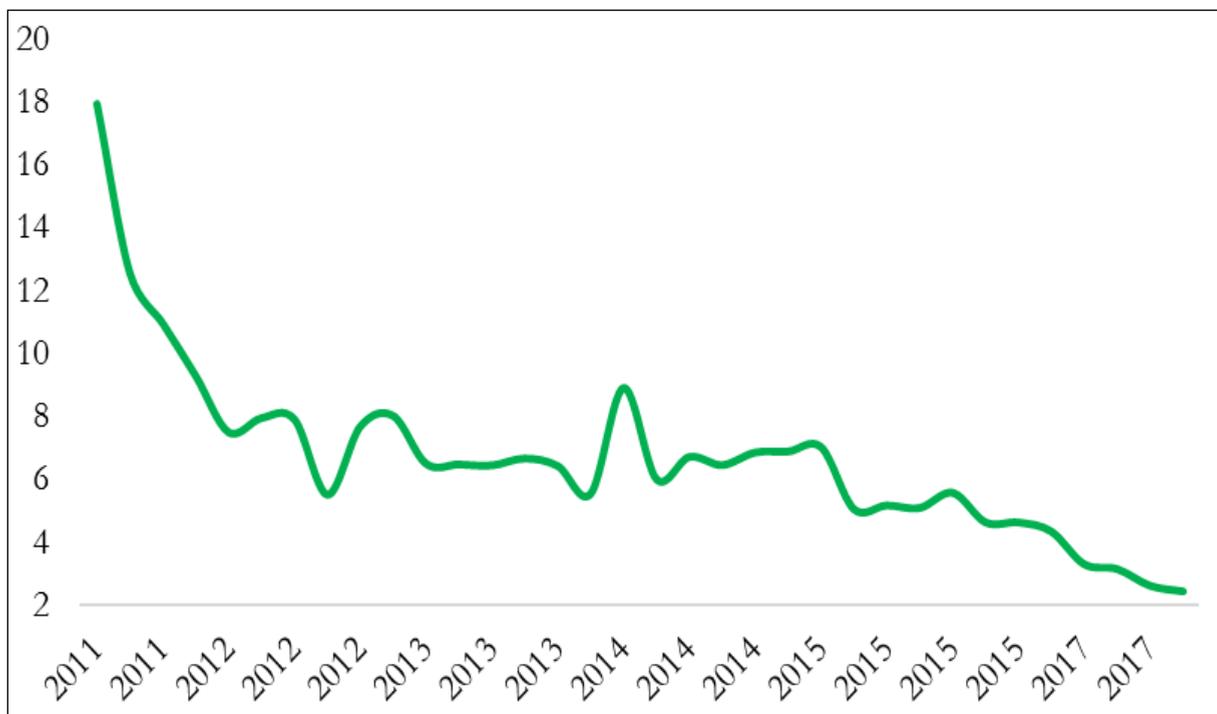
S.No.	Name of State	Tarrif Order (Issued/Not Issued)	% Average tariff Hike	Applicable Date	MoU Tariff Hike Target for FY17-18
1	Bihar	Issued	55%	01-Apr-17	15.00%
2	Uttarakhand	Issued	5.72%	01-Apr-17	4.27%
3	Madhya Pradesh	Issued	9.42%	01-Apr-17	5.00%
4	Karnataka	Issued	8%	01-Apr-17	3%-4%
5	Gujrat	Issued	0%	01-Apr-17	0.50%
6	Andhra Pradesh	Issued	3.60%	01-Apr-17	5.00%
7	Chhattisgarh	Issued	2.0-2.5%	01-Apr-17	6.00%
8	Manipur	Issued	5%	01-Apr-17	Rs. 5.13/KWH
11	Assam	Issued	6%	01-Apr-17	6.50%
13	Meghalaya	Issued	5% (Approx)	01-Apr-17	8.68%
9	Maharashtra	Issued	-	01-Apr-17	9.01%
10	Himachal Pradesh	Issued	0%	01-Apr-17	3.00%
12	Telangana	Issued	0%	-	8.00%
14	Sikkim	Issued	-	01-Apr-17	15.00%
15	Mizoram	Issued	-	-	5.00%
16	Arunnchal Pradesh	-	No tariff Hike is proposed	-	0.00%
17	Rajasthan	Not Issued	-	-	8.00%
18	Haryana	Not Issued	-	-	Projection are not Given.
19	Punjab	Not Issued	-	-	9.00%
20	Puducherry	Not Issued	-	-	3.00%
21	Jharkhand	Not Issued	-	-	9.60%
22	Jammu & Kashmir	Not Issued	-	-	17.00%
23	Goa	Not Issued	No tariff Hike is proposed	-	5.00%
24	Tamil Nadu	Not Issued	No tariff Hike is proposed	-	8.00%
25	Tripura	Not Issued	-	-	4.50%
26	Uttar Pradesh	Not Issued	-	-	6.95%
27	Kerala	Not Issued	-	-	0.00%

Source: Ministry of Power

8.73 Tariff in many states have been increased due to tariff revision. But the higher tariff may face potential threat from lower solar and wind prices. As per latest

available information, the solar energy price is at Rs.2.5 per KWH and wind energy price is at Rs.3.4 per KWH. The falling trend in solar prices is shown in figure 23.

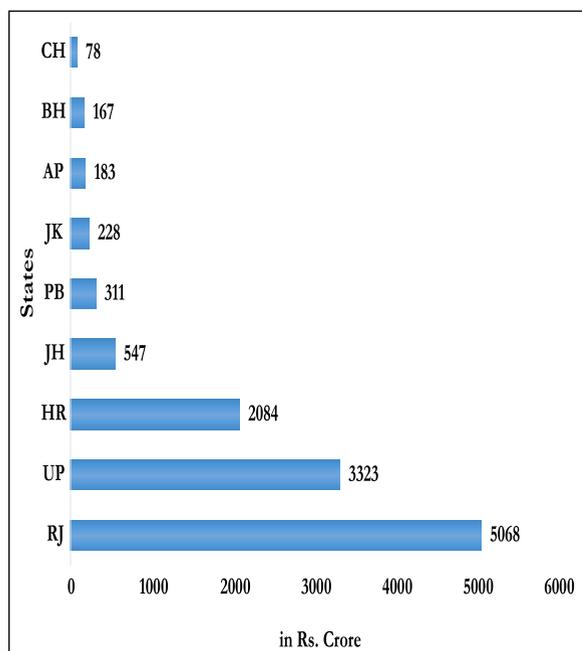
Figure 23. Price of Solar Energy (in Rs. per KWH)



Sources: MNRE

8.74 State power distribution companies have started reporting handsome savings and improvements in operational efficiency

Figure 24. Estimated Savings in interest cost (in Rs. Crore)

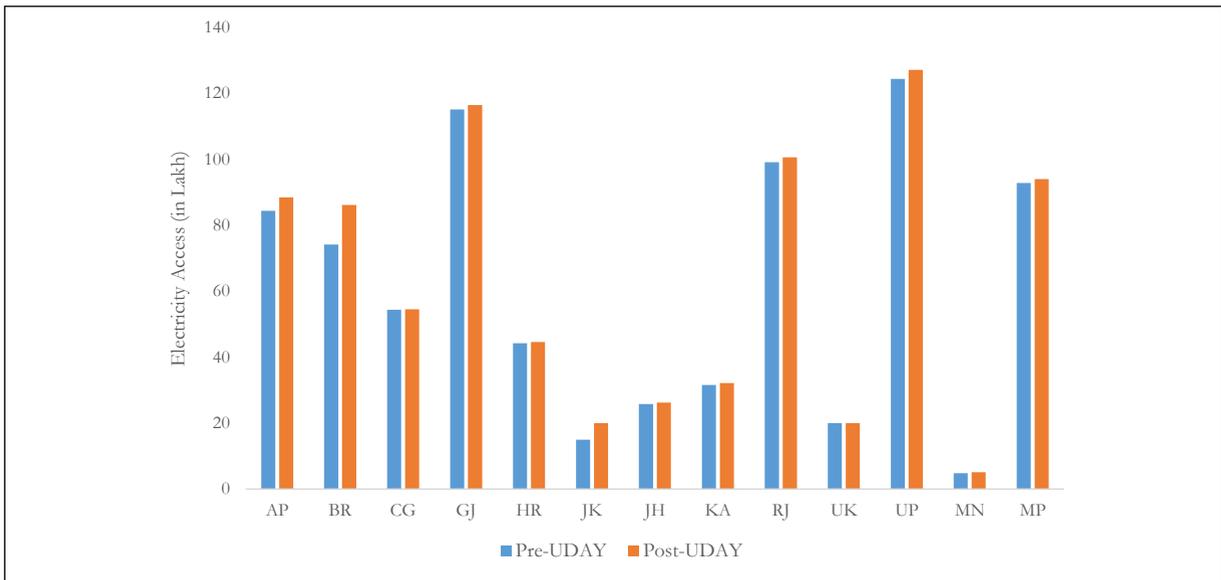


Source: Ministry of Power

under the UDAY. Utilities in Rajasthan, Uttar Pradesh, Haryana, Jharkhand and Punjab are the major gainers in lowering their interest costs in 2016-17. DISCOMs of states have achieved an estimated savings of Rs.11,989 crore till December, 2016. Estimated savings in interest costs of different states are shown in Figure 24.

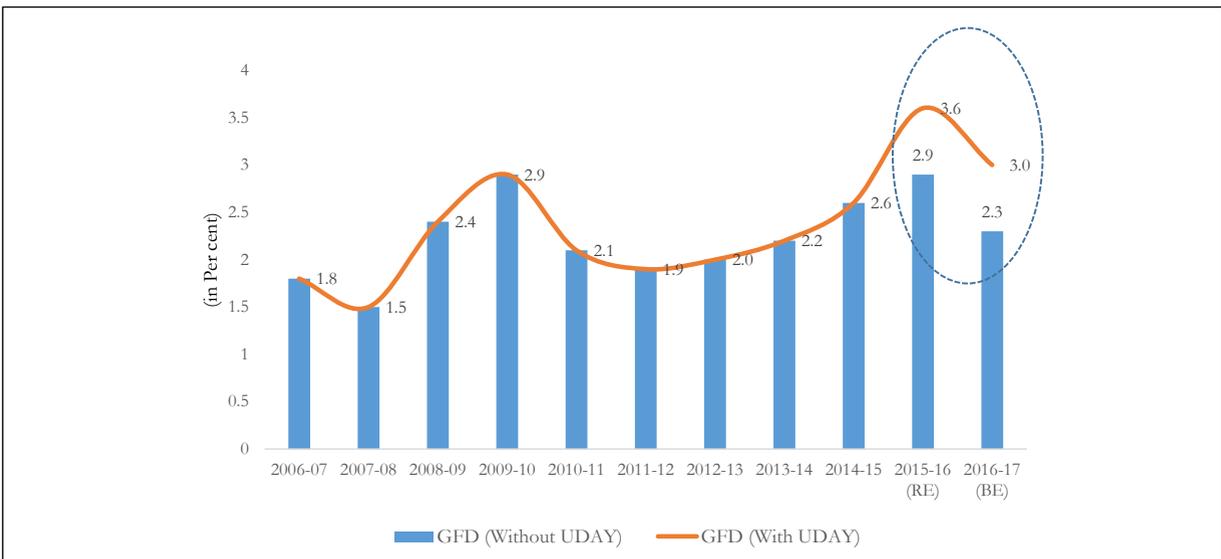
8.75 Apart from the above developments, many states have shown improvement in terms of electricity access to unconnected households, distribution of LEDs under UJALA, feeder metering and distribution transmission (DT) metering both in rural and urban area after the introduction of UDAY (Figure 25). States like Andhra Pradesh, Gujarat, Maharashtra, Karnataka have performed better in terms of operational aspects like electricity access, DT metering and Feeder Metering; but states like Uttar Pradesh, Tamil Nadu and Himachal Pradesh have not reported any improvement.

Figure 25. Change in Electricity Access to Un-connected Households due to impact of UDAY (in Lakh)



Source: Ministry of Power

Figure 26. States Gross Fiscal Deficit-GDP Ratio



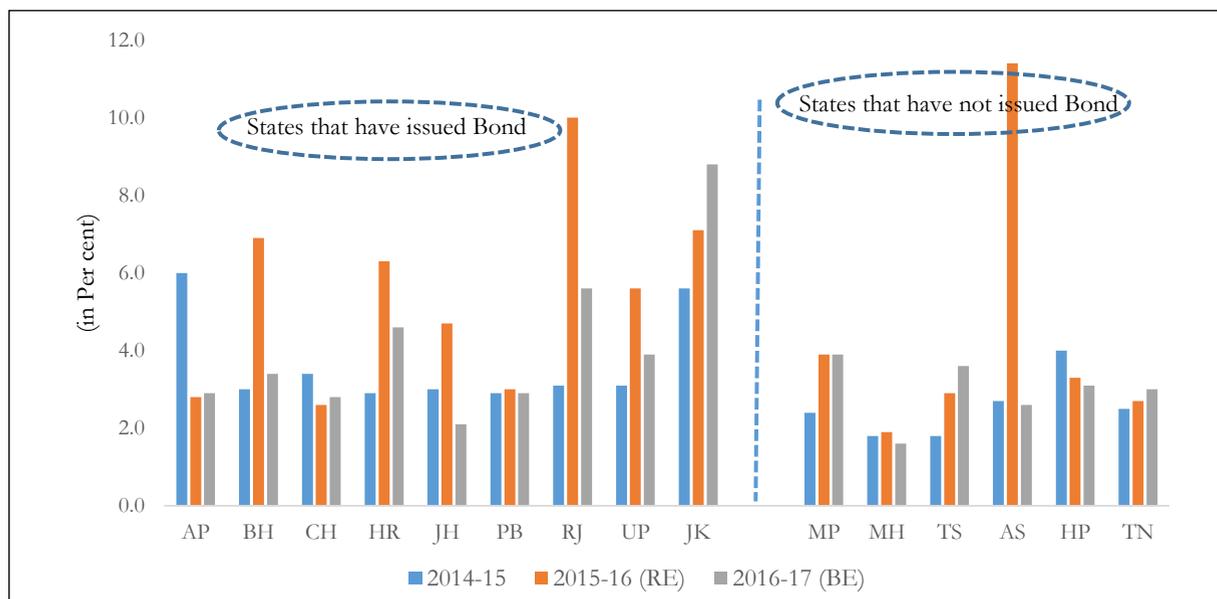
Source: RBI

Fiscal Burden on States

8.76 UDAY is not a panacea for addressing fiscal situations though it has had a significant impact on addressing the structural issues attached with the power sector. Under the UDAY scheme, states were allowed to issue non-SLR state development (SDL) bonds in the market or directly to banks or financial institutions holding the Discom debt. Due

to these bonds, the state Gross Fiscal Deficit/GDP ratio got increased by 0.7 percentage points to 3.6 per cent in 2015-16 from 2.9 per cent without UDAY (Figure 26). The GFD/GDP ratio of states who have issued UDAY bond is higher than the GFD/GDP ratio of states who have not issued UDAY bonds (Figure 27).

Figure 27. GFD/GSDP ratio of States with UDAY



Source: RBI

Petroleum and Natural Gas Sector

8.77 During 2016-17, crude oil production was 36.0 MMT as against the target of 37.1 MMT which is 97.1 per cent of the target. Similarly, the natural gas production target during 2016-17 was 34.1 BCM against which actual production was 31.9 BCM which is 93.5 per cent of the target. Shortfall in production both petroleum and natural gas was mainly due to declining production from old and marginal fields, delay in completion of some projects in western offshore, unplanned shutdown of wells, processing platform/plants, pipelines. The Government has taken various measures to transform hydrocarbon sector in India as follows.

- *Hydrocarbon Exploration and Licensing Policy (HELP)*: The policy envisages single license for exploration and production of conventional as well as non-conventional hydrocarbon resources, open acreage licensing system to select the exploration blocks without waiting for formal bid round, simply and easy to administer revenue sharing model. The National Data Repository has been developed to

support the process by providing quality data on the prospectivity of the basins to investors.

- *Discovered Small Field Policy 2016*: As a step to reduce India's energy imports by 10% by 2022, 31 contracts (23 on land and 8 offshore) were signed for awarded fields under the Discovered Small Field (DSF) Bid Round 2016. The production from these contract areas will supplement the domestic production of crude oil and natural gas.
- *Hydrocarbon Vision 2030 for North East*: The Vision aims at doubling Oil & Gas production by 2030, making clean fuels accessible, fast tracking projects, generating employment opportunities and promoting cooperation with neighbor countries. An investment of ₹1.3 lakh crore is envisaged till 2030 in North East India.
- *Pratyaksha Hanstantrit Labh (PAHAL)*: Government, as a measure of Good Governance has introduced well targeted system of subsidy delivery

to LPG consumers through PAHAL. The initiative of the Government was aimed at rationalizing subsidies based on approach to cut subsidy leakages, but not subsidies themselves. Since 2014-15, more than 17.5 crore LPG consumers have joined PAHAL scheme. PAHAL has entered into Guinness Book of World Records being largest Direct Benefit Transfer Scheme. So far, more than ₹50,000 crore have been transferred directly into the bank accounts of the consumers. Estimated savings in subsidy due to implementation of PAHAL during 2014-15, 2015-16 and 2016-17 is nearly ₹29446 crore.

- *Pradhan Mantri Ujjwala Yojana (LPG connections for BPL houses):* The Government has embarked upon providing 5 crore LPG connections to BPL families in the country with focus on States/ UTs having LPG coverage less than the National average of 61% as on 01.01.2016 with this scheme. The connections are released in the name of adult woman member of BPL family having no LPG connection either in the name of beneficiary or any other family members. Objective of the scheme is to provide clean cooking fuel solution to poor households, especially in rural areas. A target of 1.5 crore was fixed for the financial year 2016-17 and the connections released as on 31.03.2017 have surpassed the target at 1.98 crore.
- The first phase of 'Urja Ganga'- Jagdishpur – Haldia and Bokaro – Dhamra Pipeline project (JHBDPL) has been taken up since July 2015. The pipeline is being executed by GAIL (India) Limited as a part of National Gas Grid for extending the Gas Energy Corridor in Eastern India. The 2,539 km JHBDPL pipeline is being executed

with an investment of ₹ 12,940 crore, which includes 40 per cent capital grant of ₹ 5176 crore from the Government of India. Urja Ganga will pass through five States i.e. Uttar Pradesh, Bihar, Jharkhand, Odisha and West Bengal covering 40 districts. It will also help in setting up of City Gas Distribution networks in 7 cities in the first phase. CGD Project will bring eco-friendly fuel natural gas to households, vehicles and industries. The Pipeline project will also be used for gas supply to 3 fertilizer plants in Gorakhpur, Barauni & Sindri in Eastern India, giving a new dimension to fertilizer & food processing industry.

URBAN INFRASTRUCTURE WITH A NOTE ON SMART CITY MISSION

8.78 Cities are regarded as “engines of growth” for economies. The confluence of capital, people and space in cities unleashes the benefits of agglomeration, creating a fertile environment for innovation of ideas, technologies and processes which produce huge economic returns. Cities in India generate two-third of national GDP, 90 per cent of tax revenues and the majority of formal sector jobs, with just a third of the country’s population. Despite being centers of opportunity, the cities of India bring with them a host of environmental and infrastructure challenges, from pollution to lack of civic amenities like drinking water, sewage, housing and electricity, which disproportionately impacts the more vulnerable poor population. For addressing these issues, the Government has taken various steps to improve urban infrastructure like Swachh Bharat Mission (SBM, urban), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Heritage City Development and Augmentation Yojana (HRIDAY) and Smart Cities Mission.

Smart City Mission

8.79 India is witnessing rapid urbanization and the phenomenon requires a major policy response. As part of the policy response, the government conceived of the Smart City Mission. Let it be clear that “smartness” in this context should not be confined merely to the application of digital technologies. Right from the beginning, the definition of the “smart city” was left open. The real shift was to move from rigid master-plans and silos to a more ecosystem approach. The four key ingredients of a thriving urban ecosystem are institutional infrastructure, physical infrastructure, social infrastructure and economic infrastructure. So, the smart city approach aims to upgrade urban ecosystems either through targeted strategic interventions using one of the ingredients with city-wide impact (Pan City Initiatives) or through simultaneously upgrading more than one ingredient in a defined space (Area Based Project). It is understood that the exact implementation of such a strategy has to be customized to the specific context. A sibling programme called Heritage City Development and Augmentation Yojana (HRIDAY) has also been initiated to look at the special needs of heritage cities.

8.80 The Government of India launched the Smart Cities Mission on 25 June 2015. It was proposed to cover 100 cities over the period 2015-16 and 2019-20. Some of the unique features of the Smart Cities’ Mission in India are: (i) Selection of cities through a city challenge competition; (ii) Implementation by Special Purpose Vehicles- companies owned by municipal authorities; (iii) Central grant funds used for leveraging funds from other sources; (iv) Citizen participation in planning and implementation of the Mission to ensure sustainability and accountability.

8.81 Following this process, 60 cities (20 cities in Round 1 in January 2016, 13 cities

in fast track round in May 2016 and 27 cities in Round 2 in September, 2016) have been selected so far (See Appendix 3 for the list of Light House, Fast Track and Round 2 cities). The other 40 cities are expected to be selected in the 3rd round of the competition this year.

8.82 A total investment of ₹1,33,368.5 crore has been proposed by the 60 cities under their smart city plans. Projects focusing on revamping an identified area (Area Based Projects) are estimated to cost ₹1,05,621 crore. Smart initiatives across the city (Pan City Initiatives) account for the remaining ₹26,141 Crores of investments. Besides ABP and Pan city projects an amount of ₹1604.5 crore has been kept aside for O&M cost of the Mission and other contingencies.

8.83 Priority interventions at the city level include developing an integrated command and control centre, integrating data from multiple departments leading to better coordination and effective service delivery, smart water management through use of technology to reduce non- revenue water, smart roads, heritage and “place-making” projects (Also see Box 2).

8.84 57 projects worth ₹941 crore have already been completed as of April 2017. An estimated additional 462 projects worth ₹15307 crore are likely to be completed through 2018 provided all the projects that have commenced implementation and those that have been tendered stick to their timelines. In the best-case scenario, an additional 920 projects for which detailed project reports (DPRs) have already been prepared worth ₹24526 crore are estimated to be completed by the end of 2018 provided all timelines are adhered to. A quarterly break-up of the number and value of projects in the two scenarios is given in Table 13 below.

Table 12. Round- wise Project Implementation Details

Rounds of selection	DPR/ RfP Preparation Stage		Projects Tendered		Projects- Work Commenced		Projects- Work Completed	
	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)
ROUND 1	571	32,433	135	7,112	72	3,500	32	503
FAST TRACK	468	18,446	8	684	7	107	6	150
ROUND 2	919	30,270	39	1,974	37	869	19	288
Total	1,958	81,150	182	9,769	116	4,476	57	941

Source: Ministry of Urban Development

Table 13. Estimated Minimum & Best Scenario of Smart Cities' Project Completion

SCENARIO-1 (Minimum): PROJECTS LIKELY TO BE COMPLETED										
	Jan- Mar' 18		April- June'18		July- Sept'18		Oct- Dec.'18		Grand Total	
	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)
ROUND 1	52	2652.9	72	3714.1	46	2334.6	58	2971.3	228	11673
FAST TRACK	2	79.1	2	118.6	3	158.2	8	434.9	15	791
ROUND 2	33	426.5	44	568.6	55	710.8	88	1137.3	219	2843
GRAND TOTAL	86	3158.5	119	4401.3	103	3203.5	154	4543.4	462	15307

SCENARIO-2 (Best): PROJECTS LIKELY TO BE COMPLETED										
	Jan- Mar' 18		April- June'18		July- Sept'18		Oct- Dec.'18		Grand Total	
	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)	No. of Projects	Value (₹ Crore)
ROUND 1	89	4680.0	122	6552.0	77	4118.4	98	5241.6	386	20592
FAST TRACK	9	86.1	13	129.1	17	172.2	47	473.5	85	861
ROUND 2	67	460.9	90	614.6	112	768.2	180	1229.2	449	3073
GRAND TOTAL	165	5227.0	225	7295.7	206	5058.8	324	6944.3	920	24525

Source: Ministry of Urban Development

8.85 So far as the priority sector interventions are concerned, 22 of the 60 cities have already initiated the smart roads and 18 cities have initiated integrated command and control projects. Additionally, 20 cities have

initiated smart water projects and 26 cities have started implementing the solar roof top projects. Architectural, place-making and city beautification projects have been initiated in 18 cities.

EXAMPLE OF SMART CITY PROJECT: INTEGRATED COMMAND AND CONTROL CENTRE, PUNE

Name of the project: Transport Command and Control Centre

Sector: Integrated Command and Control Centre

Cost and Financing: ₹ 48 Crore

Brief Description: State of art Command and Control Centre for Traffic (2700 sqft) has been set-up at the PMPML Headquarter. The Command and Control Centre captures the real time movement of buses in the city based on the GPS tracker which is placed on the buses. The Office Space houses 4 servers and 20 computers which is managed by 21 people on the ground

Current Status of project implementation: Fully implemented with 1500+ buses being tracked on the system (see photograph below).



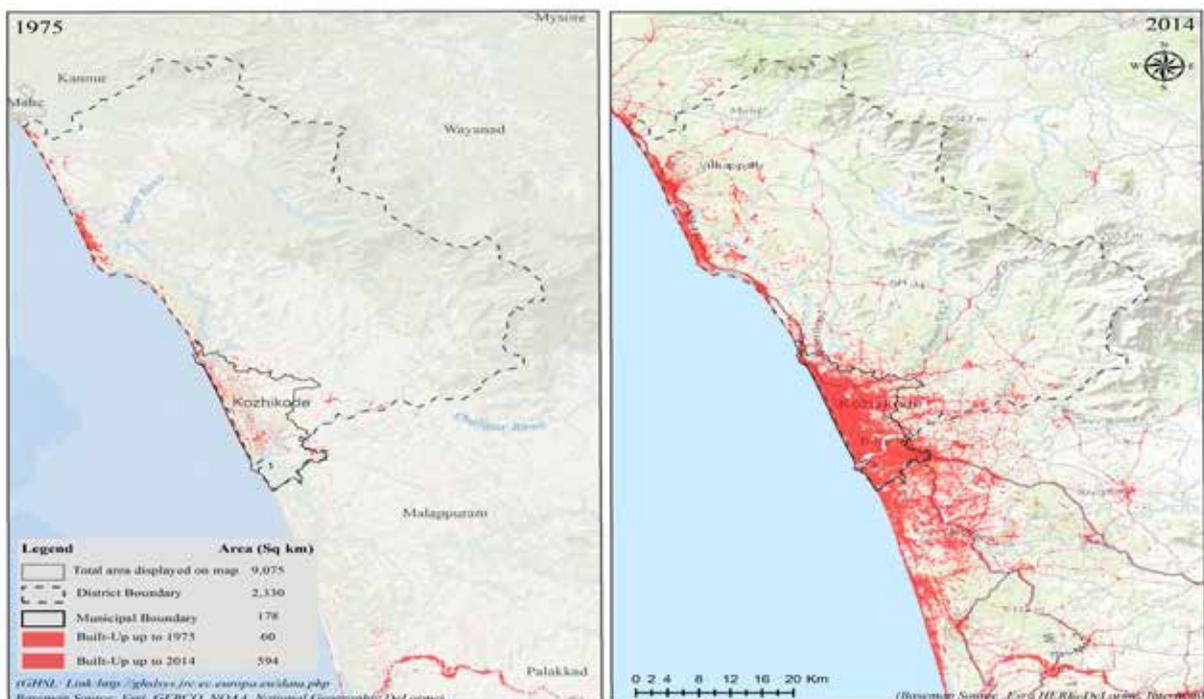
How Urban is India?

8.86 India is rapidly urbanizing, but does the 2011 census based urbanisation rate of 31.2% fairly capture it? Urbanisation in India is officially defined by two metrics: (i) Administrative definition: which considers the population living in areas governed by urban local bodies such as municipal corporations, municipal councils or notified town committees. These urban settlements governed by urban local bodies are referred to as “statutory towns”. Using the administrative definition, India was approximately 26% urban in 2011. State governments determine the administrative status of a settlement. By default all settlements are rural and become urban only after the state government converts them, following a requisite legal process. While there are guidelines for classifying a settlement as urban, these are not binding on state governments. (ii) Census definition: Under this definition, the population living in statutory towns described above as well as census towns together constitutes the

urban population. Census towns are a category created by the census that fulfill the following three criteria: population of at least 5,000; density of at least 400 persons per square kilometer, and at least 75% of the male main working population engaged in non-agricultural activities. India stood at 31.2% urban in 2011 according to the census definition.

8.87 As India rapidly urbanises, these traditional measures are inadequate to capture the complex phenomenon, especially when we study this at the state or local level. To begin with, there is a large difference between urbanization as defined by the two official definitions. For example, Kerala is 15% urban by the administrative definition, but 47.7% by the census definition. The built-up density on ground processed from the satellite map of Kozhikode shows how the urban expansion ignored the administrative boundary between 1975 and 2014. Other definitions reveal even larger gaps.

Map 2. Built-up Area in Kozhikode Metropolitan region 1975 vs 2014



Source: IDFC Institute, Mumbai.

8.88 In countries like Ghana and Qatar, all settlements with 5000+ population are deemed urban. India would be 47% urban in 2011 by this definition. In Mexico and Venezuela, a 2500+ threshold is employed. India would be 65% urban in 2011 by this definition. Kerala is 99% urban both by the 5000+ and 2500+ population definitions. A 2016 World Bank report uses an agglomeration index to measure urbanisation and finds that more than half the population in India is urban.³ Research by Jana, Sami, and Seddon finds that if we relax the population size and occupation categories and only use

the density criteria of 400 persons per square kilometer, India is around 78% urban.⁴ It finds that even if we use density criteria of 800 persons per square kilometer, India will still be more urban (55%); far more than the current official numbers suggest. The point is that different definitions give very different answers and the appropriateness of a particular framework really depends on the application. Also note that the urbanization is not black-and-white as there are many shades of semi-urban settlements. Thus, one needs to be careful of making blanket assumptions about the nature of urbanization in India.

Table 14. State Wise Urbanization Rate in 2011 as per different definitions

State Names	Admin	Census	5000+ pop	2500+ pop
Jammu & Kashmir	23.44	27.38	40.35	61.58
Himachal Pradesh	9.59	10.03	10.02	15.82
Punjab	34.44	37.48	46.83	64.49
Chandigarh	91.11	97.25	99.21	100.00
Uttarakhand	24.66	30.10	40.22	51.20
Haryana	31.01	34.88	56.79	78.90
Nct Of Delhi	67.92	97.50	98.56	99.70
Rajasthan	22.93	24.87	35.08	52.69
Uttar Pradesh	20.37	22.27	37.10	60.12
Bihar	10.80	11.29	48.61	72.19
Sikkim	24.19	25.15	27.79	41.18
Arunachal Pradesh	22.66	22.94	21.50	24.60
Nagaland	25.55	28.86	38.75	56.84
Manipur	24.77	32.45	41.90	59.51
Mizoram	52.11	52.11	50.64	58.63
Tripura	18.26	26.17	57.77	85.26
Meghalaya	12.67	20.07	21.42	26.81
Assam	10.64	14.10	21.08	43.42
West Bengal	23.11	31.87	50.71	70.64
Jharkhand	16.08	24.05	29.54	44.22
Odisha	14.24	16.69	19.56	33.10
Chhattisgarh	22.27	23.24	25.19	38.92
Madhya Pradesh	25.85	27.69	33.24	46.34
Gujarat	38.37	42.60	56.71	74.55

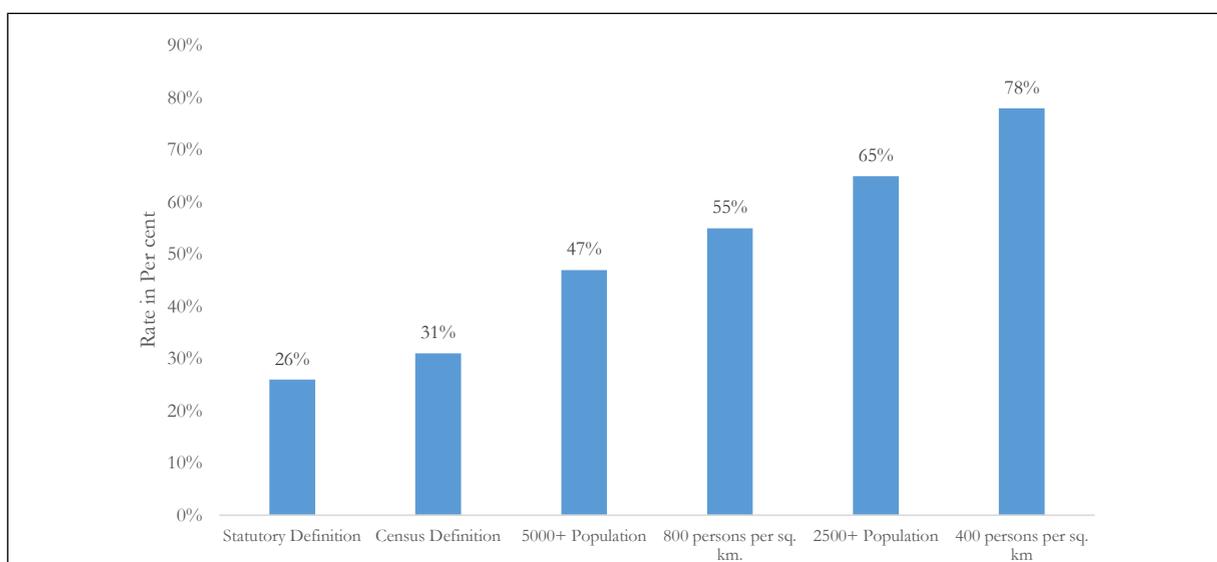
³ See: <http://www.worldbank.org/en/region/sar/publication/urbanization-south-asia-cities>.

⁴ See: <https://www.theigc.org/wp-content/uploads/2014/08/Arindam-Jana.pdf>.

State Names	Admin	Census	5000+ pop	2500+ pop
Daman & Diu	28.07	75.17	89.87	95.15
Dadra & Nagar Haveli	28.59	46.72	62.22	88.83
Maharashtra	41.63	45.22	56.39	69.55
Andhra Pradesh	27.20	33.36	57.31	77.88
Karnataka	36.28	38.67	51.35	67.17
Goa	27.56	62.17	66.64	85.74
Lakshadweep	0.00	78.07	82.88	95.85
Kerala	15.71	47.70	99.22	99.89
Tamil Nadu	41.35	48.40	65.86	83.73
Puducherry	59.96	68.33	86.02	96.33
Andaman & Nicobar Islands	28.39	37.70	40.35	56.53
All India	26.31	31.16	47.20	64.94

Source: IDFC Institute, Mumbai and Census of India, 2011.

Figure 28. Alternative Definitions of Urbanisation Rate



Source: IDFC Institute, Mumbai and Census of India, 2011

Note: Percentage of India that was Urban in 2011 according to the different definitions

Using Satellite Data

8.89 With recent advances in remote sensing technology and machine learning for processing satellite images, we can get much more granular data on how urbanisation is happening across India (see map 3). Based on publically available data from the Global

Human Settlement Layer (GHSL),⁵ we look at how built-up areas show the evolution of human settlements across India since 1975. It is also possible to disaggregate official census population numbers according to the density and form of these settlements to get granular population figures across the country.

⁵ See: <https://ec.europa.eu/jrc>.

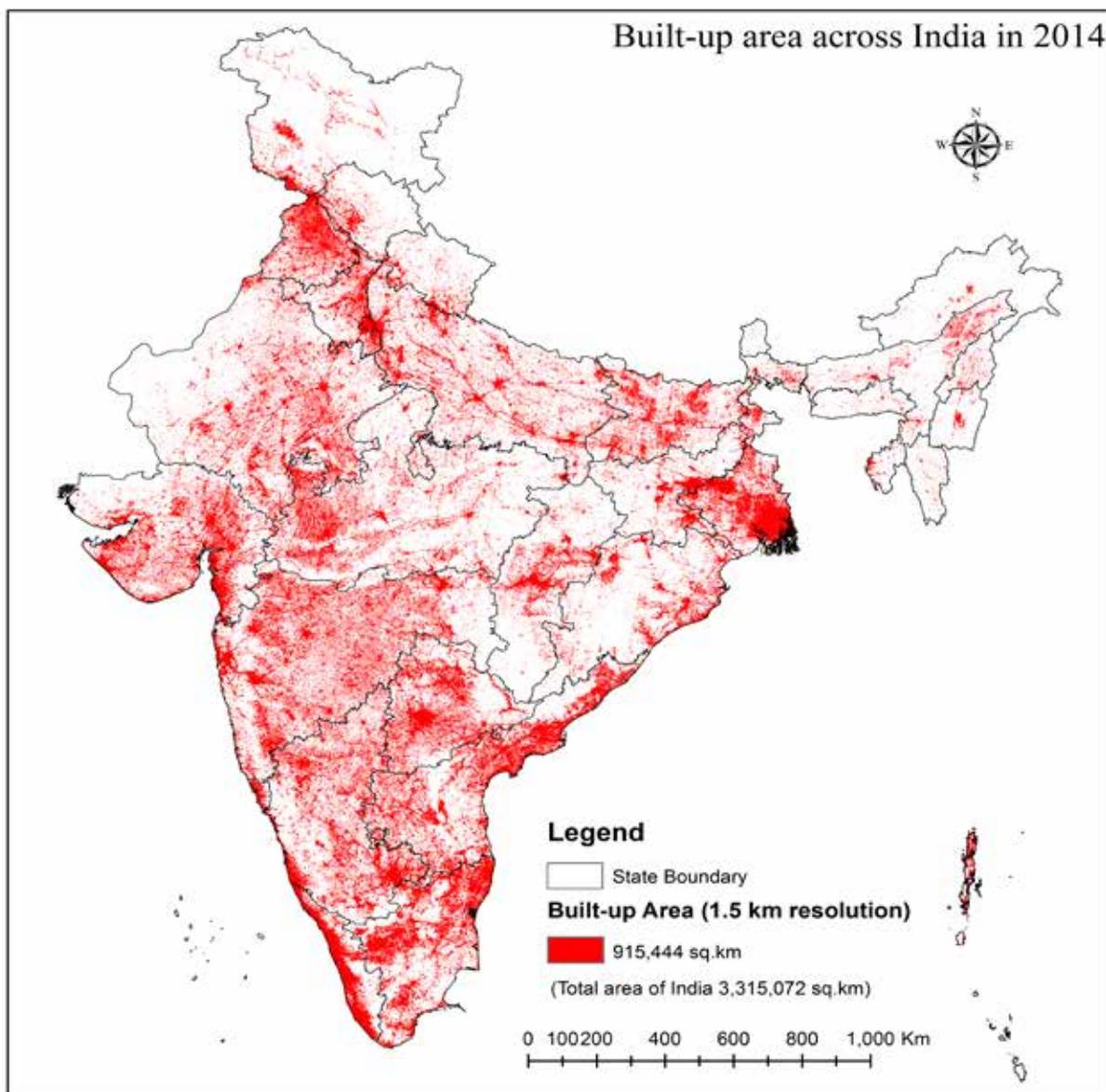
8.90 Using these satellite image datasets, we can then apply spatial definitions to classify urban areas. For instance, the Joint Research Center of the European Commission Science Hub, that generates the GHSL data, defines “high density clusters” (HDCs) as those areas that meet all of the following criteria:

- a) 4 contiguous cells with at least 1,500 persons per square kilometer,
- b) Minimum of 50,000 persons per cluster, and

c) Density of built-up area greater than 50%

8.91 Based on this more detailed data and scientific definition of High Density Settlements, India was 63% ‘urban’ in 2015 -- more than double the urbanization rate estimated by the 2011 Census. Moreover, we can go into a much greater level of spatial detail with this data to uncover important insights for promulgating expeditious public policy at center, state and urban local body level.

Map 3. Built-up area across India in 2014



Box 2. Does India need a Transparency of Rules Act?

Almost everyone will agree that “rule-of-law” is fundamental to good governance. In turn, rule-of-law is based on the expectation that all citizens are aware of the country’s laws and will follow it. Ignorance of the law is not accepted as defense. The problem is that it is not easy for ordinary citizens (& businesses) in India to navigate the multitude of rules, regulations, forms, taxes and procedures imposed by various tiers of government. Moreover, these rules frequently change and sometimes contradict each other. Often the citizen has to follow a long paper trail of circulars and notifications to know the current requirements. Note that we are not concerned here about the content of the rules/regulations but solely about the ease of finding out what the citizen is expected to do.

The opaque mesh of rules is so complicated that even government officials struggle to keep up with the latest version. This is the cause of a lot of inefficiency, and delay. Arguably it is also an important source of corruption and endless litigation. This is why India would benefit enormously if the average citizen could easily access the latest rules and regulations in a comprehensible format.

One way to solve the above problem could be a Transparency of Rules Act (TORA). The proposed legislation would have the following three elements. Each element is necessary and that together they are sufficient to significantly resolve this problem:

- TORA would make it mandatory for all departments to place every citizen-facing rule, regulation, form and other requirement on its website (preferably in English, Hindi and regional language). Once a department is declared “TORA-compliant”, any rule that is not explicitly on the website would be deemed not to apply. No government official would be allowed to impose a rule, procedure or form that is not explicitly displayed on the website.

This is not an entirely new idea as all state and central laws are currently required to be published in the Gazette. The new legislation extends this principle to say that a rule only applies if the citizen can easily find it on the website of the relevant department or agency. Simply placing a circular in the large heap of updates and circulars in the Gazette is not good enough.

- TORA will further specify that all laws, rules and regulations need to be presented as an updated, unified whole at all times. Citizens should not have to wade through decades of circulars to find out the current state of play. This is already being done in some places on an ad hoc basis, but this is not useful if one is never completely sure that the so-called updated version has itself not been superseded. The format used by Wikipedia is a simple example of a format where the main text can be constantly updated but also allows people to look up document history in order to compare changes. A presentation of laws as an updated whole will have an additional benefit that it will make internal contradictions obvious.
- The third critical element of TORA is that the websites should clearly state the date and time when each change is made. This should be embedded in the software. Laws would normally be applicable after a specified time (say seven days) after the rule has been posted. The principle is that the government must give the citizen a reasonable time to comply. The date stamp means that officials cannot retrospectively change a regulation. Note that the text on the website is deemed the law even if it has a mistake, till the correction is made. The department, and not the citizen, must pay for the consequences of any error.

Note that TORA needs all three ingredients in order to work. Leaving aside any one of them will create a loophole that will quickly make the other elements unworkable.

The technology requirements of TORA are simple and well-established, and it fits well with the Digital India initiative. The cost of implementation too is likely to be trivial. Moreover, it can be implemented by one department at a time and does not need large-scale nation-wide coordination. Once a department has shifted to the platform, it can be deemed “TORA-compliant” and citizens can be sure that the information is authentic and updated.

It could be argued that such a system could be implemented administratively and does not need legislative backing. One can indeed get the project moving before the Act is passed. However, without legal backing, it will be too dependent on the executive leadership of the time and will not be a permanent change.

Abbreviations

Country Name	Country Code
Argentina	ARG
Bangladesh	BGD
Bolivia	BOL
Brazil	BRA
Chile	CHL
China	CHN
Costa Rica	CRI
Cyprus	CYP
Dominican Republic	DOM
Ecuador	ECU
Egypt, Arab Rep.	EGY
El Salvador	SLV
Haiti	HTI
Honduras	HND
India	IND
Indonesia	IDN
Iran, Islamic Rep.	IRN
Israel	ISR
Jamaica	JAM
Kenya	KEN
Korea, Rep.	KOR
Madagascar	MDG
Malaysia	MYS
Malawi	MWI
Mexico	MEX
Morocco	MAR
Nicaragua	NIC
Nigeria	NGA
Pakistan	PAK
Panama	PAN
Peru	PER
Philippines	PHL
Rwanda	RWA
South Africa	ZAF
Sri Lanka	LKA
Thailand	THA
Turkey	TUR
Uganda	UGA
Uruguay	URY
Venezuela, RB	VEN
Zambia	ZMB

List of State Abbreviation

Abbreviation	States/UT
AP	Andhra Pradesh
AR	Arunachal Pradesh
AS	Assam
BR	Bihar
CG	Chhattisgarh
GA	Goa
GJ	Gujrat
HR	Haryana
HP	Himachal Pradesh
JK	Jammu and Kashmir
JH	Jharkhand
KA	Karnataka
KL	Kerala
MP	Madhya Pradesh
MH	Maharashtra
MN	Manipur
ML	Meghalaya
MZ	Mizoram
NL	Nagaland
OR	Orissa
PB	Punjab
RJ	Rajasthan
SK	Sikkim
TN	Tamil Nadu
TR	Tripura
UK	Uttarakhand
UP	Uttar Pradesh
WB	West Bengal
TN	Tamil Nadu
AN	Andaman and Nicobar Islands
CH	Chandigarh
DH	Dadra and Nagar Haveli
DD	Daman and Diu
DL	Delhi
LD	Lakshadweep

APPENDIX 3. ADD TO STATISTICAL APPENDIX: ROUND- WISE CITIES

#	Name of City	Name of State/UT
20 Light House Cities		
1	Bhubaneswar	Odisha
2	Pune	Maharashtra
3	Jaipur	Rajasthan
4	Surat	Gujarat
5	Kochi	Kerala
6	Ahmedabad	Gujarat
7	Jabalpur	Madhya Pradesh
8	Visakhapatnam	Andhra Pradesh
9	Solapur	Maharashtra
10	Davanagere	Karnataka
11	Indore	Madhya Pradesh
12	NDMC	Delhi
13	Coimbatore	Tamil Nadu
14	Kakinada	Andhra Pradesh
15	Belagavi	Karnataka
16	Udaipur	Rajasthan
17	Guwahati	Assam
18	Chennai	Tamil Nadu
19	Ludhiana	Punjab
20	Bhopal	Madhya Pradesh
13 Fast Track Cities		
1	Lucknow	Uttar Pradesh
2	Warangal	Telangana
3	Dharamshala	Himachal Pradesh
4	Chandigarh	Chandigarh
5	Raipur	Chhattisgarh
6	Newtown Kolkata	West Bengal
7	Bhagalpur	Bihar
8	Panaji	Goa
9	Port Blair	A & N Islands
10	Imphal	Manipur
11	Ranchi	Jharkhand
12	Agartala	Tripura
13	Faridabad	Haryana
27 Round 2 Cities		
1	Amritsar	Punjab
2	Kalyan-Dombivali	Maharashtra
3	Ujjain	Madhya Pradesh

#	Name of City	Name of State/UT
4	Tirupati	Andhra Pradesh
5	Nagpur	Maharashtra
6	Mangaluru	Karnataka
7	Vellore	Tamil Nadu
8	Thane	Maharashtra
9	Gwalior	Madhya Pradesh
10	Agra	Uttar Pradesh
11	Nashik	Maharashtra
12	Rourkela	Odisha
13	Kanpur	Uttar Pradesh
14	Madurai	Tamil Nadu
15	Tumakuru	Karnataka
16	Kota	Rajasthan
17	Thanjavur	Tamil Nadu
18	Namchi	Sikkim
19	Jalandhar	Punjab
20	Shivamogga	Karnataka
21	Salem	Tamil Nadu
22	Ajmer	Rajasthan
23	Varanasi	Uttar Pradesh
24	Kohima	Nagaland
25	Hubballi-Dharwad	Karnataka
26	Aurangabad	Maharashtra
27	Vadodara	Gujarat

APPENDIX 4. EXPLANATION OF SATELLITE IMAGE EXTRACTION & PROCESSING

Primary Data Source: The built-up analysis has been conducted using the processed satellite imagery from the Global Human Settlements Layer (GHSL). Extracted and processed by the Group on Earth Observations at the European Commission, GHSL is constructed using a combination of different satellite imagery sources collected over the last several decades. This is in the form of built up maps, population density maps and settlement maps. This information is generated with evidence-based analytics and knowledge using new spatial data mining technologies. This framework uses heterogeneous data including global archives of fine-scale satellite imagery, census data, and volunteered geographic information. The GHSL data is processed fully automatically and generates analytics and knowledge reporting objectively and systematically about the presence of population and built-up infrastructures. The current study uses four widely-spaced time intervals: 1975, 1990, 2000 and 2014. The approach is still experimental and we hope to refine it and apply it in many new fields and geographies.

Services Sector

The services sector remains the key driver of India's economic growth, contributing almost 62 per cent of its gross value added growth in 2016-17. However, the growth of this sector has moderated to 7.7 per cent in 2016-17 compared to 9.7 per cent achieved in the previous year, though it continues to be higher than the other two sectors, agriculture and industry and nearly at the top among the 15 major economies. Services export growth decelerated sharply in the post crisis period, even turning negative in 2015-16 before returning to positive territory in 2016-17 with a tepid growth. The Government has initiated a number of schemes for different services like promoting digitalization, tourism and shipping related policies. These coupled with policies like GST and FDI liberalization have brightened the growth prospects for this sector.

INTERNATIONAL COMPARISON

World Services GVA

9.1 In 2015, among the World's 15 largest economies in terms of overall GDP, India's ranking improved to 7th from 9th position in 2014. However in terms of services gross value added (GVA), India's position slipped to 13th in 2015 from 10th position in 2014. In terms of both overall GDP and services GVA, the USA ranks first, while China is in 2nd and 6th positions. In the US\$ 70.6 trillion world GVA in 2015, the share of services (at current prices), improved to 67.2 per cent compared to 66.2 per cent in 2014, though it is still lower than the 68.8 per cent achieved in 2001.

9.2 Among these top 15 nations, in the period 2001-15, the highest increase in services share to GVA was recorded by China (8.9 pp), followed by Spain (8.1 pp) India (7.6 pp) and Russia (7.6 pp). However, during

the period 2010-15, the highest compound annual growth rate (CAGR) was achieved by India at 8.5 per cent, closely followed by China at 8.4 per cent. In 2015 as in 2014, services GVA growth rate (at constant prices), was 2.6 per cent for the world, while for India it was the highest both in 2014 and 2015 at 10.2 per cent and 9.0 per cent followed by China at 7.9 per cent and 8.3 per cent respectively (Table 1).

9.3 Latest GDP estimates available for some countries show moderation in the growth of services sector. In the US, the services sector growth decelerated to 1.9 per cent in 2016 from 2.8 per cent in 2015 mainly due to slowdown in sectors like real estate, professional and business services. In China also, there was slight deceleration in the growth rate of the services sector to 7.8 per cent in 2016 from 8.3 per cent in 2015. In India, following the general trend, the growth rate in the services sector decelerated

Table 1. Performance of Services Sector: International Comparison.

Country	Rank in		Services growth rate			Share of services in			Services export growth			
	Overall GDP	Services GVA	(per cent) Y-o-Y		CAGR 2010-15	GVA 2015	employment 2016*	total exports 2016	(per cent) Y-o-Y		CAGR 2001-08	CAGR 2010-16
			2001	2015					2001	2016		
USA	1	1	2.0	2.8	1.6	79.3	80.0	33.5	-3.6	0.3	9.5	5.1
China	2	6	10.3	8.3	8.4	49.7	42.4	9.0	9.1	-4.3	23.6	2.6
UK	5	4	3.4	2.4	2.2	79.9	80.0	44.6	-0.8	-4.9	14.5	3.3
India	7	13	7.2	9.0	8.5	53.2	28.6	37.9	4.8	3.6	30.0	5.6
Brazil	9	10	2.2	-2.7	1.3	72.0	68.9	14.9	-2.7	-1.3	18.6	1.8
S. Korea	11	12	4.9	2.9	3.0	59.7	70.2	15.6	-4.9	-5.0	17.4	1.8
Mexico	15	9	1.1	3.6	3.4	60.4	61.2	6.1	-7.5	5.3	5.3	7.9
World			2.6	2.6	2.4	67.2	50.9	23.0	0.1	0.4	14.9	3.8

Source: Computed from UN National Accounts Statistics for GDP/GVA, ILO and World Bank database for employment and World Trade Organization (WTO) database for services trade.

Note: Rank and share are based on current prices (2015); growth rates are based on constant prices (US\$); construction sector is excluded in services GDP; * For employment data in 2016 for China, India and World, the available data of nearest preceding year is used.

from 9.7 per cent in 2015-16 to 7.7 per cent in 2016-17 a tad lower than China's, though compared to other countries it is still high.

World Services Employment

9.4 Among the top 15 services producer countries, the services sector accounts for more than two-thirds of total employment in 2016 in most of them except India, China, and Mexico where the shares are low. India has the lowest share of 28.6 per cent. Of the 15 countries, in the last 15-year period between 2001 and 2016, China had the highest increase in the share of services employment (14.7 pp) while for India, the increase was by only 4.6 pp (Table 1).

World Services Trade

9.5 The CAGR of world commercial services exports decelerated to 3.8 per cent during the post-crisis period (2010-2016) compared to the 14.9 per cent achieved during the pre-crisis period (2001-2008).

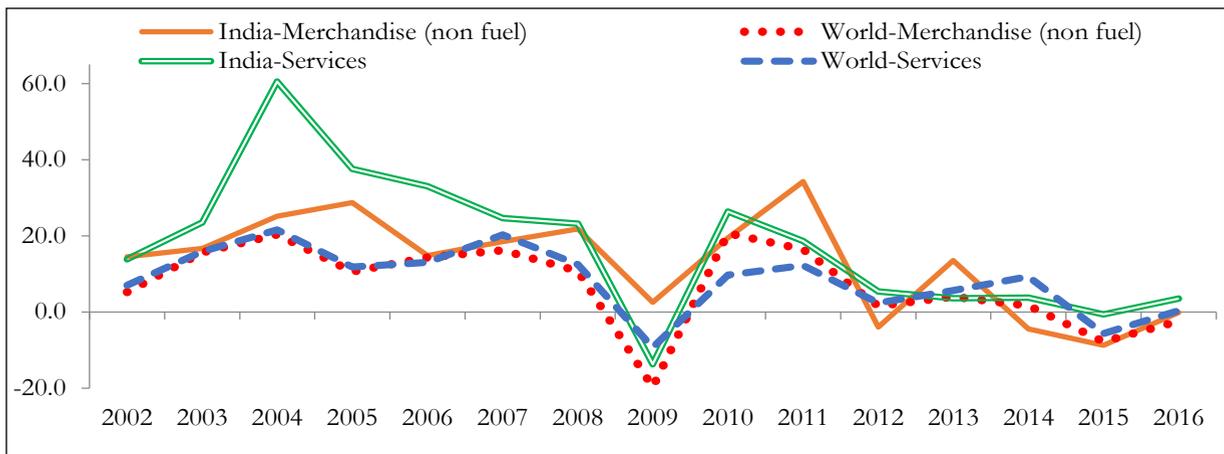
In the pre-crisis period, among the top 15 services producer countries, the services exports CAGR of India was the fastest at 30 per cent, followed by Russia at 26 per cent and China at 23.6 per cent. However, during the post crisis period (2010-16), services exports CAGR decelerated in all economies, with Mexico registering the highest growth at 7.9 per cent, followed by India at 5.6 per cent. China was a distant 8th with at 2.6 per cent growth. In 2015, while growth of world merchandise exports (both excluding and including fuel), world services exports, India's merchandise exports (both excluding and including fuel) and India's services exports were all in negative territory, it was only marginally negative in the case of India's services exports growth at -0.6 per cent compared to the -5.7 negative growth in the case of the world services exports (Figure 1a). However, the deceleration in India's services export growth over the years is more marked. Splitting the time series into two sub-

periods, i.e. post-crisis and pre-crisis shows that both India's and world's services exports trend growth were almost flat in the pre-crisis period, while in the post crisis period the deceleration in trend growth of India's services exports was sharper than world services export growth (Figure 1 b). While the deceleration was triggered by the general global environment including the 2008 global financial crisis, the rather subdued recovery of India's services exports in 2010 could not even be sustained with the tepid and even negative export growth in the following years

of major services like computer and financial services.

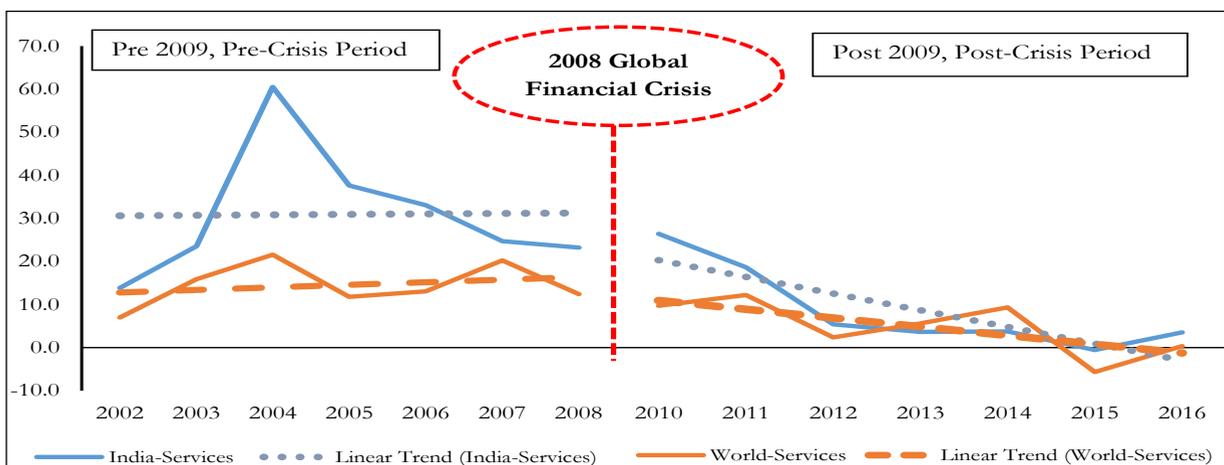
9.6 As per the latest World Trade Organization (WTO) data for 2016, services export growth is in negative territory for many economies, though for India it is positive at 3.6 per cent and higher than the 0.4 per cent global services export growth. While it is also positive and higher than that of India for countries like Japan, Australia, Spain and Mexico, it is negative for China at - 4.3 per cent.

Figure 1 a. Growth of Merchandise (Non-Fuel) and Services Exports: World and India (per cent)



Source: Based on ITC Trade Map and WTO data.

Figure 1 b. World and India Services Export Growth Rate: Pre & Post 2009 Comparison (per cent)



Source: Based on WTO data.

Foreign Direct Investment in World Services Sector

9.7 The services sector accounted for 65 per cent of global FDI stock in 2015, though a large part of this relates to affiliates of primary sector and manufacturing MNEs that perform services-like activities, and fall under services as a default category, thus overstating FDI in services by more than a third (World Investment Report 2017). As per the report, Executives' expectations for Global FDI activity in 2017-19 show that 65 per cent of the respondents expect an increase in services. With greater digitization, greater investment in services is expected. The overall sectoral patterns of inward investment are similar in developed and developing economies, but variations among developing regions are pronounced with developing Asia services accounting for a considerable share of services FDI, mainly owing to their predominance in Hong Kong (World Investment Report 2016).

9.8 According to the Global Investment Trend Monitor February 2017 Edition of the United Nations Conference on Trade and Development (UNCTAD), global foreign direct investment (FDI) flows fell by 13 per cent in 2016, reaching an estimated US\$1.52 trillion, as global economic growth remained weak and world trade volumes posted anemic gains. In line with this trend, global FDI in services sector is likely to have fallen.

INDIA'S SERVICES SECTOR

Services GVA and Gross Capital Formation

9.9 As per the provisional estimates (PE) of real gross value added (GVA) released by the Central Statistics Office (CSO) for the year 2016-17, services sector growth (i.e. GVA at constant (2011-12) basic prices), decelerated to 7.7 per cent from 9.7 per cent in the previous two years mainly due to deceleration in growth in two services categories- trade,

hotels, transport, communication and services related to broadcasting (7.8 per cent), and financial, real estate & professional services (5.7 per cent). However, there is acceleration in growth rate of Public Administration and other services category to 11.3 per cent from 6.9 per cent in the previous year mainly due to implementation of the recommendations of the 7th Pay commission. The share of services sector in total gross capital formation (GCF), at current prices has increased consistently over the last four years from 53.3 per cent in 2011-12 to 60.3 per cent in 2015-16. But the growth rate of services GCF at constant (2011-12) prices at 7.6 per cent in 2015-16 has nearly halved compared to 2014-15, mainly due to the negative growth of -2.4 per cent in GCF of real estate, ownership of dwellings & professional services. However services GCF growth continues to be higher than the total GCF growth (Table 2).

State-wise Comparison of Services

9.10 Out of the 32 states and union territories (UTs) for which data are released for new base 2011-12 series by CSO, data for only 10 states/UTs are available for 2016-17, and 23 states/UTs for 2015-16. Among these 32 states/UTs, the services sector is the dominant sector contributing more than half of the gross state value added (GSVA) in 16 states and UTs and more than 40 per cent in all states except Arunachal Pradesh, Chhattisgarh, Gujarat, Madhya Pradesh, Uttarakhand and Sikkim. The major services in most of the states are trade, hotels and restaurants, followed by real estate, ownership of dwellings and business services. Out of the 23 states and UTs for which data are available for 2015-16, Chandigarh is at the top in terms of share of services GSVA at 88.4 per cent, while Jharkhand is at the top in terms of services GSVA growth at 16.4 per cent (Figure 2).

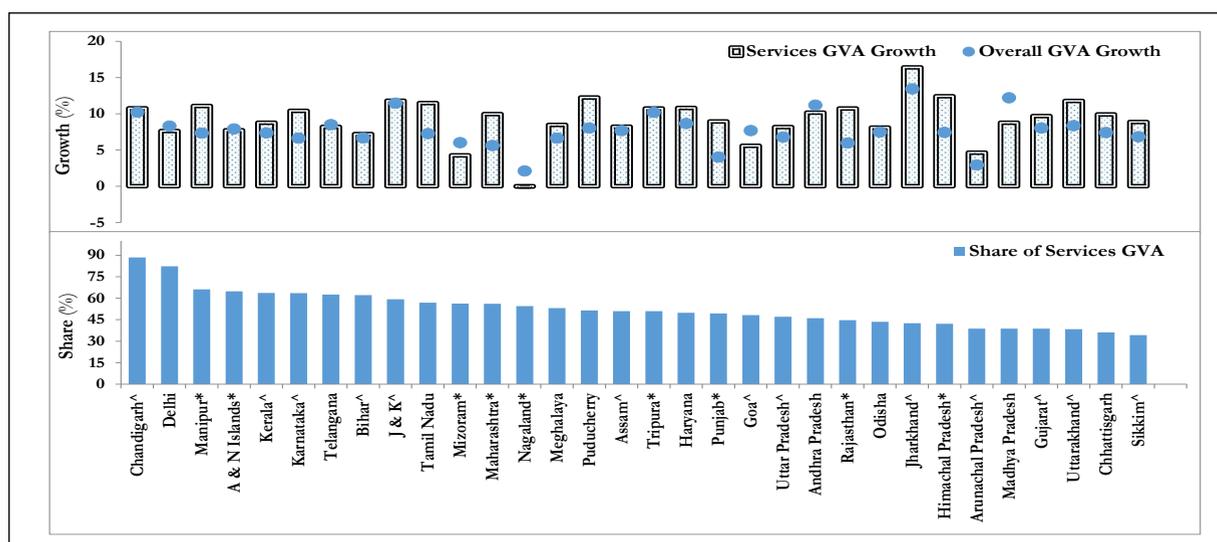
Table 2. Share and Growth of India's Services Sector (GVA at basic price)

	GVA(per cent)			GCF(per cent)	
	2014-15	2015-16	2016-17@	2014-15	2015-16
Total Services	51.8(9.7)	52.9(9.7)	53.8(7.7)	59.8(14.0)	60.3(7.6)
Trade, repair, hotels and restaurants	11.4(9.2)	11.4(11.2)	18.4(7.8)*	9.4(57.6)	10.1(16.1)
Trade & repair services	10.4(9.4)	10.4(10.9)	NA	8.4(51.4)	8.7(11.3)
Hotels & restaurants	1.0(6.3)	1.0(14.4)	NA	1.0(140.1)	1.5(56.8)
Transport, storage, communication & services related to broadcasting	6.8(8.8)	7.0(9.3)	NA	6.1(-28.1)	6.4(9.9)
Railways	0.8(9.4)	0.8(7.0)	NA	1.7(43.1)	1.9(14.7)
Road transport	3.2(6.5)	3.2(6.7)	NA	2.0(43.1)	2.0(5.5)
Air transport	0.1(14.0)	0.2(16.8)	NA	0.2(21.6)	0.0(-92.3)
Financial services	5.7(9.0)	5.8(6.8)	21.1(5.7)^	1.6(67.4)	1.8(16.8)
Real estate, ownership of dwelling & professional services	14.8(12.1)	15.3(12.5)	NA	28.8(18.9)	26.7(-2.4)
Public Administration and defence & Others	13.0(8.1)	13.4(6.9)	14.2(11.3)	13.8(9.1)	15.4(20.2)
Construction	8.6(4.7)	8.1(5.0)	7.6(1.7)	5.5(25.0)	5.0(-2.4)
Total Services (plus Construction)	60.4(8.9)	61.0(9.1)	61.4(6.9)	65.3(14.9)	65.3(6.7)
TOTAL GVA/GCF at basic prices	100.0(7.2)	100.0(7.9)	100.0(6.6)	100.0(7.5)	100.0(6.2)
GDP market Prices (Constant Prices) Y-o-Y	(7.5)	(8.0)	(7.1)		

Source: Computed from CSO data.

Note: Shares are in current prices and growth in constant 2011-12 prices; Figures in parentheses indicate growth rate; @ Provisional Estimate for 2016-17; * Also includes transport, storage, communication & services related to broadcasting; ^ Also includes Real estate, ownership of dwelling & professional services.

Figure 2. Share and Growth of Services in States (2016-17)



Source: Computed from CSO data.

Note: * 2014-15, ^-2015-16, Share in current prices and growth at constant prices (2011-12).

FDI in India's Services Sector

9.11 Though there is ambiguity in the classification of FDI in services, the combined FDI share of the top 10 service sectors such as financial and non-financial services falling under the Department of Industrial Policy & Promotion (DIPP)'s services sector definition; telecommunications; trading; computer hardware & software; construction; hotel & tourism; hospital & diagnostic centres; consultancy services; sea transport; and information & broadcasting can be taken as the best estimate of services FDI, though these could include some non-service elements. This share of these services is 55.3 per cent of the cumulative FDI equity inflows during the period April 2000-March 2017 and 60.7 per cent of FDI equity inflows during 2016-17. If the shares of another 5 services or service-related sectors like retail trading, agriculture services, education, ports

and air transport are included, then the total share of FDI equity inflows to the services sector would increase to 57.4 per cent and 62.4 per cent respectively for the above two periods.

9.12 There has been a significant growth in FDI equity inflows in 2014-15 and 2015-16 in general (27.3 per cent and 29.3 per cent) and to the services sector in particular (67.3 per cent and 64.3 per cent for top 15 services). However, in 2016-17, the growth rate of FDI equity inflows moderated, growing by 8.7 per cent to US\$43.5 billion and FDI equity inflows to the services sector (top 15 services) declining by 1.5 per cent to US\$ 27.2 billion. This negative growth in services FDI equity inflows is mainly due to negative growth in computer software & hardware, construction, trading and hotels & tourism (Table 3).

Table 3. FDI Equity Inflows to the Services Sector

Sr	Sector	Value (in US\$ million)	Percentage to Total (%)	Growth Rate (%)	
		2016-17	2016-17	2015-16	2016-17
1	Services Sector*	8684	20.0	55.1	26.0
2	Computer Software & Hardware	3652	8.4	157.2	-38.2
3	Construction #	1966	4.5	182.0	-57.5
4	Trading	2338	5.4	41.0	-39.2
5	Hotels & Tourism	916	2.1	71.5	-31.3
6	Telecommunications	5564	12.8	-54.3	320.1
7	Information & Broadcasting	1517	3.5	295.9	50.3
8	Hospital & Diagnostic Centres	747	1.7	30.7	0.7
9	Consultancy Services	261	0.6	13.0	-49.5
10	Sea Transport	735	1.7	28.8	71.2
Top 10 service categories (1-10)		26380	60.7	62.4	-0.9
Top 15 Services		27151	62.4	64.3	-1.5
Total FDI Inflows		43478	100.0	29.3	8.7

Source: Based on Department of Industrial Policy and Promotion (DIPP) data.

Note: * Financial, banking, insurance, non-financial business, outsourcing, R&D, courier, technology testing and analysis; #Combined with infrastructure activities and townships, housing, built-up infrastructure and construction-development projects.

9.13 In the last three years, the Government has undertaken a number of reforms to ensure that India remains an increasingly attractive investment destination. The scale of reforms can be gauged from the fact that during this period, 21 sectors also including services activities and covering 87 areas of FDI policy have undergone reforms. FDI policy provisions were radically overhauled across sectors such as construction development, broadcasting, retail trading, air transport, insurance and pension. Besides, initiatives were taken such as the introduction of composite caps in the FDI policy permitting 100 per cent FDI in retail trading of food products with unqualified condition that such food products have to be manufactured and/or produced in India, 100 per cent FDI under automatic route for any financial sector activity which is regulated by any financial sector regulator and above all the

recent measure of abolition of the Foreign Investment Promotion Board (FIPB).

India's Services Trade

9.14 India's services exports have been registering good growth for nearly a decade till the global financial crisis in 2008. Services export growth slowed down from 21.6 per cent CAGR during 1994-95 to 2004-05 to 11.9 per cent during 2005-06 to 2014-15. As a result of the uncertain global conditions and weak external demand, India's service export growth even turned negative at -2.4 per cent in 2015-16 after a span of five years. In 2016-17, services exports recorded a positive growth of 5.7 per cent with pick up in some major sectors like transportation, business services and financial services; and good growth in travel (Table 4). With a significant rise in foreign tourist arrivals, travel receipts, accounting for more than 14.2 per cent of

Table 4. Trade Performance of India's Major Services

	Value (US \$ Billion)	Share (%)	Annual Growth (%)	
	2016-17	2016-17	2015-16	2016-17
Services Exports	163.1	100.0	-2.4	5.7
Travel	23.2	14.2	4.6	9.3
Transportation	15.9	9.7	-19.9	13.2
Miscellaneous	121.2	74.3	-0.9	4.1
Software Services	73.7	45.2	1.4	-0.7
Business Services	32.9	20.2	2.0	13.6
Financial Services	5.1	3.1	-12.7	3.1
Services Imports	95.7	100.0	3.7	13.0
Travel	16.4	17.2	-3.4	11.1
Transportation	14.1	14.8	-6.8	-6.3
Miscellaneous	63.0	65.9	9.8	19.5
Software Services	3.6	3.7	-0.3	32.9
Business Services	32.3	33.7	12.5	3.7
Financial Services	5.9	6.1	-12.4	86.7
Net Services Exports	67.5	100.0	-9.0	-3.2

Source: Based on RBI's Balance of Payments (BoP) data (BPM-5).

services exports, witnessed a growth of 9.3 per cent in 2016-17 compared to 4.6 per cent in the previous year. Transportation services exports increased by 13.2 per cent in 2016-17 as against a decline of 19.9 per cent in 2015-16 reflecting the improving merchandise trade activity. Business services exports recorded a higher growth of 13.6 per cent compared to 2 per cent in the previous year and financial services exports increased by 3.1 per cent as against a decline of 12.7 per cent in the previous year. However, software services exports, accounting for around 45.2 per cent of total services, declined though marginally by 0.7 per cent as domestic software companies faced pricing pressure on traditional services and a challenging global business environment.

9.15 India's services imports registered higher growth of 13.0 per cent in 2016-17 with higher payments for two major services, travel services and miscellaneous services category mainly financial services and software. The fall in services exports and the rise in services import growth led to a decline in net services receipts in 2015-16 by 9.0 per cent. In 2016-17, despite a growth of 5.7 per cent in services exports, relatively higher growth in services imports led to a decline in net services receipts by 3.2 per cent. Net services surplus financed around 60 per cent of India's merchandise trade deficit.

Some Recent Developments in Services Trade Policies and Services Negotiations

Multilateral and Bilateral

9.16 These include the following.

India's Submission on Trade Facilitation in Services (TFS) at WTO: India tabled a draft legal text on TFS at the WTO on 22nd February 2017. The objective behind India's TFS proposal is to initiate discussions at the WTO on how to comprehensively address the numerous border and behind-the-border barriers,

across all modes of supply and address the key issues pertinent to facilitating trade in services, such as transparency, streamlining procedures and eliminating bottlenecks.

India's Submission on Mode 4 (trade through temporary movement of natural persons for supply of services) at the WTO: India submitted a paper on "Mode 4: Assessment of Barriers to Entry", in March 2016 at the WTO highlighting the increasingly complex nature of barriers to mode 4 entry. These include selective measures by our key trading partners' subjective definitions of sub-categories under the Intra-corporate transferees resulting in rejection of bonafide applications and undermining the commitments, and non-portability of social security contributions.

Trade in Services Agreement (TISA) and India's stand: At present there are 23 members participating in the plurilateral TISA discussion with none of the BRICS and ASEAN member states participating. India and some other like-minded developing countries have expressed concern from time to time on this plurilateral agreement as it will endanger the conclusion of the Doha Round by disturbing the delicate balance arrived at between Agriculture, NAMA and Services after years of intense negotiations at the WTO. With the withdrawal of the US from Trans-Pacific Partnership (TPP), the future of TISA, which is led by developed countries like the US has also become uncertain.

Bilateral/Plurilateral Agreements and India: India has signed comprehensive bilateral trade agreements, including Trade in Services, with the Governments of Singapore, South Korea, Japan, and Malaysia. A Free Trade Agreement (FTA) in services and investment was signed with the ASEAN in September, 2014 which came into effect from 1st July, 2015. India has since joined the Regional Comprehensive Economic Partnership (RCEP) plurilateral negotiations which is the

only mega-regional FTA of which India is a part. India is also engaged in bilateral FTA negotiations including trade in services with different countries`.

Developments in OECD: The OECD is preparing a Services Trade Restrictiveness Index (STRI) for different countries

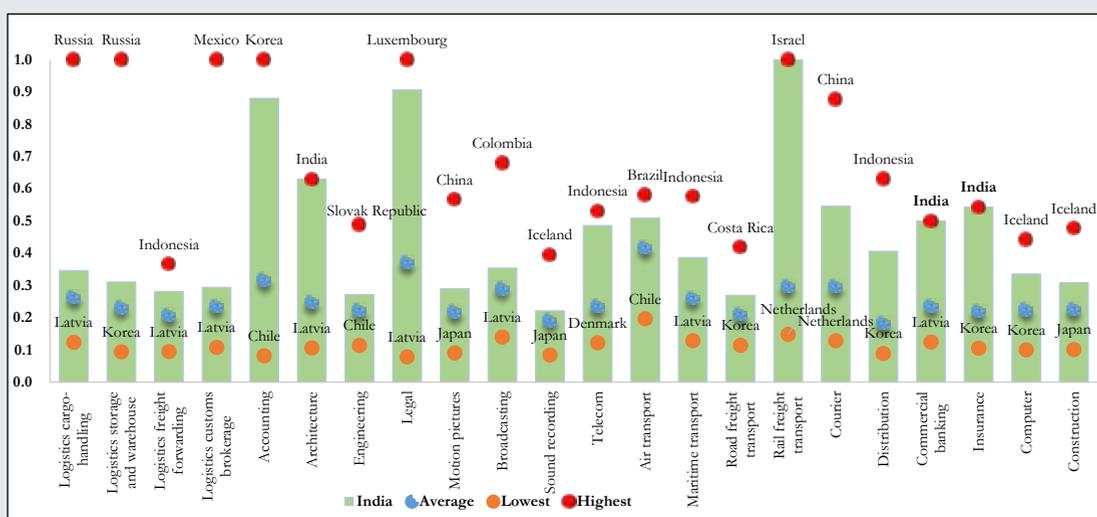
including India. While this is a new initiative, its suitability for trade negotiations and domestic policies needs to be examined as there are some concerns to be addressed. The STRI could also be modified to take note of concerns of India and other developing countries (Box 1).

Box 1. STRI and India

OECD’s STRI helps to identify policy measures restricting trade, provide policy makers and negotiators with information and measurement tools to open up international trade in services and negotiate international trade agreements and also help governments identify best practices and then focus their domestic reform efforts on priority sectors and measures. It is intended to provide a quantitative measure of the level of trade restrictiveness in 22 services sectors and has been computed for 44 countries. The STRI scores are broken down on five policy areas: restrictions on market entry conditions, restrictions on the movement of people, other discriminatory measures, barriers to competition and regulatory transparency.

Among the 44 countries, India has a STRI score above average in all sectors and the highest in 3 services out of a total 22 (Figure 3). Sound recording, engineering and broadcasting are the three sectors with the lowest score relative to the average. All these three sectors follow the automatic route upto 100 per cent equity share. Accounting services, legal services and rail freight transport, are the three sectors with the highest scores relative to the average as accounting and auditing are reserved for licensed accountants and auditors and a license is required to own and manage an accounting or an auditing firm and only Indian nationals may obtain a license; legal services, both national and international law, are reserved for licensed Indian lawyers; and railway operations which are on the list of prohibited sectors and reserved for Indian Railways, a state-owned enterprise. These scores however have not considered some of the recent reforms in India like abolition of FIPB.

Figure 3. India’s STRI compared with Highest, Lowest and Average STRIs (2016)



India has high STRI in many sectors. In the case of China, some sectors like motion pictures, broadcasting, and courier services have higher STRI than India.

STRI is a new initiative for services by OECD. However, there are some inherent weaknesses related to STRI and its use. Weightage and quality of regulations are important as domestic regulations are not uniform across countries and there is a need to distinguish between regulations that are needed and those that act as trade barriers. Since trade barriers even for same services are not the same in different countries, giving weightage to them even by experts becomes subjective.

While some restrictions in the STRI are not really restrictions and are just due to lack of development of infrastructure as in the case of non-availability of broadband, some may be due to government's policy of social and economic inclusion like banks requiring to allocate 40 per cent of their net credit to priority sectors like agriculture and SMEs, education and renewable energy in India. STRI cannot be extended for computing tax and tariff equivalents of regulations in services as indicated by OECD particularly when the data is imperfect and regulations are not uniform.

Thus, STRI at best could only be indicative and cannot be given numerical value particularly when the services data is at a rudimentary stage for many countries and the methodology is less perfect. TFS and Market Access are as important as removing domestic trade barriers. Infact there is a certain amount of overlapping between all the above three.

Source: Based on OECD STRI Reports and Internal Analysis.

Domestic

9.17 Recent domestic policies and measures taken by India for services sector include the following.

Trade policy measures: These include the Services Exports from India Scheme (SEIS), replacing the Served from India Scheme (SFIS) wherein reward of 3 per cent or 5 per cent of net foreign exchange earned is given for Mode 1 and Mode 2 services, schemes introduced for sectors like tourism and shipping and general measures like digitization and FDI liberalization including for services sectors.

Goods and Services Tax (GST): Under GST, exports would be zero rated. Some major highlights related to GST for services are the following. The GST rates are NIL for education and health services; 5 per cent for transport of passengers by air in economy class, transport of goods by rail and vessel, supply of tour operators services (without ITC); 12 per cent for supply of foods/drinks in restaurants not having A.C. or central heating and not having license to serve liquor (while it is 18 per cent for those having them), accommodation in hotels, inns, etc., for residential or lodging having room tariff between ₹1000 to ₹2500 per day per room (while it is 18 per cent for those between ₹2500 to ₹7500 per day per room), transport of passengers by air in other than economy class and construction of a complex, building, civil structure with no refund of

accumulated ITC. Only 4 services items are in the highest slab of 28 per cent which include among others entertainment events or access to amusement facilities including exhibition of cinematograph films, theme parks, water parks, joy rides, etc; and hotels, inns, for residential or lodging having room tariff above ₹7500 per day per room.

Promotional measures: Some promotional measures taken by the Government of India include organizing the third edition of multi-sectoral Global Exhibition on Services (GES) in April 2017 with participation from 73 countries and the second edition of Advantage Health Care India 2016, an international summit on Medical Value Travel, in October 2016 to promote India as a premier global healthcare destination.

MAJOR SERVICES: OVERALL PERFORMANCE

9.18 The performance of India's Services Sector has been subdued in 2016-17 in line with the global trend. However, some services continue to be key drivers of India's economic growth. Some available indicators of the different services sub sectors in India for 2016-17 (Table 5) along with the CMIE data (Table 7) show reasonably good performance in telecom with increase in telecom connections reflecting the Jio effect, aviation particularly domestic travel, tourism related services particularly in terms of foreign exchange earnings, and even information technology-business process

Table 5. Performance of India's Services Sector: Some Indicators

Sector	Indicators	Unit	Period				
			2009-10	2013-14	2014-15	2015-16	2016-17
IT – BPM**	IT-BPM service revenues	US \$ billion	64	106	119	143	154
	Exports	US \$ billion	50	87	98	108	117
	Domestic	US \$ billion	14	19	21	35	38
Aviation*	Airline passengers (Total)	Million	77.4	103.8	115.8	135.0	158.4
	Domestic	Million	45.3	60.7	70.1	85.2	103.7
	International	Million	32.1	43.1	45.7	49.8	54.7
Telecom	Telecom connections (wireline and wireless) ^b	Million	621.3	933.0	996.1	1058.9	1194.6
Tourism	Foreign tourist arrivals ^a	Million	5.2	7.0	7.7	8.0	8.8
	Foreign exchange earnings from tourism ^a	US \$ billion	11.1	18.4	20.2	21.1	22.9
Shipping	Gross tonnage of Indian shipping ^b	Million GT	9.7	10.5	10.5	10.5	12.0 [@]
	No. of ships ^b	Numbers	998	1209	1210	1251	1338 [@]
Ports	Port traffic	Million tonnes	850.0	972.5	1052.5	1072.5	1135.6

Source: Compiled from Telecom Regulatory Authority of India (TRAI), Ministry of Tourism, Ministry of Shipping, Directorate General of Civil Aviation, NASSCOM.

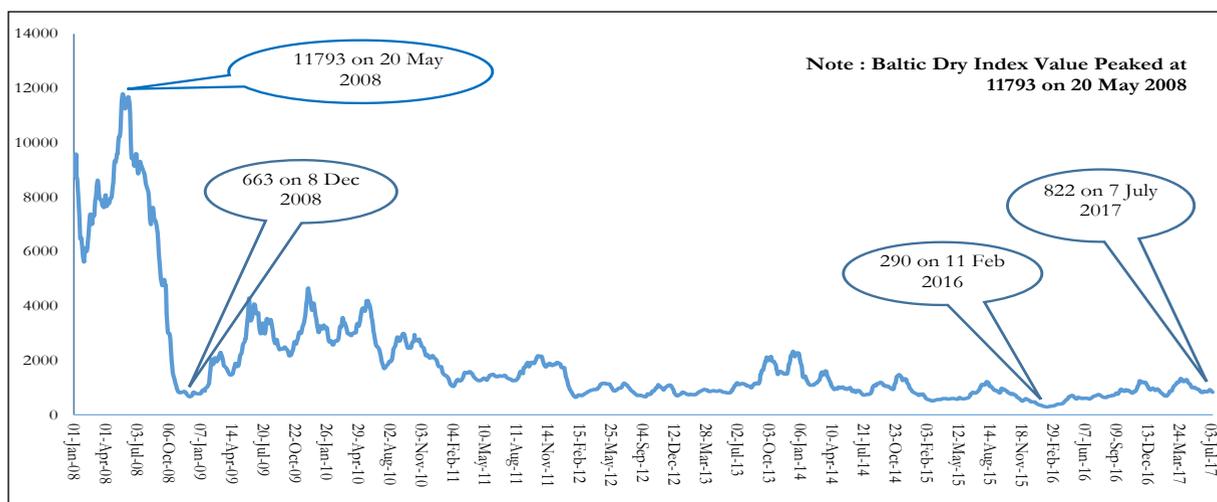
Note: ^a calendar years, for example 2009-10 for 2009; ^b As on 31 March of ensuing financial year; [@] data is as on 30 June 2017. GT=gross tonnage; MT=metric tonnes; ** excluding hardware. *Domestic Passengers carried by scheduled Indian carriers on scheduled domestic services only and International Passengers carried by scheduled Indian as well as foreign carriers to and from the Indian territory.

management (IT-BPM) despite fall in growth in computer software.

9.19 The aviation industry performed well during the year 2016-17, with the aggregate number of passengers (including international and domestic) registering a growth of 17.3 per cent over the previous year. Increase in capacities of airlines with the addition of new domestic and international routes and the launching of the UDAN (Ude Desh Ka Aam Naagrik) scheme a regional air connectivity scheme (RCS) that seeks to make flying affordable by connecting unserved and under-served airports where 50 per cent of the seats have a fare cap of ₹2500 per seat/hour, coupled with rise in disposable income of consumers and decline in air fares are likely to give further fillip to this sector. In the case of transport logistics services, the

performance has been good with increased focus of the Government on logistics. The impact of the GST is also anticipated to be positive with VAT related check posts disappearing which will result in reduction in turnaround time. Furthermore, the additional 2 per cent central sales tax levied on inter-state sales of goods would now cease to exist, having a favourable effect. However shipping services sector was adversely affected by the global slowdown as indicated by the sales & PAT figures for 2016-17. The Baltic Dry Index, a freight index and a good proxy for the robustness of trade and shipping services had fallen from a peak of 11,793 on 20 May 2008 to a low of 663 on 8 December 2008. Though it picked up slightly in the following years, it has been in the lower range since then and was in the red at 290 as on 11 February

Figure 4. Baltic Dry Index



Source: Based on data from <https://in.investing.com/indices/baltic-dry-historical-data>.

2016, which is even lower than the lows of 2008. It has improved slightly to 822 on 7 July 2017 (Figure 4).

9.20 The traffic handled by Ports has gone up from 606.5 MMT in 2015-16 to 647.7 MMT in 2016-17. The port related performance indicators of major ports also show substantial improvement with the ship berth day output increasing from 13156 tonnes in 2015-16 to 14576 tonnes during 2016-17, the average turnaround time and the average pre-berthing time falling to 2.05 days and 5.75 hrs during 2016-17 from more than 2.55 days and 12.17 hrs respectively in 2012-13 and operating surplus in the major Ports registering an increase of 14 per cent during 2016-17 over 2015-16 (Table 6).

9.21 An analysis of the results of services

sector firms in the fourth quarter of 2016-17, the quarter immediately following the demonetization period reveals that the only sector which showed signs of stress was the Construction and Real Estate sector, witnessing a year-on-year decline in both net sales (-5.1 per cent) and net profit (-34.9 per cent) during Q4. Even here, the stress cannot be attributed strictly to the impact of demonetization, given that the growth of this sector had already been in the negative domain even for the earlier two quarters.

MAJOR SERVICES: SECTOR-WISE PERFORMANCE AND SOME RECENT POLICIES

9.22 This section covers some of the important services for India based on their significance in terms of GDP/GVA,

Table 6. Some Performance Indicators of Major Ports in India

Indicators	2014-15	2015-16	2016-17
Traffic Handled (in MMT)	581.3	606.5	647.7
Average Output per-ship per berth day (in tonnes)	12458	13156	14576
Operating surplus (Rs. in Cr.)	3599.4	4309.1	4919.4

Source: Based on inputs from Ministry of Shipping.

Table 7. Growth in Sales & Profits of select services: company based data

Services	Net Sales						Profit after Tax (PAT)					
	2015-16	2016-17	2016-17				2015-16	2016-17	2016-17			
			Q1	Q2	Q3	Q4			Q1	Q2	Q3	Q4
Transport Logistics	2.7	2.8	0.5	0.6	4.1	5.6	4.3	-3.9	-15.9	-13.0	-13.3	21.4
Shipping	2.5	-10.9	-17.4	-22.0	-1.4	0.6	37.2	-8.7	-29.4	-48.5	-29.8	434.1
Aviation	39.3	33.1	75.9	73.5	8.3	9.9	--	-12.8	178.9	168.3	-40.5	-51.0
Retail trading	22.3	61.9	38.2	35.9	34.4	178.1	2472.8	102.1	--	14.5	-45.0	--
Health services	35.0	33.9	50.9	58.2	21.3	15.9	39.1	17.3	73.4	129.8	-49.6	-3.6
Hotels & Restaurants	6.5	2.8	0.8	6.0	3.9	1.0	--	103.3	--	--	-12.1	2543.7
ITES	12.7	10.5	18.7	7.9	6.4	10.1	22.5	6.3	34.9	18.9	20.1	-28.3
Software	10.7	9.7	13.3	9.1	9.8	6.8	11.6	8.6	7.7	6.2	12.7	7.9
Construction & Real Estate	8.3	-1.8	7.7	-6.5	-0.9	-5.1	-11.6	0.4	--	18.5	--	-34.9

Source: Exim Bank Research (Data derived from CMIE).

employment, exports and future prospects. Some important services covered in other chapters have been excluded to avoid duplication.

Tourism

9.23 Tourism has great capacity to create large scale employment of diverse kind – from the most specialized to the unskilled; propel economic growth; and earn foreign exchange for the country. According to the World Travel and Tourism Council (WTTC), Travel & Tourism continued its resilience in 2016, generating US\$7.6 trillion (10.2 per cent of global GDP) and 292 million jobs, equivalent to 1 in 10 jobs in the global economy. The sector accounted for 6.6 per cent of total global exports and almost 30 per cent of total global service exports. The latest World Tourism Barometer of the United Nation's World Tourism Organization

(UNWTO) (March, 2017 edition) also shows that international tourist arrivals reached a total of 1.2 billion in 2016, 47 million more than in the previous year, though the growth rate of 3.9 per cent was slightly lower than in 2015 (4.5 per cent).

9.24 As per the UNWTO, International Tourist Arrivals to India (including NRI arrivals) was 13.3 million in 2015 with a growth of 1.4 per cent, while as per the Ministry of Tourism data Foreign Tourist Arrivals (FTAs)(excluding NRIs) during 2015 and 2016 were 8.0 million and 8.8 million with growth of 4.5 per cent in 2015 and 9.7 per cent in 2016. Foreign Exchange Earnings (FEEs) through Tourism, in US\$ terms during 2016 were US\$ 22.9 billion with a growth of 8.8 per cent over 2015. International Tourism Receipts (ITRs) as per UNWTO are almost similar to this (Table 8).

India's Untapped Tourism Potential: A Comparison

9.25 A comparison with other countries shows that India's share in international tourist arrivals (ITA) is a paltry 1.1 per cent with a rank of 24 compared to the 7.1 per cent of France which ranks 1st in 2015. China ranks 4th with a share of 4.8 per cent. In terms of International tourism receipts (ITR), India has a slightly higher share at 1.8 per cent and a better ranking of 14. But it is nowhere near the 17.1 per cent share of USA which ranks 1st and around half the share of China at 3.8 per cent with 4th rank (See Table 8).

9.26 Domestic tourism continues to be an important contributor to the sector with the CAGR of domestic tourist visits of 13.6 per cent from 1991 to 2016 and a growth of 12.7 per cent in 2016. The top 5 states in domestic tourist visits in 2016 were Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh and Karnataka. As per industry estimates, the total market size of Indian tourism and

hospitality sector stood at US\$ 117.7 billion in 2014 and is expected to touch US\$ 418.9 billion by 2022. Thus a goldmine of an opportunity awaits to be tapped.

9.27 In the Travel and Tourism Competitiveness Index 2017 (WEF, 2017) India has improved its ranking 12 places to reach the 40th position globally among 136 countries. India continues to charm international tourists with its vast cultural and natural resources (9th and 24th position respectively), and its price competitiveness advantage (10th) and its international openness (55th) which is up by 14 places reflecting the implementation of both visas on arrival and e-visa. But it is way behind others in health and hygiene (104th), ICT readiness (112th), security concerns (114th), human resources (87th), tourist service infrastructure (110th) and in prioritization of travel and tourism (104th).

9.28 A comparison of the number of UNESCO World Heritage sites and the total foreign tourist arrivals of different countries

Table 8. Tourism Performance: International Comparison 2015 and 2016

	International Tourist Arrivals					International Tourism Receipts				
	Rank	Number (In Mn)	Share (%)	Growth Rate (%)		Rank	Value (US \$ Bn)	Share (%)	Growth Rate (%)	
	2015	2016	2015	2015	2016	2015	2016	2015	2015	2016
World		1235	100	4.5	3.9		1,194*	100.0	-4.5	--
France	1	84.5*	7.1	0.9	--	3	43.1	3.8	-21.0	-6.1
USA	2	77.5*	6.5	3.3	--	1	206.8	17.1	6.9	1.1
Spain	3	75.6	5.8	5.5	10.4	2	60.3	4.7	-13.2	6.7
China	4	59.3	4.8	2.3	4.2	5	44.4	3.8	2.3	-1.3
Turkey	6	39.5*	3.3	-0.8	--	12	18.7	2.2	-10.1	-29.7
Thailand	10	32.6	2.5	20.6	9.0	6	49.9	3.8	16.9	11.1
Malaysia	14	26.8	2.2	-6.3	4.3	17	16.9	1.5	-22.6	-3.4
India	24	13.3*	1.1	1.4	--	14	22.4	1.8	6.6	6.7
Singapore	28	12.9	1.0	1.6	6.6	19	18.4	1.4	-13.1	10.8

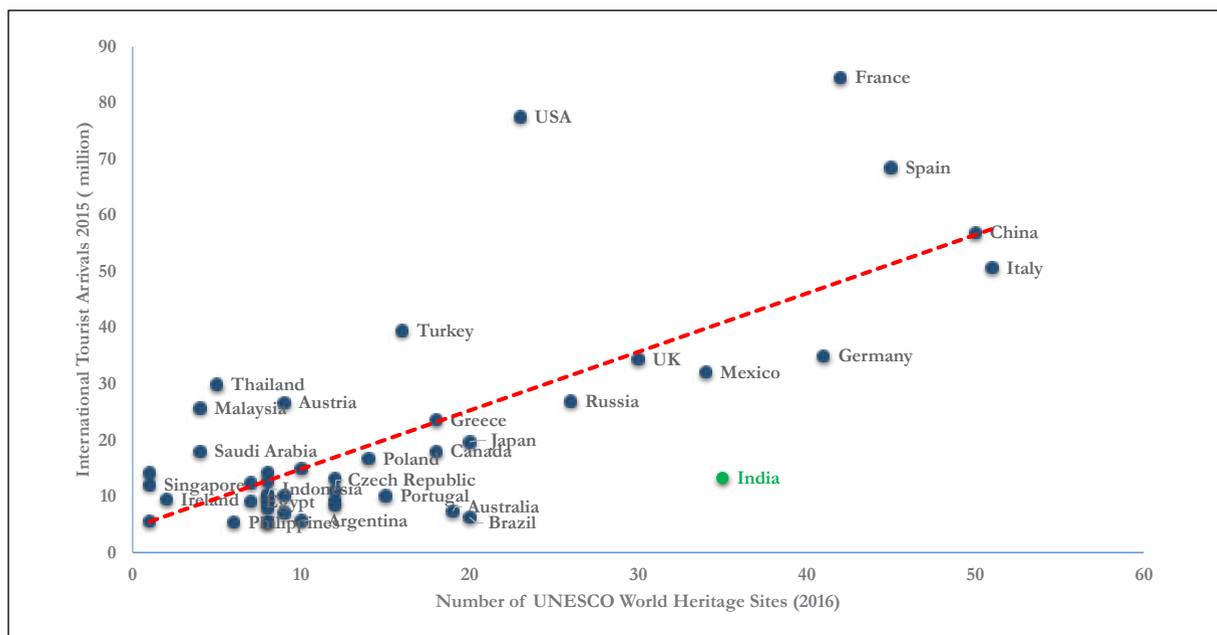
Source: Based on data given in UNWTO World Tourism Barometer and Statistical Annex, March 2017.

Note: *= 2015 data.

shows that despite having high number of UNESCO World Heritage sites (6th in position with 35 heritage sites), India attracts less foreign tourists compared to other countries and remains below the trend line (Figure 5).

9.29 As per many other indicators also like domestic tourism to population ratio, international conventions rankings, visitors to top heritage sites, foreign tourist arrivals in top cities, India is far behind USA and China (Table 9).

Figure 5. Number of World Heritage sites and International Tourist Arrivals 2015



Source: Based on UNWTO and UNESCO data.

Table 9. Comparative Tourism Performance Indicators

Indicators	China	India	USA
Foreign Visitors to Heritage sites (Numbers)	Great Wall* (Total 10 million, 3 million Foreign)	Taj Mahal (Total 4.6 million, 0.5 million foreign)	Statue of Liberty* (Total 5 million, 2 million foreign)
Domestic Tourism (Numbers)	3.6 billion	1.7 billion	2.2 billion
Ratio of Domestic Tourism to Population	2.6	1.3	6.6
Foreign Tourist arrivals in major cities	Beijing* (4.5 million foreign, 250 million domestic)	New Delhi* (2.4 million foreign and 25 million domestic)	New York* (10.1 million foreign, 50 million domestic)
International Conventions Rating	Rank 9 with 333 meetings	Rank 31 with 132 meetings	Rank 1 with 925 meetings

Source: Compiled from various data sources like UNWTO, Ministry of Tourism, Report of International Congress and Convention Association's (ICCA).

Note:*= inputs from FAITH.

9.30 The above analysis and the indicators, though some are less perfect, show that India has a huge untapped tourism potential and a lot more needs to be done to make India a major tourist destination and major earner from tourism.

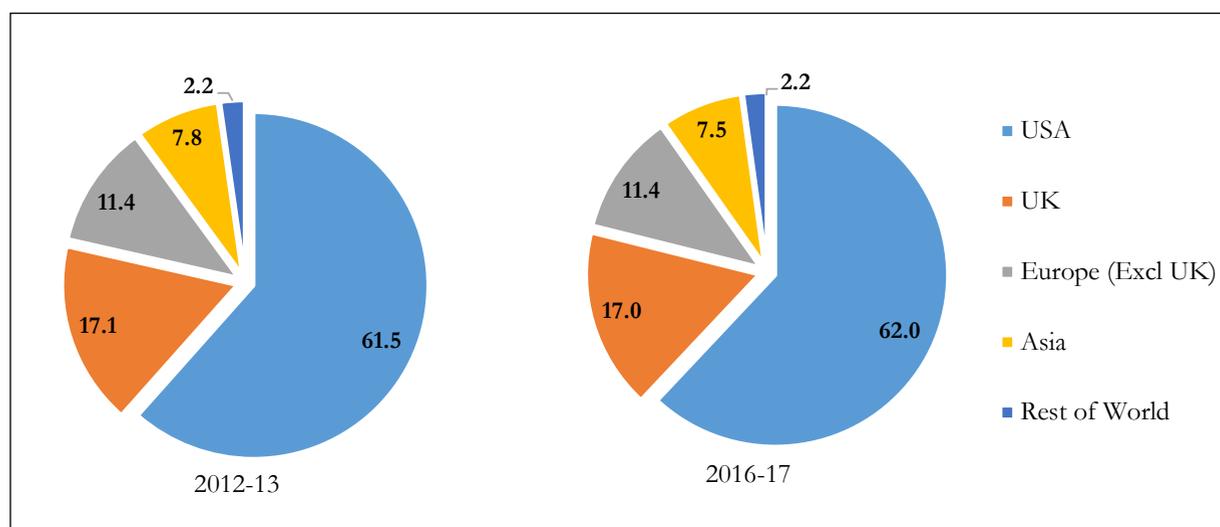
9.31 Various initiatives have been taken by the Government to promote tourism sector of the country that include e-Visa for the citizens of 161 countries, promotion of India as a 365 days destination, Swachhta Action Plan (SAP), Skill Development Initiative, launching of Multilingual Tourist Infoline, and Swachh Paryatan Mobile App. During January to December, 2016 a total of 10,79,696 e-Visa holders visited India registering a growth of 142.5 per cent over 2015. E- visa is allowed under three sub-categories – e-Tourist Visa, e-Business Visa, and e-Medical Visa. The window for application under e-Visa has been increased from 30 days to 120 days and the duration of stay in India under e-Visa has also been increased from 30 days to 60 days. Globally, the medical value travel (MVT) market is expected to cross US\$ 100 billion in 2019, growing at a CAGR of 19.4 percent and India accounted for 3.8 per cent of the global medical tourists and 5.5 per cent of the global revenue from medical tourism in 2014. The Government has initiated many policies to make India a Medical Value Travel destination which include constituting the National Medical and Wellness Tourism Promotion Board in 2015 and launching e-tourist visa and m-visa facilities.

IT –BPM Services

9.32 Global IT-BPM market including and excluding hardware stood at US\$ 2.2 trillion and US\$ 1.2 trillion respectively in 2016. Hardware segment was the largest with a

share of around 44 per cent, followed by IT services (more than 29 per cent), packaged software (around 19 per cent) and BPM (more than 8 per cent). While these remain the traditional segments, this industry is being disrupted by digital technologies that is leading to a wave of automation of processes, automation in manufacturing, and artificial intelligence that is replacing humans with robots.

9.33 The Indian IT-BPM industry is a global powerhouse today and its impact on India and the world has been unprecedented. India pioneered the offshoring model and is today seen as the partner of choice for technology and business solutions. This industry has evolved from a less than US\$ 1 billion industry in the 1980s to an over US\$ 154 billion behemoth. In the last decade, the industry has grown over six-fold in revenue terms. Providing employment for over 3.9 million people in 2016-17, this sector has also created employment in supporting sectors like transportation, hotels, infrastructure, security services. The Indian IT-BPM industry comprises of over 16,000 firms ranging from multi-billion dollar firms to start-ups, many MNCs including over 1,000 global in-house centres and around 4,750+ start-ups making India the world's 3rd largest start-up ecosystem. The start-up ecosystem comprises of firms catering to mature verticals (e-commerce, aggregators), emerging verticals (fin-tech, edu-tech, health-tech, etc.) and technology specialists around cloud, Internet of Things (IoT), machine learning, artificial intelligence, robotics, 3D printing, etc. USA is the major market of India for IT-BPM services followed by UK, Europe (excl UK) and Asia. These shares have not changed much in 2016-17 compared to 2012-13 (Figure 6).

Figure 6. India's IT-BPM Exports - Region Wise Share 2016-17(per cent)

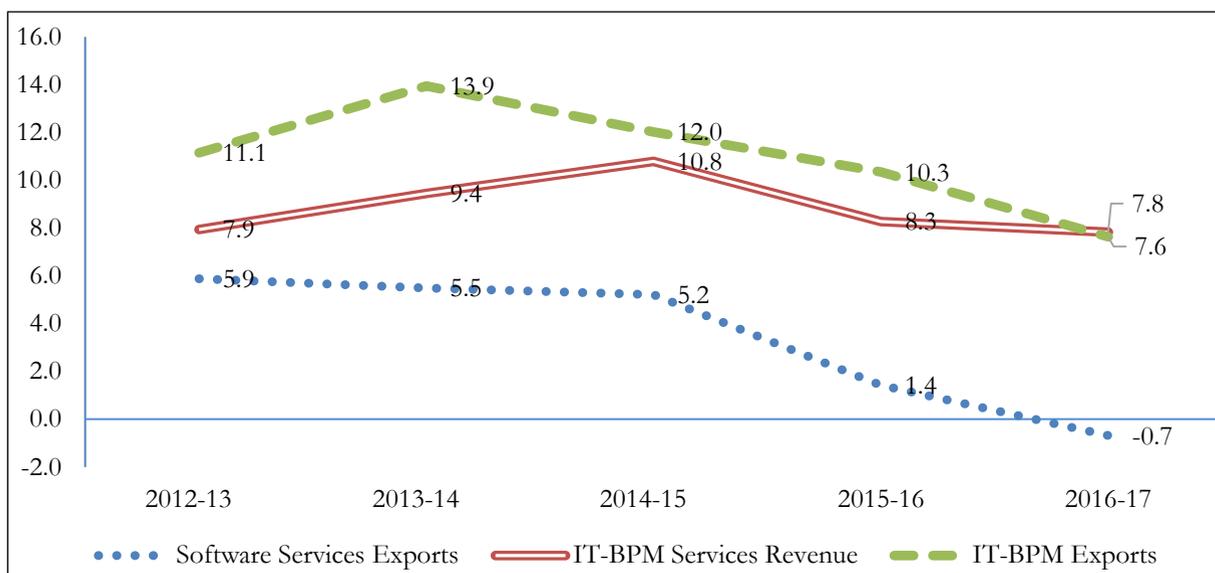
Source: NASSCOM.

9.34 As per NASSCOM in 2016-17 India's total revenue (exports plus domestic) of the IT-BPM sector including and excluding hardware is expected to touch US\$154 billion and US \$140 billion, with growths of 7.8 per cent and 8.1 per cent respectively. Exports including and excluding hardware are both likely to record 7.6 per cent growth to reach US\$117 billion and US\$116 billion respectively. The domestic market including hardware and excluding e-commerce is set to grow at 8.5 per cent to reach US\$38 billion, and excluding hardware and e-commerce, it is set to grow at 10.4 per cent to reach US\$ 24 billion. Software products, though, only one-third the size of IT services segment are estimated to grow at 10.4 per cent to US\$ 4.8 billion due to the ever growing demand for cloud-based solutions, particularly from Server Message Block (SMBs). E-commerce is expected to grow at 19.1 per cent to reach US\$33 billion.

9.35 India's software exports which were growing robustly at 27 to 38 per cent during 2002-03 to 2007-08 have slowed down in recent years with exports even falling. In

2016-17 software exports fell by 0.7 per cent to US \$ 73.7 billion compared to US 74.2 billion in 2015-16 as per RBI's BoP data, while IT-BPM exports are expected to reach USD 117 billion, with a growth of 7.6 per cent as per NASSCOM. IT-BPM export growth for 2017-18 has been pegged to 7-8 per cent by NASSCOM (Figure 7).

9.36 The fall in exports of India's computer services exports by 0.2 per cent in 2016 (as per WTO data) is happening even when the World computer services exports is growing at 5.8 per cent in 2016 and some advanced countries like USA, Israel and competing countries of South East Asia, Latin America and East Europe like Philippines, Brazil, Chile, Russia and Ukraine are having modest to robust growth (Table 10). India's computer services imports is also growing at 30.4 per cent resulting in negative net computer services export growth of (-) 1.7 per cent in 2016. This indicates that the IT-BPM sector is affected not just by the global slowdown and challenging market access situation, but other challenges as well (Box 2).

Figure 7. Growth of Software Services Exports and IT-BPM Revenue and Exports

Source: Software Services: RBI data and IT-BPM: NASSCOM data.

Table 10. Computer Services Export Growth: Selected Countries

	Growth Rate (%)				
	2009	2010	2014	2015	2016
Australia	-13.1	12.2	7.1	16.5	3.1
Brazil	6.5	-8.7	140.6	15.6	14.8
Chile	12.3	36.7	4.8	1.2	10.4
India	-9.0	20.5	1.3	1.2	-0.2
Philippines	35.3	24.1	10.1	1.3	63.6
Russia	-21.8	5.0	5.7	-7.4	8.5
Ukraine	9.5	24.7	16.1	11.2	18.4
USA	3.8	1.9	7.4	12.7	8.1
Israel	1.3	-43.9	18.2	-2.0	26.9
World	NA	NA	NA	-3.6	5.8

Source: Based on WTO data.

9.37 Meanwhile, the Government of India's rapid adoption of technologies as a platform to delivery of government-to-government and government-to-citizen services is a tremendous push factor for the domestic IT-BPM market. The Government of India is also taking a lead in adopting digital technologies and is one of the most proactive users of social media as a means to communicate with the public. It has developed its own cloud platform – MeghRaj – that offers Platform-

as-a-Service (PaaS), Infrastructure as a Service (IaaS), Software as a Service (SaaS) and Storage as a Service (STaaS). The focus of this initiative is to accelerate delivery of e-services in the country while optimizing Information Communication & Technology (ICT) spending of the Government. It also intends to make India a hub for cyber security solutions for the world. Through long-term initiatives like Digital India, Make in India, Smart Cities, e-Governance, push

Box 2. IT-BPM: Slowdown Challenges

The IT-BPM industry is also feeling the pinch of the global slowdown and global political uncertainties as clients go slow on their decision-making and investment processes. Some challenges faced by India's IT-BPM sector in the major markets are the following.

Market Access: Misconstruing mobility of skilled people as an immigration issue is a deterrent to the growth of this global business resulting in many barriers to free movement of skill and data in the major markets.

In the USA, "Buy American, Hire American" Presidential executive order called for the collection of data, increased oversight and enforcement actions, and the development of administration plans to reform and curtail the high skill visa programs. Departments of Justice, Homeland Security, State, and Labor all have issued memos, policy guidance aimed at imposing new restrictions on the visa programs, enhancing enforcement, increasing scrutiny of sponsors, and enhancing penalties for violations. U.S. Citizenship and Immigration Services introduced a policy memo on H-1B usage, wherein "computer programmers" do not automatically qualify as specialty occupations. Additional details from visa applicants are required by the Department of State as part of Government's extreme vetting process. Significantly more details on the Labor Condition Applications (LCA) which companies must file before submitting H-1B petitions are now required as per Department of Labor's plans. Various bills relating to H-1B visas have been tabled in the U.S. Congress, the latest being the House Judiciary Committee Chairman Bob Goodlatte's twin bills which have been passed in the US congress on 29 June 2017 and is now going to the senate. One of the two bills would strip federal dollars from self-proclaimed 'sanctuary' cities that shield residents from federal immigration authorities, while the second bill (also called as Kates's Law) would stiffen punishments for people who re-enter the US illegally.

The UK has introduced the Migration Advisory Committee's recommendations with effect from 6th April 2017, entailing the changes like closure of Tier 2 Intra-Company Transfer (ICT) Short Term visa route, imposing Immigration Skills Charge (ISC) of £1,000 per migrant hire per valid visa year and Immigration Health Surcharge and also increase in the minimum salary threshold for Tier 2 (ICT) visas. The EU has also introduced Data Protection and Privacy Rules that effectively prevent Indian companies from providing services from India, while US has been given safe harbour status. In Australia, the Federal Government has announced that it would eliminate the 457 visa category and replace it with two new visa streams to protect the interests of Australian workers.

Competition from new entrants: Indian service companies gained scale over the last decade as the disrupters, creating the modern offshoring industry, but they are now the incumbents, challenged by a slew of specialized and niche start-ups bred in this new environment. The niche players are creating highly specialized solutions that address very specific use cases or problems for their clients. The horizontal or enterprise platforms like Salesforce.com create entire ecosystems that handle horizontal problems simply with intuitive cloud-based technology. India is facing increasing competition from new digital only entrants from Eastern Europe and Latin American countries including newer companies like Globant, EPAM, and Luxoft.

Job loss Challenges: The growth in digital technologies like cloud-based services is happening at a much faster pace and the companies have to learn the new technologies and reskill. As per a report of the World Bank (2016), Automation threatens 69 per cent of the jobs in India, while it threatens 77 per cent in China and 85 per cent in Ethiopia. As per Executive search firm Head Hunters India, the job cuts in IT sector will be between 1.75 lakh and 2 lakh annually for next three years due to under-preparedness in adapting to newer technologies. As per the McKinsey & Company report, nearly half of the workforce in the IT services firms will be "irrelevant" over the next 3-4 years and the bigger challenge ahead for the industry will be to retrain 50-60 per cent of the workforce as there will be a significant shift in technologies. There are also Reports of mass layoffs in the IT sector. However, NASSCOM categorically rejects this. As per NASSCOM, this largest private sector employer has added over 6 lakh new employees in the last 3 years and is expected to add over 2.5 to 3 million new jobs by 2025. However, the skills profile is set to undergo a rapid change as demand for skills around digital technologies grows exponentially. Many firms have established dedicated programs to re-skill their existing employees. In 2016-17 around 1.7 lakh jobs were created and in Q4 of 2016-17 alone, there was gross hiring of over 50,000 by top 5 companies. However, Labour Bureau of India data indicate that changes in employment in IT-BPO sector during April to December 2016 was only 0.22 lakhs. Thus there is a gentle deceleration in net hiring growth rate as also indicated by NASSCOM.

Domestic challenges: There are also some domestic challenges like shortage of skilled digital talent, under-developed infrastructure in Tier 2 & 3 cities and some restrictive regulations for product startups.

Source: Based on inputs from NASSCOM and Desk Research.

for digital talent through Skill India, drive towards a cashless economy, efforts to kindle innovation through Start-up India, etc., uptake of technology is expected to grow substantially in the future.

Real Estate and Housing

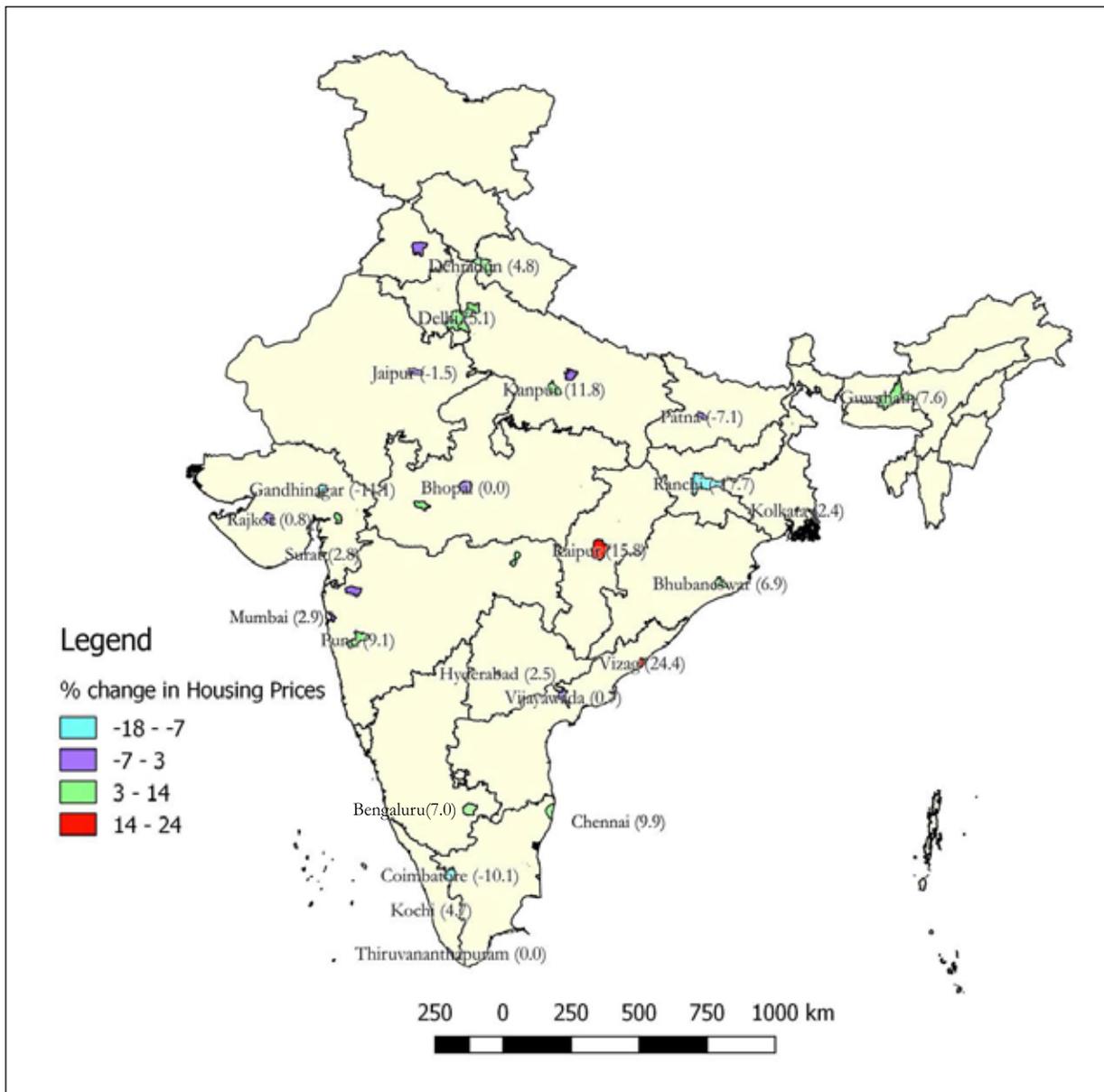
9.38 Real estate sector including ownership and dwellings accounted for 7.6 per cent share in India's overall GVA in 2015-16. The growth of this sector decelerated in the last three years from 7.5 per cent in 2013-14 to 6.7 per cent in 2014-15 and further to 4.5 per cent in 2015-16. This was mainly due to the ownership and dwelling segment having a share of 6.8 per cent in overall GVA decelerating from 7.1 per cent in 2013-14 to 3.2 per cent in 2015-16. The growth of the construction sector which includes buildings, dams, roads, bridges etc., has decelerated to 1.7 per cent in 2016-17 from 5.0 per cent in 2015-16.

9.39 Residential sales across top-eight cities in India in 2016 fell to a five-year low of about 2,45,000 units, due to subdued demand over the past three years. Similarly, new residential unit launches, too, fell to only 1,76,000 unit launches during 2016. The decline in unit launches was significant at 64 per cent, compared to the sales which was down by nearly one-third. This was primarily due to the prolonged slump and execution delays in project completion which resulted in inventory pile-up across all cities. Interestingly, amidst this prolonged slump, there was a positive development with real estate developers becoming more mature and limiting the new supply in the market, as a result of which residential sales outpaced the new supply consecutively for two years in 2015 and 2016. Demonetization in November 2016 possibly impacted the new launches and sales in the short term with several states recording drop in property registrations post-demonetization. Foreign Direct Investment

(FDI) inflows to the construction sector have also declined to US\$ 1.9 billion in 2016-17, as against US\$ 4.6 billion in 2015-16 even though there was relaxation of FDI norms for the construction development sector undertaken over the past two to three years. Despite the subdued demand, residential prices did not fall with the NHB RESIDEX, showing increase in prices in 33 cities out of 50 cities in 2016-17 Q4 over 2015-16 Q4. The highest increase over the year was observed in Vizag (24 per cent) followed by Raipur (16 per cent) (Figure 8). The 2016-17 average RESIDEX index over 2015-16 average also shows similar results with prices increasing in 42 cities out of 50 cities. Only the RESIDEX for 2016-17 Q4 compared to 2016-17 Q2 (i.e. the quarter preceding demonetisation) shows that housing prices have fallen in 32 cities out of 50 cities. But this could also be due to the reason that housing prices had suddenly picked up in both 2016-17 Q1 and Q2 over the previous quarters with rise in prices in 41 and 31 cities out of 50 cities respectively.

9.40 Some of the issues and challenges affecting growth in real estate and housing sector include approvals of permits, high land registration costs including stamp duty, rising debt levels and NPAs, lack of skilled workforce and delayed delivery of houses by builders. As per the World Bank's 'Ease of Doing Business 2017', India ranks 185 out of 190 countries in dealing with construction permits. With over 30-35 regulatory approvals required to be obtained by a developer to develop a real estate project in India, it takes anywhere between six to twelve months or even higher in obtaining various approvals. As a result, the whole process becomes cumbersome and also leads to delays, which inflates the project cost by 20-30 per cent. India ranks 138 out of 190 countries, in registering a property. Bye-laws have also not been updated as per global benchmarks and best practices. Rising

Figure 8. Housing Price Changes (2016-17 Q4 over 2015-16 Q4)



Source: Based on NHB RESIDEX Index data.

non-performing assets (NPA), higher risk provisioning assigned to real estate sector by the RBI and dwindling profits in the real estate sector have affected bank lending to the sector. Among the major funding sources to real estate sector, bank lending to the real estate sector has significantly dropped from over 57 per cent in 2010, to less than 24 per cent in 2016, while private equity investment have increased (NAREDCO and KPMG). The total housing credit outstanding of

scheduled commercial banks (SCBs) in India as on March 31, 2017 was around ₹8.6 trillion, with growth (y-o-y) of 15.2 per cent while the total housing credit outstanding of housing finance companies (HFCs), was ₹5.0 trillion with a growth of 15.0 per cent during the same period. The real estate sector has also been grappling with liquidity issues and piling debt. The total outstanding debt of listed real estate developers in India has risen from ₹ 25,000 crore (US\$ 3.7 billion) in 2006-

07 to over ₹83,000 crore (US\$ 12 billion) in 2015-16 (NAREDCO and KPMG).

9.41 The Government has formulated many policies to help the real estate and housing sector. Some of the recent policy measures taken by the Government include Pradhan Mantri Awas Yojana (PMAY- Urban), Real Estate (Regulation & Development) Act, 2016, Smart Cities Mission, Real Estate Investment Trust (REITs) and Infrastructure Investment Trusts (InvITs), relaxation of conditions to claim tax incentive for affordable housing projects, and the Benami Transactions (Prohibition) Amendment Act, 2016.

Satellite Mapping and Launching Services

9.42 Indian Space Programme contributes to national development, through the application of space technology, comprising of communication, navigation and earth observation to address issues related to societal development and strategic requirements. Over the last three decades, space technology has matured from providing simple mapping applications to development of complex models, decision support and early warning systems, incorporating space and derived inputs. Many a times the benefits of space application are intangible in nature and are not quantifiable. However, in some cases, the economic benefits of certain space applications are quantifiable that indicate significant economic contribution from those applications, concurrent to its societal dimension. Satellite mapping and launching services are two areas in which India is making a mark and has huge potential for the future.

Satellite Mapping

9.43 Over the past decades, Earth Observation (EO) data, integrated with in-situ observations and tools, have been

supporting a host of applications in the areas of land & water, ocean & atmosphere, environment & eco-system, urban & rural applications and disaster risk reduction. Some space applications & services generate revenue and earn foreign exchange reserves for India. These include establishment of International Ground Stations (IGS) by providing necessary hardware and software to directly receive and process data from IRS satellites when the satellite passes over their ground station; access fee, based on actual data acquisition time at their ground station; royalty for the data licensed by these IGS to their customers; licensing of IRS satellite data products to developing countries directly or through resellers to international customers; etc.

9.44 The foreign exchange earned by India from satellite mapping in the last five years was more than ₹ 100 crores. Out of this, highest earnings were received from Germany (57.4 per cent), followed by Algeria (12.5 per cent) and China (6.5 per cent). However, there has been a decline in foreign exchange earnings in recent years (Table 11). Since 2014-15, China and Myanmar which were among the top four markets of India have stopped using these services. In the case of China, the agreements came to an end and China as a part of its Earth Observation Programme has developed series of satellites in optical and microwave, providing data in variety of spatial and spectral resolutions. In the case of Myanmar, Antrix the marketing arm of the Department of Space, is trying to renew the cooperation. Further, ISRO is pursuing a project to support ASEAN Member states including Myanmar to receive and process data from Indian remote sensing satellites (Resourcesat-2 and Oceansat-2) and also to provide training in space science, technology and applications for the benefit of the ASEAN Member countries.

Table 11. Satellite Mapping Services Exports (IRS Related Services)

Foreign Exchange Earned (₹ in Crores)						
	2012-13	2013-14	2014-15	2015-16	2016-17	Cumulative
Total	38.09	14.82	28.84	25.10	11.38	118.23
Germany	20.86	9.88	11.52	17.97	7.57	67.80
Algeria	2.80	0.70	8.96	2.38	--	14.84
China	6.74	0.87	0.11	--	--	7.72
Myanmar	2.64	2.16	2.40	--	--	7.20
Iran	--	--	0.88	3.52	2.48	6.88
Norway	--	--	4.15	1.23	0.63	6.01
France	2.19	1.17	--	--	--	3.36
USA	2.80	--	--	--	--	2.80
UK	--	--	0.82	--	0.70	1.52

Source: Antrix, ISRO.

9.45 Geospatial market basically comprises of data, hardware, software and services including mapping. Out of the above, data component is only 5 per cent. Out of this data component, Asia Pacific Region's contribution is 14 per cent. The market is highly competitive due to many high resolution data providers. ANTRIX, right now is able to market only medium and coarse resolution data products. Commercial potential for the medium and coarse resolution data segment is facing threat due to Free and Open data policy in many countries, especially with the availability of free data from Landsat-8 of US and Sentinel from the European Space Agency (ESA) resulting in this data being practically available free of cost to the entire globe. Many countries are currently treating the Remote Sensing data as societal or public goods. Only High and Very High Resolution data have commercial markets in the current scenario. This market is also highly competitive with many private satellite operators across the globe. Currently, ANTRIX, is marketing Cartosat-1 data (which offers 2.5 m stereo data) to various

users across the globe and the contribution by ANTRIX in this data segment is minimal (below 0.5 per cent). However, the situation is likely to improve with realization of High/Very High Resolution data satellites.

Satellite Launching

9.46 India started its launch vehicle development to orbit indigenous satellites in a self-reliant manner. India's operational workhorse vehicle, Polar Satellite Launch Vehicle (PSLV) is a four-stage vehicle primarily designed to carry Remote Sensing satellites into polar sun-synchronous orbit. As on 10 July, 2017, 40 launches of PSLV have taken place. The last 39 missions conducted provided a string of successes. Though initially designed for launching Remote Sensing Satellites in Polar Orbits, the vehicle has been tuned to launch Communication, Meteorological and Navigation satellites into Sub-Geo Transfer Orbit (Sub-GTO). Apart from launching indigenously built satellites, PSLV also offers satellite launch services to customers through commercial arrangements with ANTRIX. As on March

Table 12. Satellite Launch Services Exports

Financial Year	Foreign Exchange earned (₹ in Crores) *	Countries that used satellite launch services	Global satellite launch services revenue (Million Euros)	India's share in the Global satellite launch services revenue (per cent)
2012-13	136.18	Canada, France, Japan, UK	5160	0.4
2013-14	--	--	4800	--
2014-15	149.41	Canada, France, Germany, Singapore	5250	0.3
2015-16	394.22	Canada, Indonesia, Singapore, UK, USA	4800	1.1
2016-17	274.66	Algeria, Canada, Germany, Indonesia, Netherlands, USA	N.A	--

Source: ISRO based on “State of the Satellite Industry Report” published every year by “Satellite Industry Association”.

Note: * Earnings are recorded in the year of launch.

2017, PSLV has successfully launched 225 satellites. This includes 37 National Satellites, 8 student satellites built by universities/academic institutions, one re-entry mission and 180 foreign satellites from 23 Countries.

9.47 Towards providing launch services to international satellite customers, Antrix acts as the single nodal agency between customer and ISRO and provides end-to-end support to the customer. Foreign exchange earnings of India from export of satellite launch services has increased noticeably in 2015-16 and 2016-17 and consequently India's share in global satellite launch services revenue has also increased (Table 12). Foreign Exchange earnings in 2015-16 were higher than in 2016-17 as there were two dedicated Polar Satellite Launch Vehicle (PSLV) missions for launching international customer satellites in 2015-16, while in 2016-17 there was launching of international customer satellites only as co-passengers to the Indian national satellite missions.

9.48 With the successful track record of

PSLV and Geo-synchronous Satellite Launch Vehicle (GSLV) and the emergence of small satellites market globally, especially in the US and Europe, Antrix foresees greater utilization of PSLV and GSLV launch services by the international community for launching their low earth orbit (LEO) satellites involving constellations on-board PSLV and smaller communication satellites on-board GSLV as a dedicated launch option. Thus the market potential for providing PSLV and GSLV launch services to international satellite customers is high.

CONCLUSION

9.49 India's services sector growth, which was highly resilient even during the global financial crisis, has been showing moderation in recent times. However, pick up is seen in recent months with some segments of the sector showing better performance. This is also reflected in the Nikkei Services PMI of India which rose to 53.1 in June 2017, the strongest since October 2016 supported by strong upswing in inflows of new business.

Social Infrastructure, Employment and Human Development

10 CHAPTER

“The most distinctive feature of our economic system is the growth in human capital. Without it there would be only hard manual work and poverty....”

– T.W. Schultz

Investment in human capital like education and health are key ingredients for economic development. Much of the impoverishment in India today can be addressed by enhancing human capital by investing in nutrition, health, education and by providing appropriate skills for employment. Though India’s social policies have focussed on the welfare of the people and also human development, challenges remain in overcoming social and economic barriers to advance the capabilities of the marginalised, women and other weaker sections of the society. With India poised for higher growth anchored on a knowledge economy, there are benefits to be reaped by investing in human capital.

10.1 In a developing economy like India, human capital can play a significant role in lifting people out of poverty and enabling them to lead a healthy and productive life. Despite a significant improvement in HDI score over the years, India’s rank in Human Development Index (HDI) at 131 out of 188 countries as per HDR, 2016, leaves much to be desired. On the Global Hunger Index (GHI) 2016, India ranks 97 out of 118 developing countries with prevalence of stunting among children aged below 5 years at around 39 per cent, a serious cause of concern. In this scenario, India requires effective investments in social infrastructure in order to achieve the Sustainable Development Goals (SDGs).

TRENDS IN SOCIAL SECTOR EXPENDITURE

10.2 The public investment in social infrastructure like education and health is critical in the development of an economy.

The expenditure on social services by the Centre and States as a proportion of GDP which remained stagnant in the range of 6 per cent during 2011-12 to 2014-15, recorded an increase of 1 percentage point during 2015-16 (RE) and 2016-17 (BE). As a percentage of GDP, the expenditure on education which remained stagnant around 3.1 per cent during the period 2009-10 to 2013-14, however, declined to 2.8 per cent in 2014-15 (Table 1).

10.3 The State Governments also have schemes for education, health, for the marginalised groups, Scheduled Castes, Scheduled Tribes, women, and other disadvantaged sections of the society. At the State level, there was marginal increase in the share of expenditure on social services as a proportion of total expenditure till 2015-16 (Figure 1).

**Table 1. Trends in Social Services Expenditure by General Government
(Centre and States)**

Items	2011-12	2012-13	2013-14	2014-15	2015-16(RE)	2016-17(BE)
	(₹ Crore)					
Total Expenditure	24,21,768	26,94,934	30,00,299	32,85,210	39,74,103	44,48,860
Expenditure on Social Services	5,80,868	6,58,320	7,46,391	7,67,622	10,02,591	11,18,094
<i>of which:</i>						
i) Education	2,77,053	3,12,932	3,48,267	3,53,589	4,23,171	4,74,672
ii) Health	1,10,228	1,25,524	1,39,280	1,48,791	1,91,141	2,21,466
iii) Others	1,93,587	2,19,865	2,58,844	2,65,242	3,88,279	4,21,955
As percentage to GDP						
Total Expenditure	27.7	27.1	26.7	26.4	29.1	29.5
Expenditure on Social Services	6.6	6.6	6.6	6.2	7.3	7.4
<i>of which:</i>						
i) Education	3.2	3.1	3.1	2.8	3.1	3.2
ii) Health	1.3	1.3	1.2	1.2	1.4	1.5
iii) Others	2.2	2.2	2.3	2.1	2.8	2.8
As percentage to total expenditure						
Expenditure on Social Services	24.0	24.4	24.9	23.4	25.2	25.1
<i>of which:</i>						
i) Education	11.4	11.6	11.6	10.8	10.6	10.7
ii) Health	4.6	4.7	4.6	4.5	4.8	5.0
iii) Others	8.0	8.2	8.6	8.1	9.8	9.5
As percentage to total expenditure on social services						
Expenditure on						
i) Education	47.7	47.5	46.7	46.1	42.2	42.5
ii) Health	19.0	19.1	18.7	19.4	19.1	19.8
iii) Others	33.3	33.4	34.7	34.6	38.7	37.7

Source: Budget Documents of Union and State Governments, Reserve Bank of India.

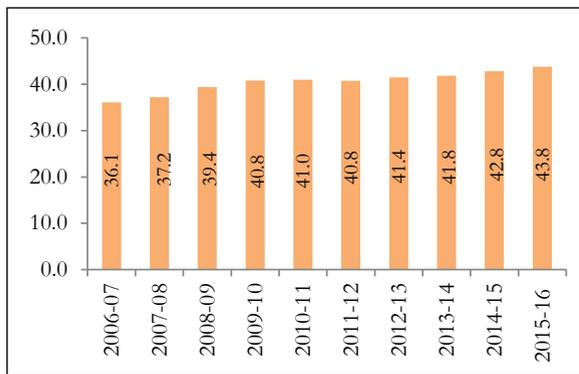
Notes: 1. Social services includes education, sports, art and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities etc.

2. Expenditure on 'Education' pertains to expenditure on 'Education, Sports, Arts and Culture'.

3. Expenditure on 'Health' includes expenditure on 'Medical and Public Health', 'Family Welfare' and 'Water Supply and Sanitation'.

4. GDP data from 2011-12 is as per the new series with base year 2011-12. The GDP data for 2014-15 and 2015-16 pertain to the Second Advance Estimates of National Income released by the Central Statistics Office on February 28, 2017. GDP for 2016-17 is from the Union Budget 2016-17.

Figure 1. Trends in share of State Expenditure on Social Services (per cent)



Source: Reserve Bank of India.

10.4 An analysis of the State level budgets for 2014-15 and 2015-16 (RE) shows that the increase in share of social services varied widely across States. While the increase in social sector spending was in the range of 15 to 20 per cent in West Bengal, Kerala, Karnataka, Tamil Nadu and Gujarat, the increase was more than 45 per cent in the poorer States like Bihar (46 per cent) Chhattisgarh (49 per cent) and Jharkhand (53 per cent).

10.5 The increase in percentage of expenditure on social sector needs to be reflected in the outcomes of States, by way of improvements in learning and education, health, decline in diseases/morbidity and better standards of living. Towards identifying and addressing shortcomings in the desired outcomes, there is need to set up an appropriate monitoring system for social sector spending at the Centre and in the States. In this context, NITI Aayog monitors the Sustainable Development Goals tracking its progress at State levels on a regular basis. In addition, NITI Aayog along with Ministry of Human Resource Development (MHRD) developed a Social Education Quality Index (SEQI), which is a composite index to monitor and improve the learning outcomes among school children.

CHALLENGES IN EDUCATION

10.6 As India emerges as a knowledge-based economy, 'quality and relevant' education will play a significant role in economic development.

Primary Education

10.7 The primary level learning is the foundation on which a child's education is built and it is of great importance to get the same right. The Annual Status on Education Report (ASER) by the Pratham Education Foundation since 2005, highlights shortcomings in the school educational outcomes in India in rural areas.

10.8 As per ASER, 2016 at the all India level, the enrolment marginally increased for all age groups between 2014 and 2016. The enrolment for the age group 6-14 increased from 96.7 per cent in 2014 to 96.9 per cent in 2016. The enrolment for the age group 15-16 has also improved marginally for both boys and girls, rising from 83.4 per cent in 2014 to 84.7 per cent in 2016. However, in some states, the proportion of out of school children (age 6-14) increased between 2014 and 2016. These include Madhya Pradesh (from 3.4 per cent to 4.4 per cent), Chhattisgarh (from 2 per cent to 2.8 per cent), and Uttar Pradesh (from 4.9 per cent to 5.3 per cent). In 3 States, namely, Rajasthan (9.7 per cent), Uttar Pradesh (9.9 per cent) and Madhya Pradesh (8.5 per cent) the proportion of out of school girls (age group 11-14) remains more than 8 per cent.

10.9 Nationally, the reading ability has improved marginally in early grades in government schools. The proportion of children in Std III who are able to read at least Std I level text has gone up, from 40.2 per cent in 2014 to 42.5 per cent in 2016. The fact that the ASER report compares the skills of Std III children in Std I levels is an example

of the state of the learning outcomes of the primary education. The arithmetic skills have also shown marginal improvement in government schools in primary grades. The all India (rural) figures for basic arithmetic have improved slightly for Std III in 2016 as compared to 2014 from 25.4 per cent to 27.7 per cent. This is the first year since 2010, that there is an improvement in arithmetic learning outcomes, which is attributable to improved performance in government schools. However, the trend analysis of the ASER report indicates that the results of the reading and arithmetic skills of the class V Standard have not improved and is an area of concern (Figure 2).

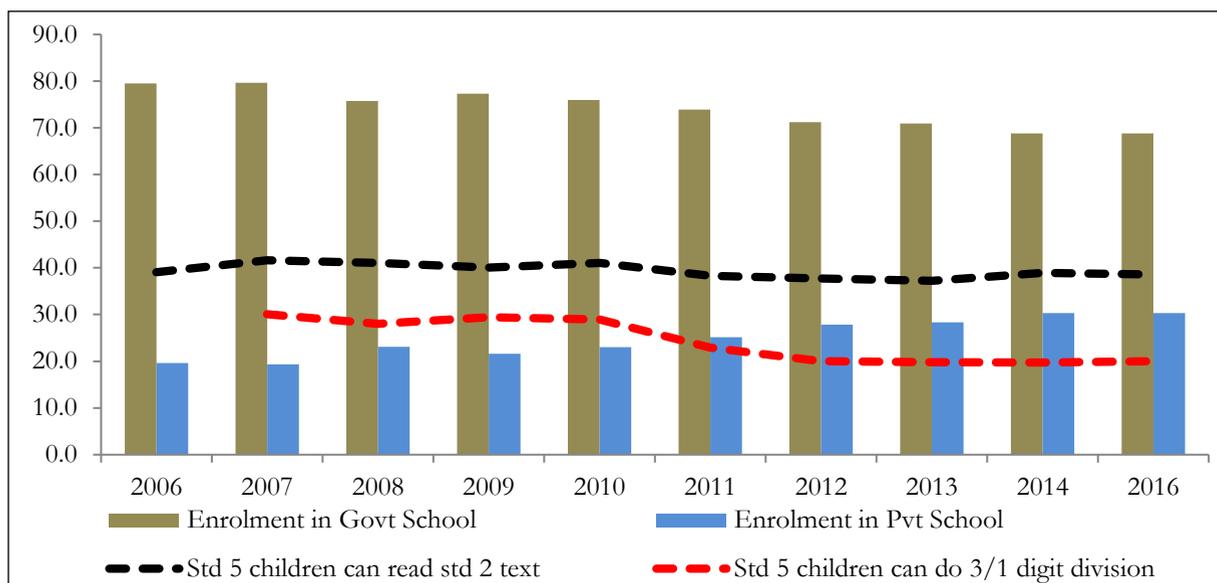
10.10 While ‘The Right of Children to Free and Compulsory Education Act’, 2009 (RTE), has significantly improved the enrolment level in primary schools across the country, the challenge of quality in terms of learning outcomes remains to be addressed, as is evident from data of rural India (Figure 2). The problem lies in the approach which focused almost

entirely on inputs such as specifications for infrastructure of schools, pupil-teacher ratios, teacher qualifications, teacher salaries, etc. Besides, the overburdening of teachers with administrative responsibilities of schools especially at primary levels has had an adverse impact on learning outcomes. There is a need to shift focus on quality of education by getting the input-outcomes matrix right.

10.11 One of the critical inputs needed for improving the learning outcomes is pupil teacher ratio (PTR) which the RTE Act has mandated for each school. However, ASER, 2016 report points out that there is no direct correlation between PTR and learning levels across primary schools in India (Figure 3). States complying with PTR provision of RTE Act have lower learning outcomes.

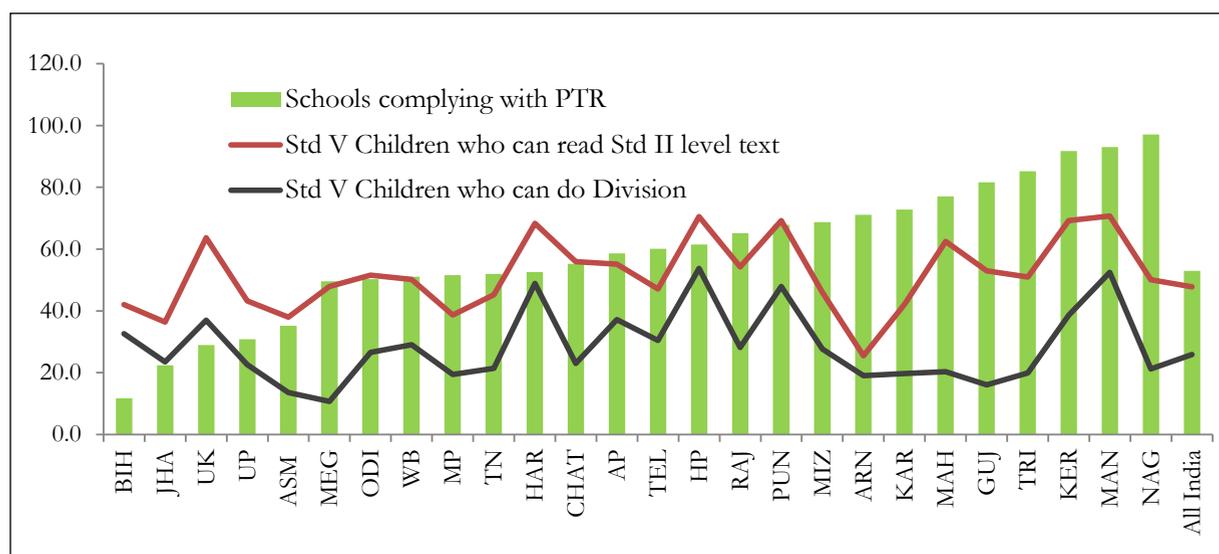
10.12 Further, the lower learning outcomes may be attributed to input factors such as the absence of professionally qualified and regular teachers, lack of remedial education for class appropriate learning, shortage of IT based teaching aids; performance in schools

Figure 2. Trends in Enrolment and Learning Status in Primary Schools (per cent) - Rural India



Source: ASER, 2016.

**Figure 3. Pupil Teacher Ratio and Learning Levels in Primary Schools, 2016
(per cent) - Rural India**



Source: ASER, 2016.

due to absence of teachers and also students, despite attempts to address the latter through mid-day meals.

Direct Transfer of Funds

10.13 The salaries to teachers/staff should be directly remitted like in DBT using the Aadhaar identity, linked to bio-metric attendance. DBT, presently being done for scholarship and other payments to students, should achieve a target of transfer of 100 per cent of the funds transferred. DBT will help prevent delays in transmission of resources, leakages and diversions. It will also address situations, where in some states there are arrears in the payment of salaries to teachers. Non-payment of salaries to teachers or delayed payments de-motivates them and directs them to alternative sources of income at the cost of their primary teaching function.

Pilot project on attendance in Schools

10.14 A pilot should be launched in six months, one school (one at all levels-primary, secondary and senior/higher secondary) in every block should be subject to biometric attendance system for teachers, staff and students, which will help to improve outcomes. This should be centered around each class/session and not on a daily basis. This should be accompanied with independent setting of examination papers and neutral evaluation. Based on the feedback of this pilot, the same should be modified and extended to all schools in all blocks in India before the end of 2021-22. Links to two of the several studies on impact of teacher absenteeism are given below.¹

Secondary Education

10.15 The secondary education is a stepping stone to higher education that equips and empowers students with skills important for the most important school

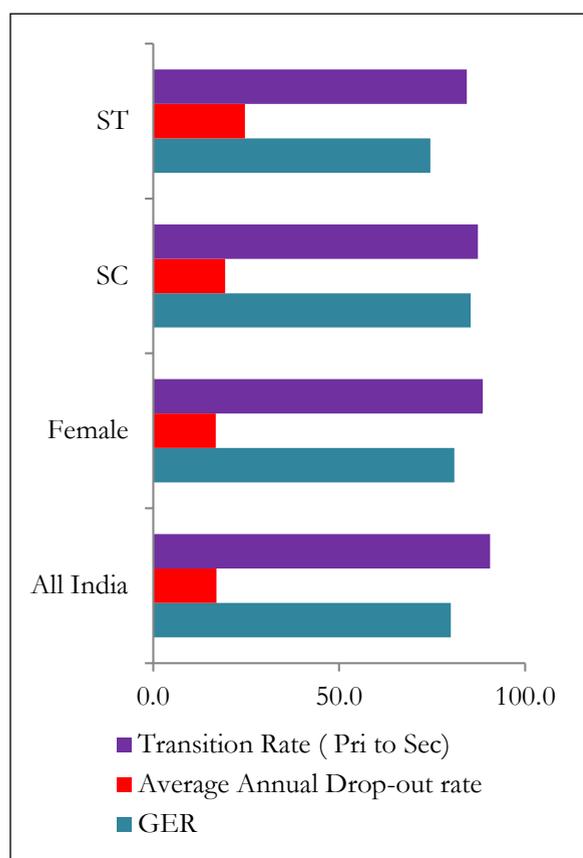
¹ (i) http://www.sas.upenn.edu/ppe/Events/uniconf_2011/documents/Saihjee.Aarti.FinalPaper.pdf

(ii) http://siteresources.worldbank.org/DEC/Resources/36660_Teacher_absence_in_India_EEA_9_15_04_-_South_Asia_session_version.pdf

level and the labour market. The Rashtriya Madhyamik Shiksha Abhiyan (RMSA)-Integrated, launched to enhance access and improve quality of education at secondary stage, envisages enhancing the enrolment for classes IX-X by providing a secondary school within a prescribed distance of every habitation, improving quality of education imparted at secondary level by making all secondary schools conform to prescribed norms, removal of gender, socio-economic and disability barriers, universal access to secondary level education by 2017, and universal retention by 2020.

10.16 The GER at all India level for

Figure 4. GER, Annual Average Drop-out Rate and Transition Rate in Secondary Schools (per cent)



Source: DISE, Secondary School Flash Statistics, 2015-16.

Note: Annual Average Drop-out Rate and Transition Rate are for 2014-15.

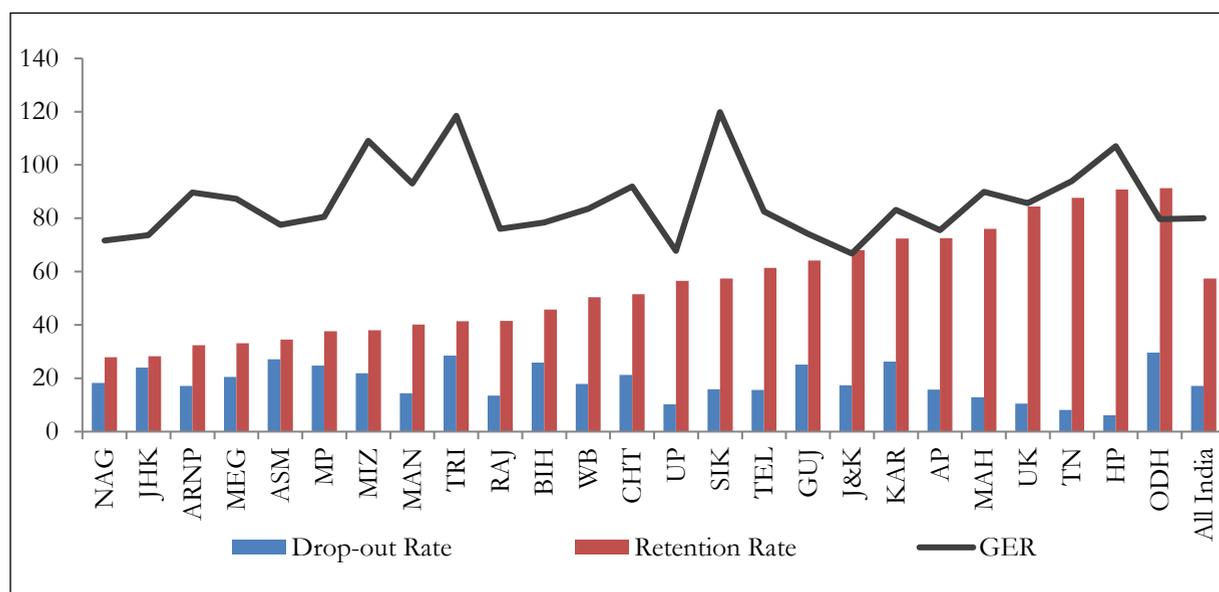
secondary schools is only 80 per cent, way below the target of providing universal access and reaching 100 per cent enrolment. The gross enrolment ratio (GER) at secondary level (includes class 12th) has increased from 56.8 per cent in 2011-12 to 65.3 per cent in 2014-15 (Provisional). However, this pattern is not uniform across India and across different social groups (Figure 4 and 5). It can be seen that the drop-out rate among ST students for 2014-15 is much higher at around 25 per cent compared to the all India annual average drop-out rate at 17.1 per cent.

10.17 The annual average drop-out rates in states like Odisha is as high as 30 per cent which require policy interventions (Figure 5). Similarly, the retention rates in secondary schools is less than 50 per cent in Bihar, Rajasthan, Tripura, Manipur Mizoram, Madhya Pradesh, Assam, Meghalaya, Arunachal Pradesh, Jharkhand and Nagaland. At the all India level the retention rate at 57 per cent in secondary schools, (Figure 5) suggests the need to improve the delivery of the schemes/programmes.

10.18 There is a need to work for a GER of 100 per cent by the target year of 2020-21. A target GER of 100 per cent should also be accompanied with Net Enrolment Ratio (NER) target of 100 per cent, along with a transition rate of 100 per cent from both primary to secondary and then to higher/senior secondary. This should be accompanied with targets on learning outcomes to be assessed for the same standard and not in comparison to lower standard, as done in the ASER survey.

10.19 It will be worthwhile to map GERs, NER, transition rate from secondary to higher/senior secondary, other parameters for input, access, output, efficiency and outcome indicators, with an integrated education index at disaggregated levels (district and

Figure 5. State-level disparities in GER, Average Annual Drop-out Rate and Retention Rate (per cent)



Source: DISE, Secondary School Flash Statistics, 2015-16.

Note: Annual Average Drop-out Rate is for 2014-15.

below district –sub-division, block, tehsil, panchayat, etc), for tracking their progress, to identify shortfalls and to devise measures to address them and improve efficiency of expenditure.

10.20 The focus of school education so far has been on creating physical infrastructure, which is underutilized and needs to shift to improving utilization of assets. A list of schools that are working in single shift needs to be prepared and steps be taken to identify potential utilization of the second/additional shift for either a separate girls’

primary school/senior secondary school, etc. Advantages of the same are listed below in Box 1.

10.21 Each school that is being funded under any scheme/programme should have an identity tag/ number, akin to a Corporate Identity Number (CIN), that shall help to track resources received from the Centre/ State/Other sources that have tax concessions under section 80 G (and other sections) of the Income Tax Act. This tagging should be accompanied with details of the resources provided, infrastructure and other facilities

Box 1. Optimizing use of infrastructure in schools

- Reap gains from the synergy and efficiency of co-location of schools at all levels of schooling
- Improve utilisation of physical infrastructure – classrooms, science labs and equipment, different course streams, computers/computer rooms, IT infrastructure, arts/crafts/culture room/s, toilet and drinking water facility, playground and equipment, counsellor and principal rooms, etc.
- Continuity for students when they move from primary to secondary and then to higher/senior secondary and so improve the transition rate from primary to secondary and then to higher/senior secondary
- Single school for siblings amongst others things facilitate safe movement/transport to and within the school
- Improved teacher retention by ensuring their progression including their promotions at three levels of schooling

available, which should be in public domain.

Gender Parity Index (GPI)

10.22 The Gender Parity Index (GPI) measures the relative participation in education of male and female students at different levels of attendance. At the above higher secondary level, the GPI based on Net Attendance Ratio (NAR) is much lower than the parity line, which is also the case in rural India compared to urban India (Figure 6). The lower NAR of girls in the higher secondary levels can be corrected by improving accessibility to higher secondary schools. The 'Digital Gender Atlas for Advancing Girls' Education', an important aid that provides rank comparison of States under various indicators defined for upper primary and secondary schools from 2012-2013 to 2013-14 needs to be updated on a regular/annual basis to take further corrective measures by identifying the most backward districts to make education more inclusive.

Higher Education

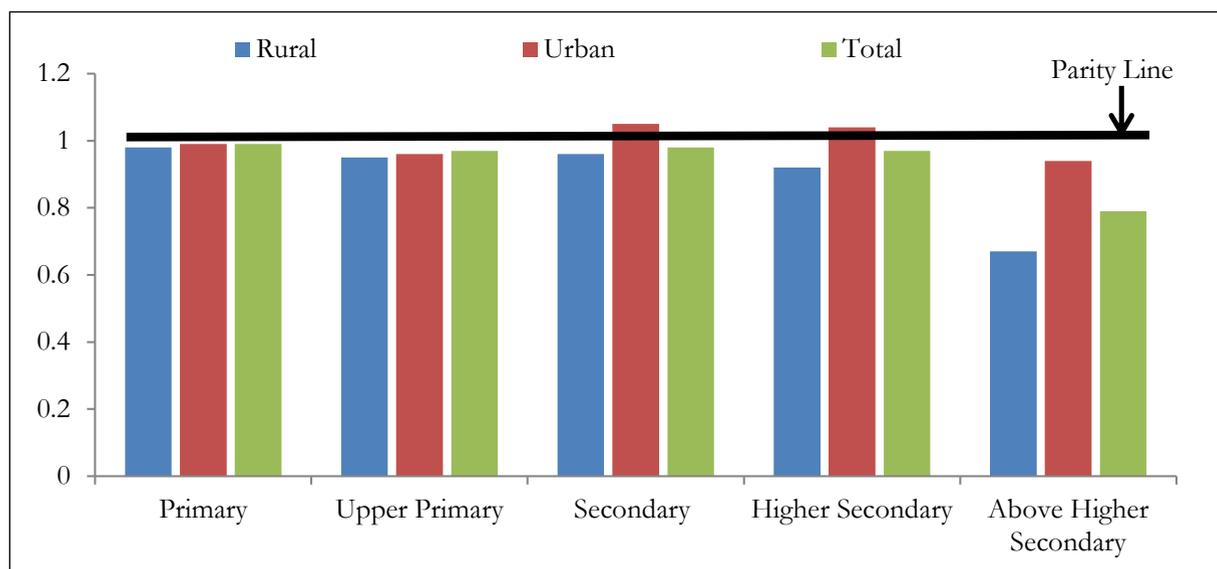
10.23 In the tertiary level education in India, on the one hand there is an increase in the

number of degree, technical/professional colleges while on the other hand the labour market is unable to get appropriately skilled labour force to meet its demand in various sectors. There is a disconnect between higher education in terms of several parameters that go beyond the award of a degree, namely inadequate learning, inappropriate learning, old curriculum, focus on general as opposed to specialized learning and last but most importantly quality of learning. The degree, technical/professional colleges should offer value added learning, which is not only state of the art but also ensures that degree holders are employable.

Expenditure on Education

10.24 The NSS report on education, 2014 notes that the main reason for discontinuance or dropping out for the males is engagement in economic activities (31 per cent). For women, the reasons for dropping out were reported to be engagement in domestic activities (30 per cent) followed by not interested in education (16 per cent) and financial constraints (15 per cent). This

Figure 6. Gender Parity Index (GPI) based on Net Attendance Ratio in 2014



Source: Education in India, NSS 71st Round (January - June, 2014).

suggests that the cost of education is a key determinant in the completion of education.

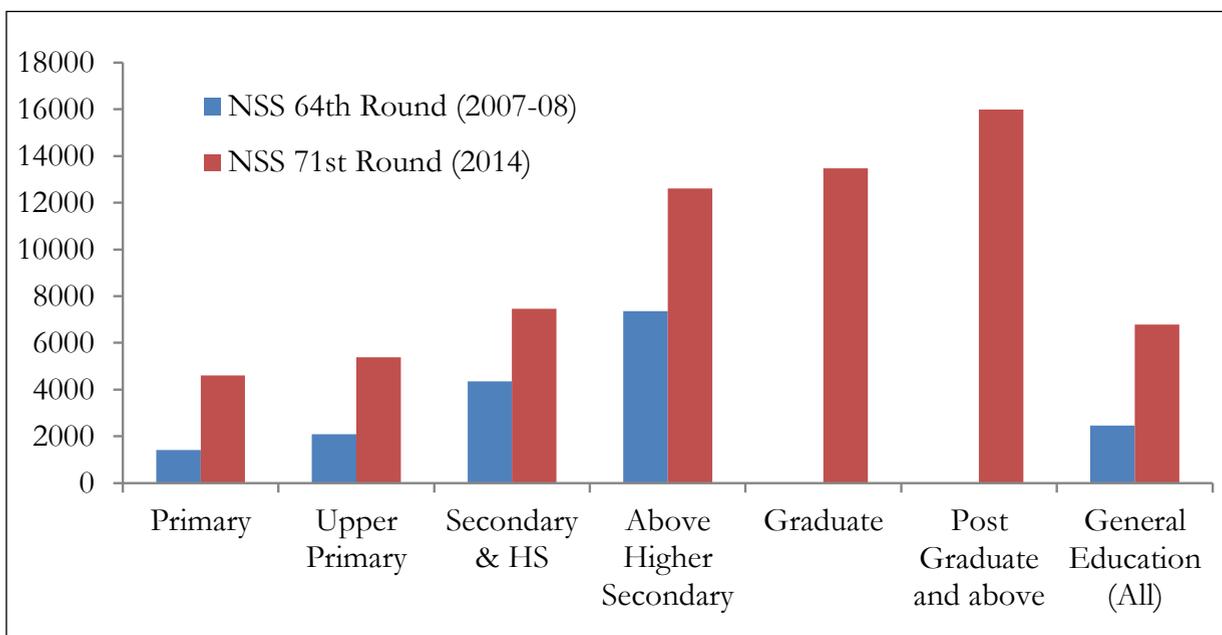
10.25 As per the 71st report of the NSSO (January 2014 to June 2014), the costs of education have increased substantially over the years. The costs of education have been increasing for both general and technical/professional education across all levels. The average annual private expenditure on general education per student (primary & above) has increased from ₹2,461 in 2007-08 to ₹6,788 per student in 2014 (Figure 7).

10.26 The average expenditure on education varies depending on the type of institution, course, level, etc. The differences in expenditure become starker in the case of professional/technical education. The average expenditure on technical/professional education in private aided and unaided institutions was 1.5 to 2.5 times that in government institutions and is mainly on account of the huge gap in the course fees between government and private institutions.

In addition to the rising costs of education in private institutions, private coaching has also emerged as a major component of educational expenditure other than course fees. The share of private coaching in the educational expenditure is around 30 per cent in secondary levels in rural areas and around 45 per cent in higher secondary levels in urban areas among the students attending government institutions.

10.27 With increase in costs of education (course fees and private coaching), to incentivise households with financial constraints to continue sending children to schools and colleges and to complete the desired levels of education, it is imperative that the government take appropriate measures to maintain quality of education and impart skills through education which ensure employability and returns to their investments. The education sector faces significant challenges in this regard (Box 2).

Figure 7. Average Expenditure per student pursuing General Education (in ₹)



Source: Education in India, NSS 71st Round (January - June, 2014).

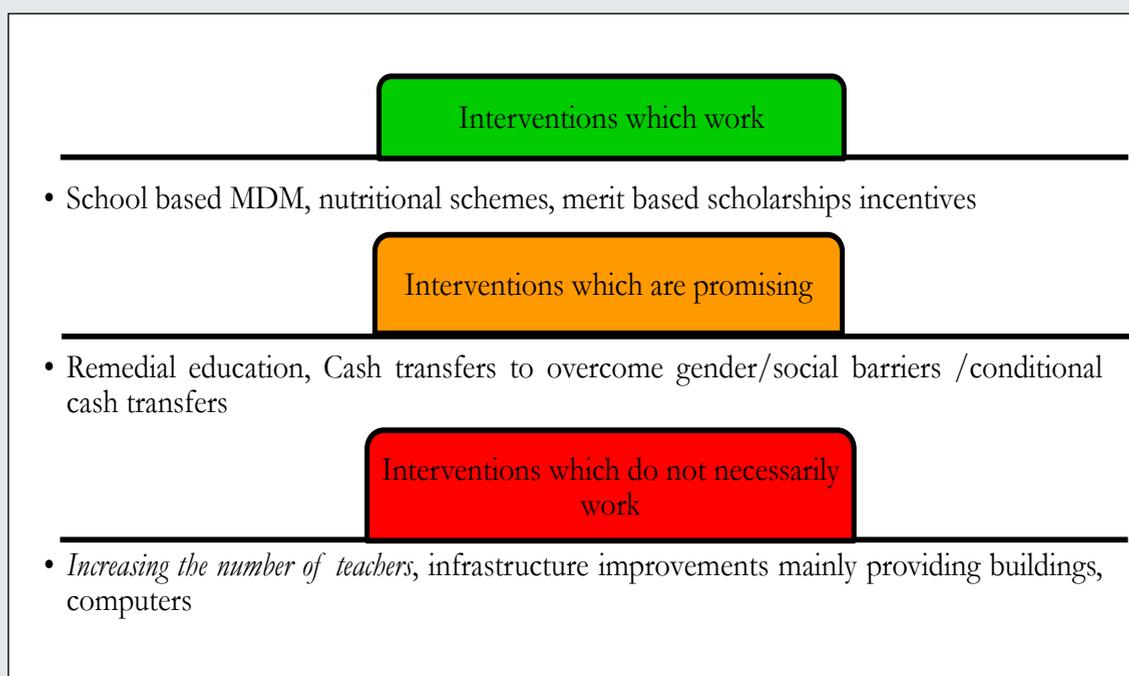
Note: Disaggregation of Graduation and PG & above is made available only in the NSS 71st Round.

Box 2. Interventions to Improve learning: What needs to be learnt?

In India, the schemes like Mid-Day Meals (MDMs) were adopted to increase enrolment rates in schools. Along with the RTE Act, Sarva Shiksha Abhiyan (SSA) there has been substantial increases in enrolment ratios, especially at the primary level. However, there are barriers and constraints that prevent households from sending children to schools and results in non-completion at various levels of education.

To improve the efficiency of expenditure on various interventions, it will help to analyse what kind of policies have worked more efficiently to improve educational outcomes. Such an analysis can point to areas requiring investment to deliver improved learning. Given the resource constraints, it will be worthwhile to drop interventions that do not achieve the intended outcomes. Figure 8 is based on the analysis of some of the schemes of Centre and States, which highlights, the interventions that have brought the intended results in India and which of these interventions still hold promise.

Figure 8. Policy Interventions and Educational Outcomes: A Traffic Lights Approach



The substantial increase in enrolment, of both boys and girls, especially at primary levels was mainly due to nutritional schemes provided at the schools like MDM. The direct cash transfers to girls' families implemented by some of the State governments have also yielded positive response. However, providing stationery, computers, focusing on infrastructure have not resulted in commensurate improvements in learning outcomes. Further, such interventions created leakages in delivery owing to governance issues. The educational schemes should be brought under the 'traffic lights' approach, which will highlight which interventions should have a go ahead in 'green box', and which should be stopped and put under 'red box'. And those interventions which are in 'amber box' should be continued in States/regions where it works and need not be adopted across the country.

Note: Effectiveness of schemes is categorised based on several studies including studies conducted by IIPS, 2015; ASER, 2010, World Bank and PROBE reports.

EMPLOYMENT & SKILL DEVELOPMENT

10.28 The debate on the measurement issues on employment and unemployment estimates have been ongoing for some time. The lack of reliable estimates on employment

in recent years has impeded its measurement and thereby the Government faces challenges in adopting appropriate policy interventions. The existing data sources on employment and their limitations are given in Table 2.

Table 2. Existing data sources on employment and unemployment

Agency	Sectors/Areas	Limitations
Labour Bureau Quarterly Quick Employment Survey (QES)	8 selected labour- intensive and export-oriented sectors.	Partial coverage, inadequate sample size, low frequency, long time lags, double counting, conceptual differences and definitional issues, rarely used for the purpose of employment estimation etc.
Labour Bureau Annual Employment-Unemployment Survey (EUS)	Household sample surveys	
CSO, MoSPI Annual Survey of Industries (ASI)	Data on employment, absenteeism, labour turnover, earnings and labour cost by components in manufacturing sector.	
NSSO, MoSPI Quinquennial Employment and Unemployment Survey	Household sample surveys	
O/o RGI & Census Commissioner Population Census Report	Covers all types of workers at 10 years interval	
O/o RGI & Census Commissioner Population Census Report	Covers all non-agricultural enterprises regardless of size or sectors. Irregular frequency	
NSSO, MoSPI Unorganized Sector Surveys of Industries and Services	Covers un-organized non-agricultural enterprises across manufacturing, services and trade. Based on sample frame of Economic Census having low and irregular frequency	
Ministry of MSME MSME Census	So far, only four surveys have been conducted. Last survey was conducted in 2006-07	
Administrative Sources EPFO, ESIC, NPS and private sector	Includes only formal sector	

10.29 To address the deficiencies in the existing data on employment, a Task Force was set up under the chairmanship of the Vice Chairman, NITI Aayog. The Task Force is mandated to assess the existing data collection on employment and unemployment, examine the prospects for using any existing data sources to obtain quick estimates of jobs created in recent years and recommend roadmap for future data collection so as to place employment estimates on sound footing.

10.30 Employment in India poses a great challenge in terms of its structure which is dominated by informal, unorganised and seasonal workers, and is characterised by high levels of under employment, skill shortages, with the labour markets impacted by rigid labour laws, and the emergence of contract labour. In order to make the labour market system dynamic and efficient, the government has taken several reforms/initiatives, both legislative as well as technological. Technological reforms include

the notification of “Ease of Compliance to maintain Registers under various Laws Rules, 2017” wherein 56 forms/registers prescribed under 9 Central Laws and Rules made there under, into 5 common registers/forms. Besides, a common registration form for registering of a new firm has been provided on e-Biz Portal. These registers/forms can also be maintained in a digitized form.

10.31 Public employment generation programmes have also continued to be a major tool for creating additional jobs and promoting inclusiveness. The Government has increased budgetary allocations for anti-poverty programmes and employment-generation schemes with a view to supplement the efforts for job creation. There has been highest ever allocation under Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) during 2017-18. About 5.12 crore households were provided employment totaling 235.4 crore person days during 2016-17. Out of this 56 per cent were generated by women, 21 per cent by SCs and 18 per cent by STs. The work completion rate during 2016-17 was also highest since its inception, with focus on natural resource management and agricultural and allied activities.

10.32 During FY 2016-17, an amount of ₹3,000 crore has been allocated to Deendayal Antyodaya Yojana -National Rural Livelihoods Mission (DAY-NRLM), and 52 lakh households through 4.5 lakh new SHGs were added. Presently there are 3.5 crore households in 31 lakh SHGs. Similarly, for urban poor, Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM) imparts skill training for self and wage-employment through setting up self-employment ventures by providing credit at subsidized rates of interest. The Government has now expanded the scope of DAY-NULM from 790 cities to 4,041 statutory towns in

the country. So far, 8,37,764 beneficiaries have been skill-trained, 4,27,470 persons have been given employment, 1,90,224 Self-Help Groups (SHGs) have been formed, 1,26,399 SHGs have been given Revolving Fund and 2,66,443 SHGs have been given bank linkages.

10.33 Skilled labour force is essential to meet diversified demands of a growing economy, to tap the benefit of demographic dividend. As per the India Skill Report 2016, the present demographic advantage of India is predicted to last only till 2040.

10.34 A sector wise study, commissioned by National Skill Development Corporation (NSDC), estimated the incremental human resource requirement of 103.4 million across 24 high priority sectors by 2022. Based on these numbers, MSDE held protracted discussion across 34 sectors/sub-sectors with the Ministries/Departments concerned, with detailed sub-sector wise analysis to validate the employment projections, identify the sectoral/sub-sectoral Training Needs. The Training Need was estimated to be 126.87 million by 2022.

10.35 To meet the requirement, the Government imparts short term skill training through Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and long term training largely through Industrial Training Institutes (ITIs). Model Skill Centers are being set up in every district of the country while ensuring coverage of all the parliamentary constituencies under Pradhan Mantri Kaushal Kendra Scheme.

10.36 The focus currently is on enhancing the quality of Skill Training Programs and making Vocational Training aspirational. National Skill Qualification Framework (NSQF), a competency-based framework,

was notified in 2013. NSQF focuses on learning outcomes and gives individuals an option to progress through education and training and gain recognition for their prior learning and experiences.

10.37 The present measure of outcomes in skill training includes only number of persons trained, which is uni-dimensional. The outcome measures for skill training should take into account parameters to make it multi-dimensional, by including person days, person hours, weighting for level of training, weighting for duration of training and other appropriate weighting.

TOWARDS A HEALTHY INDIA

10.38 The Government is committed to achieving the Sustainable Development Goal (SDG-3) for health - “Ensure healthy lives and promoting wellbeing for all at all ages” by 2030. Towards this, the Government has formulated the National Health Policy, 2017, which aims at attaining the highest level of good health and well-being, through preventive and promotive health care orientation in all developmental policies, and universal access to good quality health care services, without anyone having to face financial hardship as a consequence (Box 3).

Box 3. Salient features of the National Health Policy, 2017

- Raising public health expenditure to 2.5 per cent of the GDP in a time bound manner. The States would be incentivised for incremental State resources for public health expenditure. General taxation will remain the predominant means for financing health care.
- Providing larger package of assured comprehensive primary health care through the Health and Wellness Centers, which includes geriatric health care, palliative care and rehabilitative care services.
- Provide at the district level most of the secondary care which are currently provided at a medical college hospital.
- Every family would have a health card that links them to primary care facility and be eligible for a defined package of services anywhere in the country.
- Free drugs, free diagnostics and free emergency care services in all public hospitals.
- Supports voluntary service in rural and under-served areas on pro-bono basis by recognized healthcare professionals under a ‘giving back to society’ initiative.
- Establishment of National Digital Health Authority (NDHA) to regulate, develop and deploy digital health across the continuum of care.
- Setting up of a separate, empowered medical tribunal for speedy resolution to address disputes /complaints regarding standards of care, prices of services, negligence and unfair practices. Standard Regulatory framework for laboratories and imaging centers, specialized emerging services such as assisted reproductive techniques, surrogacy, stem cell banking, organ and tissue transplantation and Nano Medicine will be created as appropriate.
- Strengthening regulation of medical devices and establishing a regulatory body for medical devices to unleash innovation and the entrepreneurial spirit for manufacture of medical device in India. The policy supports harmonization of domestic regulatory standards with international standards.
- With the objective of ensuring the rights, safety and well-being of clinical trial participants, the policy recommends that specific clause(s) be included in the Drugs and Cosmetics Act for its regulation.
- Timely revision of National List of Essential Medicines (NLEM) along with appropriate price control mechanisms for generic drugs.
- Establishing federated national health information architecture, to roll-out and link systems across public and private health providers at State and national levels consistent with Metadata and Data Standards (MDDS) & Electronic Health Record (EHR), will be supported by the policy.
- Creation of registries (i.e. patients, provider, service, diseases, document and event) for enhanced public health/big data analytics, creation of health information exchange platform and national health information network, use of National Optical Fibre Network, use of smartphones/tablets for capturing real time data, are key strategies of the National Health Information Architecture.

Source: Ministry of Health & Family Welfare.

Health in India: Select Indicators

10.39 An overview of India's demographic and health indicators throws light on the overall health status of various segments of the population. The select indicators such

as TFR, CBR and CDR have been declining (Table 3).

10.40 However, in comparison to the major emerging economies, India has to scale up efforts to reduce under 5 mortality and neo natal mortality rate (Table 4).

Table 3. Trends in Select Health Indicators

Sl. No.	Parameter	1981	1991	2001	Current level
1.	Crude Birth Rate (CBR) (per 1000 population)	33.9	29.5	25.4	20.8 (2015)
2.	Crude Death Rate (CDR) (per 1000 population)	12.5	9.8	8.4	6.5 (2015)
3.	Total Fertility Rate (TFR)	4.5	3.6	3.1	2.3 (2015)
4.	Maternal Mortality Ratio (MMR) (per 1,00,000 live births)	NA	NA	301 (2001-03)	167 (2011-13)
5.	Infant Mortality Rate(IMR) (per 1000 live births)	110	80	66	37 (2015)
6.	Life Expectancy at Birth	(1981-85)	(1989-93)	(1999-2003)	(2011-15)
	Total	55.4	59.4	63.4	68.3
	Male	55.4	59.0	62.3	66.9
	Female	55.7	59.7	64.6	70.0

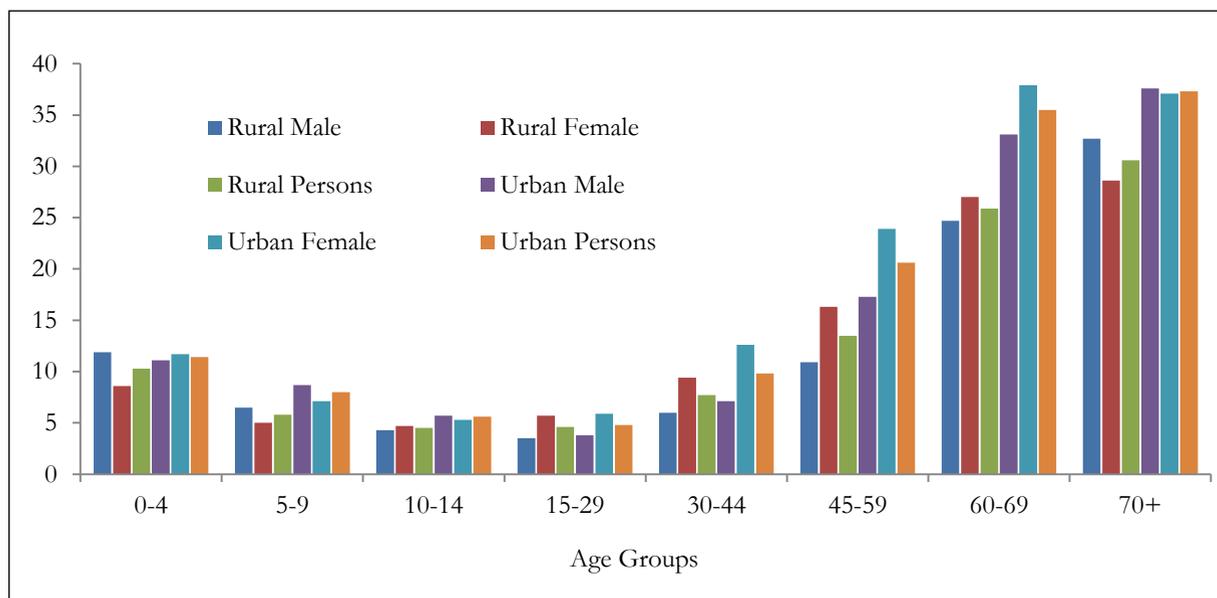
Source: Sample Registration System (SRS), Registrar General of India.

Table 4. India and Emerging Economies: Select Indicators

Country	Life Expectancy at Birth (Years)	Maternal Mortality Ratio (per 100,000 live births)	Births attended by skilled health personnel (per cent)	Under 5 mortality Rate (per 1000 live births)	Neonatal Mortality Rate (per 1000 live births)
	2015	2015	2006-2014	2015	2015
Brazil	75	44	99	16.4	8.9
China	76.1	27	100	10.7	5.5
Colombia	74.8	64	99	15.9	8.5
India	68.3	174*	74	47.7	27.7
Indonesia	69.1	126	87	27.2	13.5
Malaysia	75	40	99	7	3.9
Nepal	69.2	258	48	35.8	22.2
Pakistan	66.4	178	52	81.1	45.5
Philippines	68.5	114	73	28	12.6
Russia	70.5	25	100	9.6	5
South Africa	62.9	138	94	40.5	11
Sri Lanka	74.9	30	99	9.8	5.4
Thailand	74.9	20	100	12.3	6.7
Vietnam	76	54	94	21.7	11.4
World	71.4	216	73	42.5	19.2

Source: Monitoring Health for SDGs report, World Health Statistics, 2016.

*Note:** as reported in World Health Statistics, 2016. As per RGI, MMR is 167.

Figure 9. Morbidity (proportion of ailing persons) in India (per cent)

Source: Health in India, NSS 71st Round, (January - June, 2014).

Morbidity

10.41 The self-reported morbidity data (proportion of persons ailing) is another important indicator of the status of health and wellbeing of a population. Within the same age groups, there are male-female and rural-urban disparities in morbidity. The morbidity/ailments reported are higher at the upper end of the age spectrum (Figure 9), after the age of 60 years. Before the age of 5 years, rural males report the highest percentage of ailments at 11.9 per cent. There is a gradual increase in morbidity from the age group 45 years onwards. The highest percentage of ailments is reported by urban females in the age group 60 to 69 years. It is noteworthy that only 29 per cent rural females aged above 70 years reported ailments, in comparison to 38 per cent urban males and 37 per cent urban females reporting ailments.

Expenditure on Health

10.42 As per the NSS 71st Round (January 2014 to June 2014) private doctors were the most important single source of treatment in

both the rural and urban areas. More than 70 per cent (72 per cent in the rural areas and 79 per cent in the urban areas) of the spells of ailment were treated in the private sector which entails higher out of pocket expenses in comparison to those treated in public health facilities.

10.43 India has emerged as the country with the largest out of pocket (OoP) expenditure on health, among the BRICS economies consistently higher at more than 60 per cent since 2008. While in developing countries like Brazil, the percentage of OoP expenditure is less than 32 per cent, in South Africa, it is less than 10 per cent (Figure 10).

10.44 The higher OoP expenditure on health leads to the impoverishment of poorer sections of society and widens inequalities. OoP expenditure for the poor is a double whammy because, one, adverse health conditions impact their productivity and ability to earn their daily incomes and second, payments to get themselves treated adds to their 'financial distress' and impoverishes them. It is necessary to expand provision of

Box 4. Cardiovascular Diseases, a Public Health Issue and Pricing of Stents

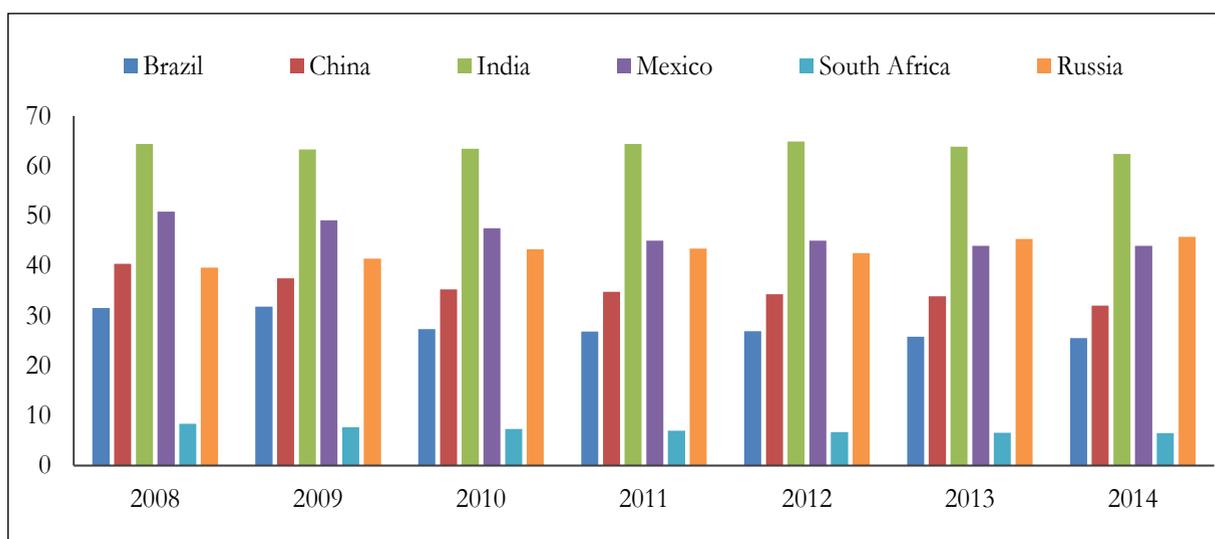
Cardiovascular Diseases (CVDs) are responsible for a quarter of all mortality in India. CVD death rate of 272 per 100,000 population in India is higher than the global average of 235 per 100,000 population as per Global Burden of Diseases Report and requires attention. This problem needs to be addressed by generating awareness about alternative health systems for treatments, healthy diets and significance of exercise/physical activities among all age groups in the population and through surgical treatment. A Core Committee which examined the issues relating to the essentiality of Coronary stents in its report to the Government in April 2016 observed that there is very high incidence of Coronary Artery Disease (CAD) in India. This was followed by a notification of coronary stents as 'essential medicine' in July, 2016 and its inclusion in Schedule 1 of Drugs (Prices Control) Order, 2013, an order which aims to ensure that essential drugs are available to all affordable prices in December, 2016.

National Pharmaceutical Pricing Authority (NPPA) carried out an exercise of consultation with stakeholders during January, 2017 for fixing the ceiling price of Coronary Stents, and analysed available information and data on prices of Coronary Stents. It was found that huge unethical mark-ups were being charged at every stage in the supply chain of Coronary Stents resulting in irrational, restrictive and exorbitant prices in a failed market system driven by information asymmetry between the patient and doctors pushing patients to financial misery.

Under such extraordinary circumstances and in public interest, NPPA vide its notification on 13th February, 2017 fixed the ceiling price of the Coronary Stents at ₹7,260 for Bare Metal Stents and ₹29,600 for Drug Eluting Stents (including BVS/Biodegradable). The fixation of the ceiling price of coronary stents has resulted in the saving of ₹4,450 crores annually.

Source: National Pharmaceutical Pricing Authority.

Figure 10. Out of Pocket Expenditure (as a per cent of total expenditure on health)



Source: World Development Indicators, World Bank.

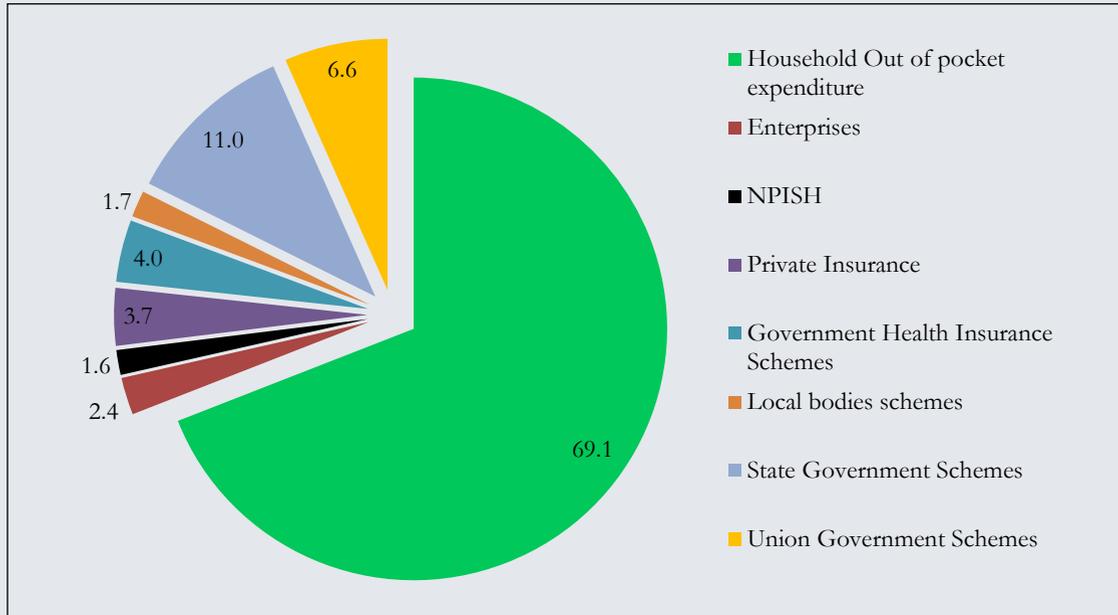
quality public health services to low income groups to prevent impoverishment of large sections of population owing to ill health. Further details on health expenses in India

have been brought out by the National Health Accounts (NHA) of Ministry of Health and Family Welfare (Box 5).

Box 5. Financing health care in India: Too much drain on the pockets?

The National Health Accounts (NHA) estimates tracks the flow of funds from Union, State, local governments, external donors, non-profit institutions and households. As per NHA estimates (2013-14), the components of Current Health Expenditure (CHE) shows that the Union government schemes constitute 6.6 per cent, State government schemes 11 per cent, and local bodies schemes 1.7 per cent. The outlier is that of the household OoP expenditure which forms 69 percent of CHE and is the largest component for a developing country like India (Figure 11). The high OoP expenditure calls for reforms in health sector.

Figure 11. Components of Current Health Expenditure in India (in per cent)



Source: National Health Accounts, 2013-14, M/o Health and Family Welfare.

10.45 The patent drugs and medicine providers in India have large players, enjoy a monopoly position, and so make excess profits at the cost of the consumer. This position needs to be countered in several ways. First, the government and public purchases need to mandatorily shift to generic drugs to reduce demand for patented drugs and cost to the government. The second is to equip the consumer with information including in the form of concordance tables that provide the generic equivalent of patented drugs in all the forms – paper, at public places including hospitals, on the website of the Ministry of Health and Family Welfare, through mobile phones as apps and over the telephone. An endorsement of these tables shall enthuse confidence in the consumer. The role of the

government in this information war should be of a facilitator as in the case of Arthapedia modelled on Wikipedia, where information can be added in an open format, with some moderation and verification. A third could take the form of an AYUSHPEDIA that would offer, native solutions including information on indigenous medicine to common problems, also to be hosted on the website of the Ministry of Health and Family Welfare, and through mobile phones as apps and over the telephone.

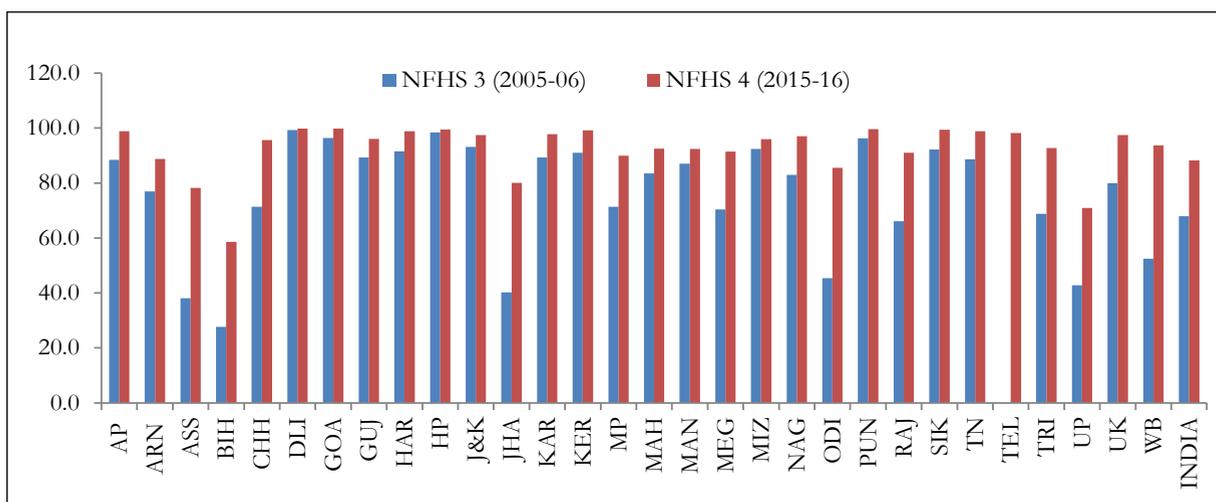
Standard of living indicators

10.46 The Gross Domestic Product (GDP) of a country does not fully reflect the quality of life of a country. There are other factors like housing, access to public transport, air

quality and access to drinking water which determine the standards of living. The standards of living can be measured using multiple indicators as done by the National Family Health Survey-4 (NFHS-4) (2015-16), which throw light on certain aspects of quality of living in India (Figures 12 to 14). At the all India level, the percentage of households with electricity, clean cooking fuel and improved drinking water source

has registered an increase from 68 to 88 per cent, 25 to 44 per cent and 88 to 90 per cent, respectively during the period 2005-06 (NFHS-3) to 2015-16 (NFHS-4). However, there are notable regional disparities in access, as in the case of clean cooking fuel in Assam, Bihar, Odisha, Chhatisgarh and Meghalaya and Jharkhand, which have only around 18.25 per cent households using clean cooking fuels in 2015-16.

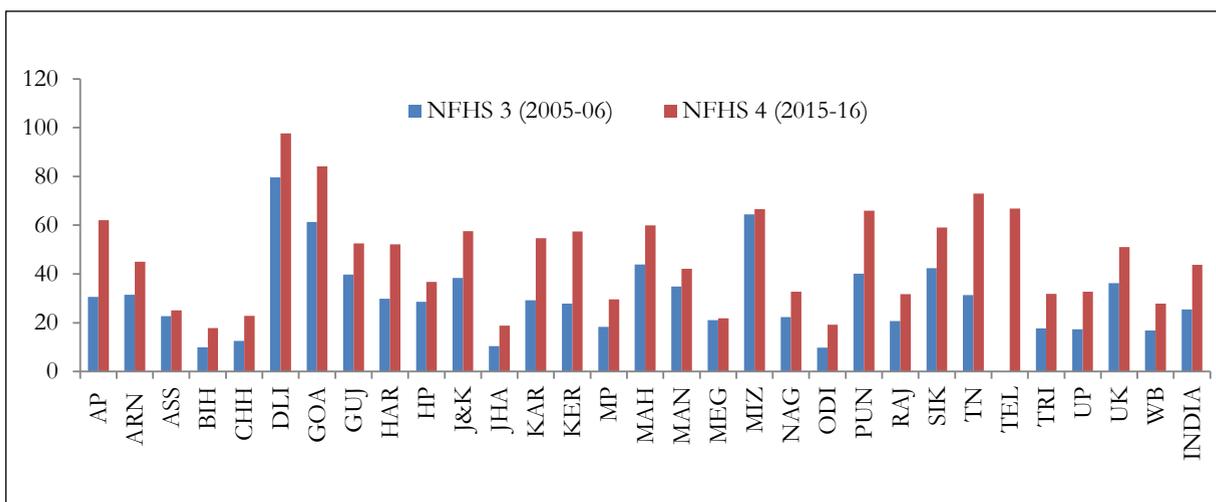
Figure 12. Households with Electricity (per cent)



Source: National Family Health Surveys.

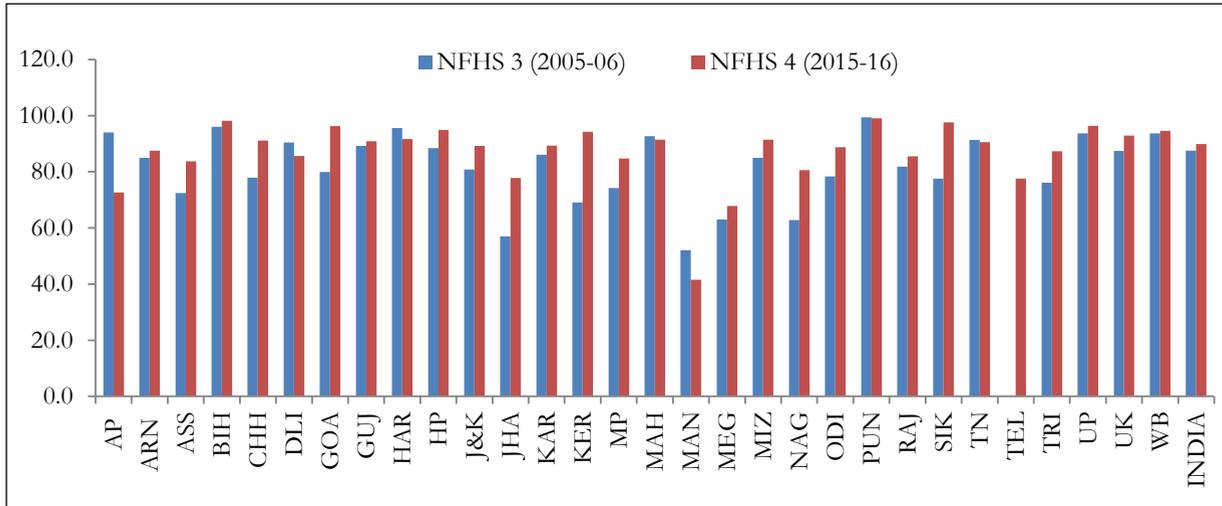
Note: During NFHS-3, Telangana was included in Andhra Pradesh.

Figure 13. Households using Clean Cooking Fuel (per cent)



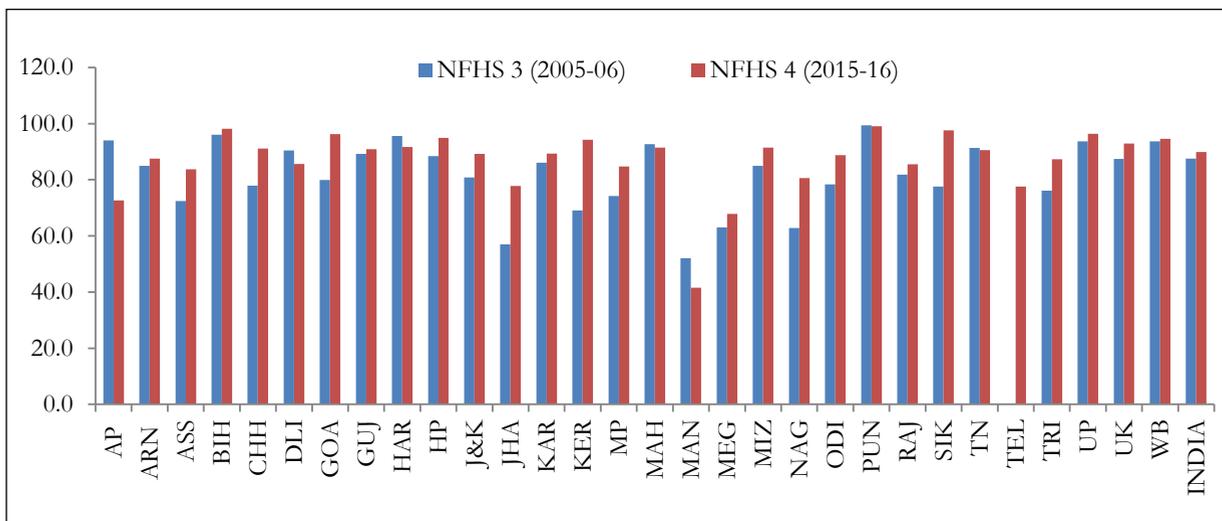
Source: National Family Health Surveys.

Note: During NFHS-3, Telangana was included in Andhra Pradesh.

Figure 14. Households using improved Drinking Water Source (per cent)

Source: National Family Health Surveys.

Note: During NFHS-3, Telangana was included in Andhra Pradesh.

Figure 15. Households with improved Sanitation Facility (per cent)

Source: National Family Health Surveys.

Note: During NFHS-3, Telangana was included in Andhra Pradesh.

10.47 In the case of households using improved drinking water source the States like Manipur, NCT Delhi, Haryana, Tamil Nadu, Maharashtra and Punjab, have reported decline in the percentage over the period 2005-06 to 2015-16. In Manipur, the depleting water levels and drying up of major rivers, the *Imphal* and the *Iril* owing to paucity of rains have been the main reason

for declining access to drinking water. In Delhi, wastage of water and drying up of river *Yamuna* are main reasons for shortage of water. Similar situation prevails in other cities also. To prevent wastage of water, individual household metering, pricing including differential pricing needs to be adopted and water harvesting structures need to be built across the country.

10.48 At the start of the Swachh Bharat Mission-Gramin (SBM-G) of Government of India in 2014, an estimated 55 crore people defecated in the open. With its focus on cleanliness and Open Defecation Free (ODF) India, there has been a significant decline in the number of people who defecate in the open, which is estimated at less than 35 crore. The rural sanitation coverage has increased significantly from 42 per cent in October, 2014 to 63 per cent as on 1st April 2017, which is an increase of 21 percentage points in just two and a half years. In addition, there are 1.87 lakh villages, 129 districts and 3 States which have been declared Open Defecation Free (ODF) with over 3.8 crore toilets already built across India. During the NFHS-3, the percentage of households with access to improved sanitation facility was 29 per cent, which has increased to 48 per cent by NFHS-4 (Figure 15). The improvement in the sanitation cover needs to be sustained by maintaining and using the facilities.

HUMAN DEVELOPMENT : INTERNATIONAL COMPARISONS

10.49 Given that human choices are infinite, it is recognized that at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain inaccessible. The Human Development Index (HDI) captures these basic dimensions of human development and is an important indicator of standard of living in a country based on the indices for life expectancy, educational attainment and per capita income.

10.50 India's rank of 131 out of 188 countries in the latest Human Development Report (HDR) 2016 with the HDI value for 2015 at 0.624 has slid one rank from 130 in 2014 (HDR, 2015). In comparison to other

nations in the BRICS grouping, India has the lowest rank, Russia at 49, Brazil at 79, China at 90 and South Africa at 119 (Table 5).

10.51 India's HDI of 0.624 is also below the average of countries in the medium human development group (0.631) but marginally higher than the HDI average of South Asian countries (0.621). Between 1990 and 2015, India's HDI value increased from 0.428 to 0.624, an increase of 45.8 percent. The mean years of schooling for India is the lowest in comparison to other BRICS nations. The Life Expectancy at Birth (LEB) is also lower than that of Bangladesh, Brazil, China, and Russia, but higher than that of South Africa (Table 5).

10.52 The two indicators of income inequality, namely the Income Gini coefficient and the quintile income ratio show that there is increase in inequalities over time in India. For India, the Income Gini coefficient is 35.2 during 2010-15 which is higher than 33.6 reported during 2005-13 (HDR, 2015), reflecting an increase in the income inequality, while the quintile income ratio also has registered a marginal increase from 5.0 in 2005-2013 to 5.3 in 2010-2015 (Table 5). The inequality indicators of India are lower than that for many other developing countries like South Africa (63.4), Brazil (51.5), Malaysia (46.3), China (42.2), the Russian Federation (41.1), Indonesia (39.5) and Sri Lanka (39.2), as well as countries like the USA, Chile and Argentina. It is necessary to address the issues causing widening of inequalities across various sections for equitable development and progress of the country.

10.53 The Gender Development Index (GDI) which is calculated for 160 countries in 2015, has placed India into Group 5, with GDI value at 0.819 (Table 5). The HDI value for females in India is 0.549 in contrast with 0.671 for males, and the female HDI value is higher than that of 2014 at 0.525. Though

Table 5. HDI Components Indices of Selected Countries 2015

Country	HDI 2015		Change in rank 2010-15	GNI per capita (\$) 2015	LEB (years) 2015	Expected years of schooling 2015 ^a	Mean years of schooling 2015 ^a	Income Inequality		Gender Development Index 2015	
	Value	Rank						Quintile Income Ratio	Income Gini-Coefficient	Value	Group
Norway	0.949	1	0	67,614	81.7	17.7	12.7	3.8	25.9	0.993	1
Germany	0.926	4	0	45,000	81.1	17.1	13.2	4.6	30.1	0.964	2
United States	0.920	10	-3	53,245	79.2	16.5	13.2	9.1	41.1	0.993	1
U K	0.909	16	-4	37,931	80.8	16.3	13.3	5.3	32.6	0.964	2
Russian Fed.	0.804	49	5	23,286	70.3	15.0	12.0	8.2	41.6	1.016	1
Malaysia	0.789	59	1	24,620	74.9	13.1	10.1	11.3	46.3	....	...
Sri Lanka	0.766	73	-2	10,789	75.0	14.0	10.9	6.6	39.2	0.934	3
Brazil	0.754	79	7	14,145	74.7	15.2	7.8	15.5	51.5	1.005	1
China	0.738	90	11	13,345	76.0	13.5	7.6	9.2	42.2	0.954	2
Egypt	0.691	111	-3	10,064	71.3	13.1	7.1	....	.....	0.884	5
Indonesia	0.689	113	3	10,053	69.1	12.9	7.9	6.6	39.5	0.926	3
South Africa	0.666	119	2	12,087	57.7	13.0	10.3	27.9	63.4	0.962	2
India	0.624	131	4	5,663	68.3	11.7	6.3	5.3	35.2	0.819	5
Bangladesh	0.579	139	2	3,341	72.0	10.2	5.2	4.7	32.1	0.927	3
Pakistan	0.550	147	2	5,031	66.4	8.1	5.1	4.4	30.7	0.742	5
World	0.717			14,447	71.6	12.3	8.3			0.938	

Source: HDR, 2016.

Notes: (1)^a- Data refers to 2015 or the most recent year available. \$: Gross National Income (GNI) per capita is based on 2011 dollar purchasing power parity (PPP). LEB is Life Expectancy at Birth.

(2) For measuring GDI, Countries are categorized into five Groups based on their absolute deviations of HDI values between men and women. Group 5 represents low equality of HDI values between men and women with above 10 per cent absolute deviations.

the mean years of schooling for girls in India at 4.8 in 2015 has registered an increase from 3.6 years reported in the year 2014, it is lower than that for males. The male–female disparities in access to education persist in the society and interventions are needed to overcome the social barriers to equalize opportunities for learning.

GENDER ISSUES

10.54 Empowering women to participate fully in economic life across all sectors

is essential to build stronger economies, achieve internationally agreed goals for development and sustainability, and improve the quality of life for women, men, families and communities (UN Women, 2011).

10.55 The findings of the NFHS-4 (2015-16) show an increase in empowerment of women aged 15-49 years across major indicators. There is an improvement in the indicators that reflect empowerment with an increase in the percentage of women having savings

account and increase in the percentage of women having a say in household decision making.

10.56 Among the States, Goa has the maximum number of women with a bank or savings account that they themselves use. Women have also started having a say in decision making process with Sikkim having the largest percentage of women having

a say in household decision making. In majority of the States, more than 80 per cent of married women participate in household decision making process which is a reflection of greater autonomy and it is a pathway to empowerment in other spheres of life.

10.57 However, there are indicators of empowerment which need to be addressed (Box 6), as in the case of spousal violence.

Box 6. Women and 'Development as Freedom'

There are major 'roadblocks' to 'development as freedom' in the case of 'women folk' who constitute around fifty percent of the India's population. The growing number of incidents of kidnapping, sexual assaults on girls and women, point to the appalling levels of crime and so insecurity that women have to face in public spaces in India. The lack of access to property rights (land ownership is predominantly with men), presence of retrograde social customs like dowry, and constraints on mobility along with the absence of collective mobilisation and lack of socialisation have affected the capacity of women to negotiate and bring about changes that are necessary for equality in the private and public domains of life.

The basic rights to dignified life are violated by the increasing crimes against women in India wherein the security and safety of women in public spaces are being challenged on a regular basis. It is a situation in India, wherein to borrow from Nobel Laureate Kahneman, '*we can be blind to the obvious, we are also blind to our blindness.*'

The National Crime Records Bureau (NCRB), 2015 reports less than 22 per cent conviction rate in cases involving crimes against women in India, a reflection on the failure of governance. The proportion of IPC (Indian Penal Code) crimes committed against women with respect to total IPC crimes has increased during the last 5 years from 9.4 percent in 2011 to 10.7 percent during 2015 (Table.6).

Table 6. Crimes against women and children, 2015

Crime Head	Total crimes reported	IPC component of crimes committed against women and children	Proportion of IPC crimes committed against women and children with respect to total IPC crimes*	Rate of crime	Charge-sheeting rate	Conviction rate
Crimes against women#	3,27,394	3,14,575	10.7	53.9	89.4	21.7
Crimes against children (below 18 years)	94,172	68,889	2.3	21.1	85.6	35.6
Indian Penal Code(IPC)	29,49,400	-	100	234.2	77.7	46.9

Source: Figures at a glance, 2015, National Crime Records Bureau (NCRB). <http://ncrb.gov.in/>

Note-1 # : Crime against women include cases reported under rape(Sec. 376IPC), Attempt to commit Rape(Sec. 376/511 IPC), Kidnapping & Abduction of women(Sec. 363,364, 364A, 365-369 IPC), Dowry Deaths(Sec. 304B IPC), Assault on women with intent to outrage her modesty (Sec. 354 IPC), Insult to the modesty of women(Sec. 509 IPC), Cruelty by husband or his relatives(Sec. 498A IPC), Importation of girls from foreign country(Sec. 366B IPC), Abatement of suicides of women(Sec. 306 IPC), cases under the Commission of Sati Prevention Act, the Indecent Representation of Women Act, the Dowry Prohibition Act, the Protection of Women from Domestic Violence Act and the Immoral Traffic (Prevention) Act.

Note-2 *: Proportion of IPC (Indian Penal Code) crimes committed against women with respect to total IPC crimes exclude cases registered under the Commission of Sati Prevention Act, the Indecent Representation of Women Act, the Dowry Prohibition Act, the Protection of Women from Domestic Violence Act and the Immoral Traffic (Prevention) Act.

The redressal through the judicial system for the rights for women requires a quantum improvement in the delivery of justice. This needs to go beyond the setting up of special courts/tribunals to fast track judgements, through a system that monitors performance and outcomes. To monitor performance and outcomes of the same, indicators such as time taken to deliver judgement/decision from the initial date of filing of an FIR, petition, etc., number of days to deliver a judgement, number of days it takes to implement the judgement in full, number of appeals filed after the initial judgement and the time taken for finalising the same and the number of adjournments before a matter is listed for final hearing etc. should be adopted.

Although data shows that for most of the States, the percentage of married women who have experienced spousal violence has decreased from NFHS-3 to NFHS-4, the decrease from 37.2 per cent in NFHS-3 to 28.8 per cent in NFHS-4 at the all India level is not very sharp given the span of 10 years. On the contrary, there are States like Chhattisgarh, Haryana, NCT Delhi, Manipur and Meghalaya where incidents of spousal violence have increased in the past 10 years.

THE WAY FORWARD

10.58 India, is emerging as a knowledge based economy, poised for double digit growth, and needs to strengthen social infrastructure by investing in health and education.

10.59 The education policies need to be designed with ultimate focus on learning outcomes and remedial education with interventions which work and maximises the efficiency of expenditure. However, merit and class appropriate learning outcomes should be given top priority and the quality of education at all levels should be maintained and monitored on a continuous basis by using ICTs across schools in the country. Focus should be on bio-metric attendance of school staff, independent setting of examination papers, neutral examination and

for DBT for schools. There is need to adopt outcome measures for the education and skilling activities to ensure improvement in delivery of schemes/ programmes.

10.60 The health sector in India faces many challenges in the form of declining role of public delivery of health services, high OoP expenses on health and issues of accessibility and affordability of health services for many. There has to be concerted efforts by the Central and State governments to reform the health sector, by addressing quality issues, standardising rates for diagnostic tests, generating awareness about alternative health systems and introduction of punitive measures like fines on hospitals and private health providers for false claims through surgery, medicines, etc. For more equitable access to health services, government should provide health benefits and risk cover to poorer sections of the society.

10.61 Addressing the social security of large number of vulnerable workers in the informal economy should be prioritised by the Government along with ensuring the safety and security of women to raise their participation in economic activities. Reducing all major forms of inequalities should be the goal of India's social development strategy.

ECONOMIC SURVEY 2016-17
STATISTICAL APPENDIX

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Table 1.1. Gross National Income and Net National Income

Year	Gross national income (₹ crore)		Net national income (₹ crore)		Per capita net national income (₹)	
	Current prices	Constant prices	Current prices	Constant prices	Current prices	Constant prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1950-51	10360	292996	9829	269724	274	7513
1951-52	11019	302010	10443	279256	286	7651
1952-53	10825	310068	10241	287818	275	7737
1953-54	11791	329250	11235	307397	296	8111
1954-55	11141	344902	10635	326057	276	8447
1955-56	11361	356460	10819	337156	275	8579
1956-57	13530	376234	12944	356008	323	8878
1957-58	13931	374503	13277	353525	325	8644
1958-59	15516	402020	14802	379855	354	9087
1959-60	16327	412031	15564	389080	365	9133
1960-61	17870	434497	17062	411519	393	9482
1961-62	18912	450212	18016	426103	406	9597
1962-63	20321	463161	19350	437686	426	9641
1963-64	23350	491049	22266	464130	480	10003
1964-65	27222	527153	25982	498287	548	10512
1965-66	28693	512985	27300	482480	563	9948
1966-67	32439	512781	30806	480102	622	9699
1967-68	38003	552429	36136	517516	714	10228
1968-69	40257	571460	38259	534677	739	10322
1969-70	44334	608809	42035	569591	795	10767
1970-71	47354	640275	44550	596470	823	11025
1971-72	50708	650938	47630	605211	860	10924
1972-73	55912	647647	52487	600195	926	10585
1973-74	68095	669444	63983	619883	1103	10688
1974-75	80479	678151	75182	625455	1268	10547
1975-76	86452	740806	80189	685230	1321	11289
1976-77	93189	753348	86382	694149	1393	11196
1977-78	105615	808500	98287	746719	1550	11778
1978-79	114491	854867	106380	790566	1642	12200
1979-80	125882	811357	115995	743925	1747	11204
1980-81	149987	866338	138565	795193	2041	11711
1981-82	175845	917272	161924	842429	2340	12174
1982-83	196010	946491	179895	867337	2541	12251
1983-84	228077	1015342	210108	932241	2906	12894
1984-85	255187	1052643	234211	963767	3169	13041
1985-86	288095	1108266	262958	1013410	3483	13423
1986-87	322144	1160809	293806	1060195	3811	13751
1987-88	365592	1204856	332400	1097111	4218	13923
1988-89	432397	1317940	393546	1204380	4889	14961
1989-90	496197	1396154	450949	1275833	5486	15521
1990-91	578667	1470766	526017	1342031	6270	15996
1991-92	663798	1485707	599171	1348043	7000	15748
1992-93	762900	1567944	688762	1422097	7899	16308
1993-94	879275	1644886	796418	1492864	8928	16736

Contd....

Table 1.1. Gross National Income and Net National Income (Contd....)

Year	Gross national income (₹ crore)		Net national income (₹ crore)		Per capita net national income (₹)	
	Current prices	Constant prices	Current prices	Constant prices	Current prices	Constant prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1994-95	1032507	1755272	935759	1592980	10283	17505
1995-96	1213241	1888228	1100655	1715639	11861	18487
1996-97	1406195	2032837	1276347	1849226	13492	19548
1997-98	1559189	2118975	1411922	1920927	14646	19927
1998-99	1788410	2250012	1624669	2038124	16528	20734
1999-00	2007699	2448654	1821227	2220003	18194	22178
2000-01	2154680	2535911	1947788	2291795	19115	22491
2001-02	2335777	2661819	2106928	2401875	20259	23095
2002-03	2519637	2766298	2273456	2492931	21529	23607
2003-04	2820795	2983497	2548640	2692470	23775	25116
2004-05	3219835	3219835	2899944	2899944	26629	26629
2005-06	3667253	3518348	3303532	3167455	29869	28639
2006-07	4261472	3841974	3842743	3456274	34249	30805
2007-08	4966578	4233768	4481882	3806140	39384	33446
2008-09	5597140	4390966	5031943	3922062	43604	33987
2009-10	6439827	4763090	5780028	4241183	49402	36249
2010-11	7702308	5227739	6942089	4657438	58534	39270
2011-12	8932892	5586683	8052996	4958849	66997	41255
2011-12 Series						
2011-12	8659505	8659505	7742330	7742330	63462	63462
2012-13	9827250	9104662	8766345	8094001	70983	65538
2013-14	11093638	9679027	9897663	8578417	79118	68572
2014-15	12297698	10412280	10953761	9231556	86454	72862
2015-16	13522256	11246305	12076882	9982112	94130	77803
2016-17 (PE)	14994109	12034713	13408211	10686776	103219	82269

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

Table 1.2. Annual Growth Rates of Gross National Income and Net National Income

(Per cent)						
Year	Gross national income		Net national income		Per capita net national income	
	Current prices	Constant prices	Current prices	Constant prices	Current prices	Constant prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1951-52	6.4	3.1	6.2	3.5	4.5	1.8
1952-53	-1.8	2.7	-1.9	3.1	-3.8	1.1
1953-54	8.9	6.2	9.7	6.8	7.7	4.8
1954-55	-5.5	4.8	-5.3	6.1	-7.1	4.1
1955-56	2.0	3.4	1.7	3.4	-0.1	1.6
1956-57	19.1	5.5	19.6	5.6	17.3	3.5
1957-58	3.0	-0.5	2.6	-0.7	0.6	-2.6
1958-59	11.4	7.3	11.5	7.4	9.1	5.1
1959-60	5.2	2.5	5.1	2.4	3.2	0.5
1960-61	9.5	5.5	9.6	5.8	7.6	3.8
1961-62	5.8	3.6	5.6	3.5	3.2	1.2
1962-63	7.5	2.9	7.4	2.7	5.0	0.5
1963-64	14.9	6.0	15.1	6.0	12.6	3.8
1964-65	16.6	7.4	16.7	7.4	14.2	5.1
1965-66	5.4	-2.7	5.1	-3.2	2.7	-5.4
1966-67	13.1	0.0	12.8	-0.5	10.6	-2.5
1967-68	17.2	7.7	17.3	7.8	14.8	5.4
1968-69	5.9	3.4	5.9	3.3	3.4	0.9
1969-70	10.1	6.5	9.9	6.5	7.6	4.3
1970-71	6.8	5.2	6.0	4.7	3.6	2.4
1971-72	7.1	1.7	6.9	1.5	4.4	-0.9
1972-73	10.3	-0.5	10.2	-0.8	7.7	-3.1
1973-74	21.8	3.4	21.9	3.3	19.2	1.0
1974-75	18.2	1.3	17.5	0.9	14.9	-1.3
1975-76	7.4	9.2	6.7	9.6	4.2	7.0
1976-77	7.8	1.7	7.7	1.3	5.5	-0.8
1977-78	13.3	7.3	13.8	7.6	11.3	5.2
1978-79	8.4	5.7	8.2	5.9	5.9	3.6
1979-80	9.9	-5.1	9.0	-5.9	6.4	-8.2
1980-81	19.1	6.8	19.5	6.9	16.8	4.5
1981-82	17.2	5.9	16.9	5.9	14.7	3.9
1982-83	11.5	3.2	11.1	3.0	8.6	0.6
1983-84	16.4	7.3	16.8	7.5	14.4	5.3
1984-85	11.9	3.7	11.5	3.4	9.1	1.1
1985-86	12.9	5.3	12.3	5.2	9.9	2.9
1986-87	11.8	4.7	11.7	4.6	9.4	2.4
1987-88	13.5	3.8	13.1	3.5	10.7	1.2
1988-89	18.3	9.4	18.4	9.8	15.9	7.5
1989-90	14.8	5.9	14.6	5.9	12.2	3.7

Contd....

Table 1.2. Annual Growth Rates of Gross National Income and Net National Income (*Contd....*)

(Per cent)						
Year	Gross national income		Net national income		Per capita net national income	
	Current prices	Constant prices	Current prices	Constant prices	Current prices	Constant prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1990-91	16.6	5.3	16.6	5.2	14.3	3.1
1991-92	14.7	1.0	13.9	0.4	11.6	-1.5
1992-93	14.9	5.5	15.0	5.5	12.8	3.6
1993-94	15.3	4.9	15.6	5.0	13.0	2.6
1994-95	17.4	6.7	17.5	6.7	15.2	4.6
1995-96	17.5	7.6	17.6	7.7	15.3	5.6
1996-97	15.9	7.7	16.0	7.8	13.8	5.7
1997-98	10.9	4.2	10.6	3.9	8.6	1.9
1998-99	14.7	6.2	15.1	6.1	12.8	4.1
1999-00	12.3	8.8	12.1	8.9	10.1	7.0
2000-01	7.3	3.6	6.9	3.2	5.1	1.4
2001-02	8.4	5.0	8.2	4.8	6.0	2.7
2002-03	7.9	3.9	7.9	3.8	6.3	2.2
2003-04	12.0	7.9	12.1	8.0	10.4	6.4
2004-05	14.1	7.9	13.8	7.7	12.0	6.0
2005-06	13.9	9.3	13.9	9.2	12.2	7.5
2006-07	16.2	9.2	16.3	9.1	14.7	7.6
2007-08	16.5	10.2	16.6	10.1	15.0	8.6
2008-09	12.7	3.7	12.3	3.0	10.7	1.6
2009-10	15.1	8.5	14.9	8.1	13.3	6.7
2010-11	19.6	9.8	20.1	9.8	18.5	8.3
2011-12	16.0	6.9	16.0	6.5	14.5	5.1
2011-12 Series						
2012-13	13.5	5.1	13.2	4.5	11.9	3.3
2013-14	12.9	6.3	12.9	6.0	11.5	4.6
2014-15	10.9	7.6	10.7	7.6	9.3	6.3
2015-16	10.0	8.0	10.3	8.1	8.9	6.8
2016-17 (PE)	10.9	7.0	11.0	7.1	9.7	5.7
Annual Average Growth Rates						
First Plan (1951-52 to 1955-56)	2.0	4.0	2.1	4.6	0.3	2.7
Second Plan (1956-57 to 1960-61)	9.6	4.1	9.7	4.1	7.5	2.1
Third Plan (1961-62 to 1965-66)	10.0	3.4	10.0	3.3	7.6	1.0
Three Annual Plans (1966-67 to 1968-69)	12.0	3.7	12.0	3.5	9.6	1.3
Fourth Plan (1969-70 to 1973-74)	11.2	3.2	11.0	3.0	8.5	0.7
Fifth Plan (1974-75 to 1978-79)	11.0	5.1	10.8	5.0	8.4	2.7

Contd....

Table 1.2. Annual Growth Rates of Gross National Income and Net National Income (Contd....)

(Per cent)

Year	Gross national income		Net national income		Per capita net national income	
	Current prices	Constant prices	Current prices	Constant prices	Current prices	Constant prices
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Annual Plan (1979-80)	9.9	-5.1	9.0	-5.9	6.4	-8.2
Sixth Plan (1980-81 to 1984-85)	15.2	5.4	15.1	5.3	12.7	3.1
Seventh Plan (1985-86 to 1989-90)	14.2	5.8	14.0	5.8	11.6	3.6
Two Annual Plans (1990-91 to 1991-92)	15.7	3.2	15.3	2.8	13.0	0.8
Eighth Plan (1992-93 to 1996-97)	16.2	6.5	16.3	6.5	14.0	4.4
Ninth Plan (1997-98 to 2001-02)	10.7	5.6	10.6	5.4	8.5	3.4
Tenth Plan (2002-03 to 2006-07)	12.8	7.6	12.8	7.6	11.1	5.9
Eleventh Plan (2007-08 to 2011-12)**	16.0	7.8	16.0	7.5	14.4	6.0
Twelfth Plan (2012-13 to 2016-17)***	11.6	6.8	11.6	6.7	10.2	5.3

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

** : Data for 2011-12 based on 2004-05 series has been taken for compilation of average growth rates

*** : 2011-12 Series data has been taken for compilation of average growth rates.

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

Table 1.3 A. Gross Value Added at Factor Cost by Industry of Origin

At constant prices							(₹ crore)
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
2004-05 Series							
1950-51	150191	40138	30792	23325	28474	279618	
1951-52	152987	41996	31608	23863	29329	286147	
1952-53	157764	41834	32641	24863	29934	294267	
1953-54	169547	44416	33861	25219	30860	312177	
1954-55	174611	48325	36065	26140	31967	325431	
1955-56	173255	53962	38700	27190	32955	333766	
1956-57	182651	58809	41537	27635	34219	352766	
1957-58	175180	57737	42831	28679	35765	348500	
1958-59	192337	62009	44965	29492	37233	374948	
1959-60	190851	66378	47779	30619	38834	383153	
1960-61	204340	73555	51879	31252	40741	410279	
1961-62	205014	78638	55259	32596	42656	423011	
1962-63	202234	83517	58503	33693	45686	431960	
1963-64	207030	92432	62650	34735	48684	453829	
1964-65	225287	99250	66890	35688	51894	488247	
1965-66	202906	102475	68079	36766	53950	470402	
1966-67	200481	106304	69862	37412	56438	475190	
1967-68	228813	109856	72852	38431	58659	513860	
1968-69	228836	115422	76155	40305	61272	527270	
1969-70	243347	124372	80275	41980	64655	561630	
1970-71	258665	126356	84205	43735	68218	589787	
1971-72	254395	129506	86121	45989	71264	595741	
1972-73	243082	133917	87991	47767	73594	593843	
1973-74	259751	134649	91686	48936	75541	620872	
1974-75	256719	136045	97176	48779	79120	628079	
1975-76	289695	144928	105980	52142	81914	684634	
1976-77	274522	158354	110697	56277	84190	693191	
1977-78	300873	170123	118084	59032	86450	744972	
1978-79	307874	182590	127772	63203	90186	785965	
1979-80	271096	176035	126751	63818	96779	745083	
1980-81	305906	183970	133906	65041	101666	798506	
1981-82	321876	197519	142057	70326	103842	843426	
1982-83	323862	197833	149903	77029	111849	868092	
1983-84	354720	214737	157545	84585	116027	936270	
1984-85	360230	224284	165037	90907	124065	973357	
1985-86	362783	233818	178195	99783	131184	1013866	
1986-87	364989	245385	188888	110295	141043	1057612	
1987-88	360949	259641	198578	118383	151240	1094993	
1988-89	417581	280863	210405	129934	160385	1206243	
1989-90	425075	304461	226074	146088	173022	1280228	
1990-91	444880	325450	237736	155165	180564	1347889	
1991-92	438685	325150	243178	171956	185232	1367171	
1992-93	465084	336716	256897	181320	196332	1440504	
1993-94	479592	357237	274682	201568	205101	1522344	
1994-95	504477	389903	301997	209401	209742	1619694	
1995-96	504527	436863	342536	226348	225157	1737741	

Contd....

Table 1.3 A. Gross Value Added at Factor Cost by Industry of Origin (Contd....)

(₹ crore)						
At constant prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1996-97	549202	468146	370200	240354	243288	1876319
1997-98	542313	483585	398109	268495	263486	1957032
1998-99	574374	504485	428613	289440	289085	2087828
1999-00	590696	535730	477605	327111	323800	2254942
2000-01	592227	570571	508299	338661	338723	2348481
2001-02	624923	585971	552118	359684	352267	2474962
2002-03	594280	627374	597896	385661	365724	2570935
2003-04	643183	676833	664637	406098	384998	2775749
2004-05	650454	744755	727720	437174	411361	2971464
2005-06	680628	824272	815407	492340	440426	3253073
2006-07	711768	928626	910084	561063	452823	3564364
2007-08	751077	1023998	1009520	628124	483917	3896636
2008-09	753744	1071681	1085125	703629	544497	4158676
2009-10	764817	1173089	1197891	771905	608369	4516071
2010-11	828431	1262722	1344024	849189	634167	4918533
2011-12	864557	1369932	1402261	945534	665246	5247530

Source: Central Statistics Office

Notes :

- For the years prior to 1999-2000 totals under col. 7 may not add up to totals of individual item under col. 2 to col. 6 due to splicing technique applied independently at the level of each industry and at the total level.
- Estimates for the years 2011-12 onwards (at base 2011-12) are available at basic prices only and are given in table 1.3B.

Table 1.3 B. Gross Value Added at Basic Prices by Industry of Origin

(₹ crore)						
At constant prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2011-12 series						
2011-12	1762983	2373988	1413116	1530877	1025982	8106946
2012-13	1786897	2458558	1551143	1680031	1069646	8546275
2013-14	1872305	2561081	1652062	1867407	1110794	9063649
2014-15	1899961	2741451	1800919	2075549	1201143	9719023
2015-16	1941948	2976344	1989161	2298798	1284263	10490514
2016-17 (PE)	2026660	3155185	2143956	2429638	1430002	11185440

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

- Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

Table 1.4 A. Gross Value Added at Factor Cost by Industry of Origin

(₹ crore)

At current prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1950-51	5274	1346	968	1254	1115	10036
1951-52	5453	1505	1048	1349	1162	10596
1952-53	5316	1416	1055	1425	1201	10449
1953-54	5850	1559	1121	1537	1250	11378
1954-55	4993	1640	1151	1647	1283	10689
1955-56	4847	1760	1192	1768	1361	10861
1956-57	6152	2071	1378	1917	1430	12965
1957-58	6045	2148	1525	2054	1503	13255
1958-59	7002	2334	1667	2203	1597	14827
1959-60	7043	2616	1801	2364	1760	15574
1960-61	7434	3113	1985	2547	1989	17049
1961-62	7704	3398	2145	2602	2154	17992
1962-63	7899	3740	2348	2987	2343	19238
1963-64	9274	4274	2628	3231	2599	21986
1964-65	11291	4788	3084	3512	2945	25686
1965-66	11301	5199	3345	3796	3276	26895
1966-67	13123	5819	3890	4063	3665	30613
1967-68	16393	6380	4445	4458	4105	35976
1968-69	16912	6940	4732	4772	4422	37938
1969-70	18505	7944	5107	5120	4822	41722
1970-71	19086	8622	5627	5579	5315	44382
1971-72	19510	9538	6102	6117	5901	47221
1972-73	21448	10534	6730	6694	6456	51943
1973-74	28171	12230	8057	7465	7261	63658
1974-75	31062	15232	10642	8390	9142	74930
1975-76	31028	16571	12067	9511	10290	79582
1976-77	31833	18811	13066	10579	11311	85545
1977-78	37592	21270	14702	11540	12296	97633
1978-79	38717	23951	16119	12448	13529	104930
1979-80	40373	26774	18604	13576	15149	114500
1980-81	50760	30900	21968	15120	17537	136838
1981-82	58745	36090	26946	17835	19927	160214
1982-83	63985	39953	30749	20453	23134	178985
1983-84	75982	47053	35716	23388	26345	209356
1984-85	82204	53656	41125	26907	30311	235113
1985-86	88083	60593	48022	30819	34284	262717
1986-87	95182	67754	54272	35337	39428	292924
1987-88	105358	77630	61963	40387	45700	332068
1988-89	130731	91163	73159	46926	52994	396295
1989-90	144461	108908	85630	55297	60741	456540
1990-91	168166	127079	100318	64598	70019	531814
1991-92	195454	140700	115570	78904	81366	613528
1992-93	219680	163887	136250	87495	94507	703723
1993-94	254876	188251	160990	105686	106090	817961
1994-95	293013	229365	192142	119442	118663	955386
1995-96	319243	280971	231175	143791	140190	1118586

Contd....

Table 1.4 A. Gross Value Added at Factor Cost by Industry of Origin

(Contd....)

(₹ crore)

At current prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1996-97	381142	318260	273135	158637	166469	1301788
1997-98	408521	348543	313093	180642	193188	1447613
1998-99	466446	393491	358538	210593	236123	1668739
1999-00	497027	426993	400650	260522	273013	1858205
2000-01	506476	474323	443169	282316	294459	2000743
2001-02	546674	497578	491952	321543	317513	2175260
2002-03	548062	550421	543691	360194	341496	2343864
2003-04	608788	618840	624394	402510	371288	2625819
2004-05	650454	744755	727720	437174	411361	2971464
2005-06	732234	859410	846606	493102	459151	3390503
2006-07	829771	1033410	998379	586595	505121	3953276
2007-08	961330	1205458	1150044	691464	573790	4582086
2008-09	1083032	1360426	1310845	845369	703895	5303567
2009-10	1242818	1536492	1481623	964937	883033	6108903
2010-11	1524552	1763584	1779630	1165243	1015850	7248860
2011-12	1721814	2061650	2072272	1381524	1154431	8391691

Source: Central Statistics Office

Notes :

- For the years prior to 1999-2000 totals under col. 7 may not add up to totals of individual item under col. 2 to col. 6 due to splicing technique applied independently at the level of each industry and at the total level.
- Estimates for the years 2011-12 onwards (at base 2011-12) are also available at basic prices only and are given in table 1.4 B.

Table 1.4 B. Gross Value Added at Basic Prices by Industry of Origin

(₹ crore)

At current prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2011-12 Series						
2011-12	1762983	2373988	1413116	1530877	1025982	8106946
2012-13	1960949	2637551	1663986	1776632	1163574	9202692
2013-14	2222166	2895076	1874467	2069508	1301935	10363153
2014-15	2383135	3151061	2095121	2363250	1489226	11481794
2015-16	2471800	3392873	2294364	2631120	1668486	12458642
2016-17 (PE)	2674006	3641178	2519999	2889048	1945683	13669914

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

- Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

Table 1.5 A. Annual Growth Rates of Real Gross Value Added at Factor Cost by Industry of Origin

(Per cent)

At constant prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1951-52	1.9	4.6	2.6	2.3	3.0	2.3
1952-53	3.1	-0.4	3.3	4.2	2.1	2.8
1953-54	7.5	6.2	3.7	1.4	3.1	6.1
1954-55	3.0	8.8	6.5	3.7	3.6	4.2
1955-56	-0.8	11.7	7.3	4.0	3.1	2.6
1956-57	5.4	9.0	7.3	1.6	3.8	5.7
1957-58	-4.1	-1.8	3.1	3.8	4.5	-1.2
1958-59	9.8	7.4	5.0	2.8	4.1	7.6
1959-60	-0.8	7.0	6.3	3.8	4.3	2.2
1960-61	7.1	10.8	8.6	2.1	4.9	7.1
1961-62	0.3	6.9	6.5	4.3	4.7	3.1
1962-63	-1.4	6.2	5.9	3.4	7.1	2.1
1963-64	2.4	10.7	7.1	3.1	6.6	5.1
1964-65	8.8	7.4	6.8	2.7	6.6	7.6
1965-66	-9.9	3.2	1.8	3.0	4.0	-3.7
1966-67	-1.2	3.7	2.6	1.8	4.6	1.0
1967-68	14.1	3.3	4.3	2.7	3.9	8.1
1968-69	0.0	5.1	4.5	4.9	4.5	2.6
1969-70	6.3	7.8	5.4	4.2	5.5	6.5
1970-71	6.3	1.6	4.9	4.2	5.5	5.0
1971-72	-1.7	2.5	2.3	5.2	4.5	1.0
1972-73	-4.4	3.4	2.2	3.9	3.3	-0.3
1973-74	6.9	0.5	4.2	2.4	2.6	4.6
1974-75	-1.2	1.0	6.0	-0.3	4.7	1.2
1975-76	12.8	6.5	9.1	6.9	3.5	9.0
1976-77	-5.2	9.3	4.5	7.9	2.8	1.2
1977-78	9.6	7.4	6.7	4.9	2.7	7.5
1978-79	2.3	7.3	8.2	7.1	4.3	5.5
1979-80	-11.9	-3.6	-0.8	1.0	7.3	-5.2
1980-81	12.8	4.5	5.6	1.9	5.0	7.2
1981-82	5.2	7.4	6.1	8.1	2.1	5.6
1982-83	0.6	0.2	5.5	9.5	7.7	2.9
1983-84	9.5	8.5	5.1	9.8	3.7	7.9
1984-85	1.6	4.4	4.8	7.5	6.9	4.0
1985-86	0.7	4.3	8.0	9.8	5.7	4.2
1986-87	0.6	4.9	6.0	10.5	7.5	4.3
1987-88	-1.1	5.8	5.1	7.3	7.2	3.5
1988-89	15.7	8.2	6.0	9.8	6.0	10.2
1989-90	1.8	8.4	7.4	12.4	7.9	6.1
1990-91	4.7	6.9	5.2	6.2	4.4	5.3
1991-92	-1.4	-0.1	2.3	10.8	2.6	1.4
1992-93	6.0	3.6	5.6	5.4	6.0	5.4
1993-94	3.1	6.1	6.9	11.2	4.5	5.7
1994-95	5.2	9.1	9.9	3.9	2.3	6.4
1995-96	0.0	12.0	13.4	8.1	7.3	7.3

Contd....

Table 1.5 A. Annual Growth Rates of Real Gross Value Added at Factor Cost by Industry of Origin*(Contd....)*

(Per cent)

At constant prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2004-05 Series						
1996-97	8.9	7.2	8.1	6.2	8.1	8.0
1997-98	-1.3	3.3	7.5	11.7	8.3	4.3
1998-99	5.9	4.3	7.7	7.8	9.7	6.7
1999-00	2.8	6.2	11.4	13.0	12.0	8.0
2000-01	0.3	6.5	6.4	3.5	4.6	4.1
2001-02	5.5	2.7	8.6	6.2	4.0	5.4
2002-03	-4.9	7.1	8.3	7.2	3.8	3.9
2003-04	8.2	7.9	11.2	5.3	5.3	8.0
2004-05	1.1	10.0	9.5	7.7	6.8	7.1
2005-06	4.6	10.7	12.0	12.6	7.1	9.5
2006-07	4.6	12.7	11.6	14.0	2.8	9.6
2007-08	5.5	10.3	10.9	12.0	6.9	9.3
2008-09	0.4	4.7	7.5	12.0	12.5	6.7
2009-10	1.5	9.5	10.4	9.7	11.7	8.6
2010-11	8.3	7.6	12.2	10.0	4.2	8.9
2011-12	4.4	8.5	4.3	11.3	4.9	6.7

Source: Central Statistics Office

Table 1.5 B. Annual Growth Rate of Real Gross Value Added at Basic Prices by Industry of Origin

(per cent)

At constant prices						
Year	Agriculture, forestry & fishing, mining and quarrying	Manufacturing, construction, electricity, gas and water supply	Trade, hotels, transport & communication	Financing, insurance, real estate and business services	Community Social & Personal services	Gross value added at factor cost (2 to 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2011-12 Series						
2012-13	1.4	3.6	9.8	9.7	4.3	5.4
2013-14	4.8	4.2	6.5	11.2	3.8	6.1
2014-15	1.5	7.0	9.0	11.1	8.1	7.2
2015-16	2.2	8.6	10.5	10.8	6.9	7.9
2016-17 (PE)	4.4	6.0	7.8	5.7	11.3	6.6

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.

Table 1.6. Components of Gross Domestic Product at Current Prices

(₹ crore)									
Year	PFCE	GFCE	GFCF	CIS	Valuables	Export of goods and services	Import of goods and services	Discrepancies	GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004-05 Series									
1950-51	9394	608	968	165	na	736	711	-759	10401
1951-52	10307	638	1045	173	na	846	1038	-917	11054
1952-53	10284	661	974	40	na	715	702	-1122	10850
1953-54	11190	698	968	-67	na	644	652	-970	11810
1954-55	10414	728	1112	36	na	705	750	-1076	11170
1955-56	10417	780	1384	53	na	757	839	-1180	11371
1956-57	12286	860	1771	235	na	767	1174	-1198	13547
1957-58	12462	1005	1803	242	na	800	1304	-1057	13951
1958-59	14148	1078	1782	2	na	719	1104	-1074	15551
1959-60	14707	1136	2003	209	na	779	1010	-1440	16384
1960-61	15891	1240	2290	328	na	787	1205	-1389	17942
1961-62	16617	1377	2554	276	na	804	1113	-1506	19010
1962-63	17501	1670	2842	357	na	837	1211	-1567	20429
1963-64	19430	2146	3374	275	na	987	1362	-1387	23462
1964-65	22873	2313	3972	363	na	1002	1529	-1627	27367
1965-66	24144	2665	4420	316	na	938	1478	-2147	28857
1966-67	28119	2921	4866	514	na	1330	2142	-2939	32669
1967-68	33509	3265	5395	432	na	1517	2236	-3621	38261
1968-69	33524	3576	5672	96	na	1608	1968	-1996	40512
1969-70	36265	4008	6192	554	na	1628	1767	-2275	44605
1970-71	38474	4479	6488	809	na	1771	1816	-2568	47638
1971-72	41496	5185	7479	1066	na	1838	2006	-4059	50999
1972-73	45736	5514	8480	411	na	2225	2049	-4102	56214
1973-74	55135	6045	9675	1639	na	2830	3176	-3728	68420
1974-75	66799	7334	12080	2929	na	3835	4779	-7429	80770
1975-76	68314	8645	13895	2123	na	4812	5664	-5419	86707
1976-77	71024	9602	15546	1393	na	6139	5614	-4669	93422
1977-78	81788	10245	17835	1387	na	6640	6517	-5529	105848
1978-79	88950	11373	19719	3218	na	7115	7423	-8305	114647
1979-80	96590	13074	22564	3791	na	8340	10094	-8536	125729
1980-81	118068	15179	26815	188	na	9029	13596	-6041	149642
1981-82	135676	17785	32650	5753	na	10256	14809	-11506	175805
1982-83	149773	21022	38905	4451	na	11563	15736	-13334	196644
1983-84	175357	24288	44005	1787	na	13139	17675	-11880	229021
1984-85	194037	27927	50449	4820	na	15846	19484	-16984	256611
1985-86	214154	33257	59640	8314	na	14951	21754	-19038	289524
1986-87	240209	39322	69476	6532	na	16543	22359	-25774	323949
1987-88	266649	46160	81204	2019	na	20281	25259	-22843	368211
1988-89	310497	53280	95617	8543	na	25913	32010	-24947	436893
1989-90	346807	60997	113993	6014	na	34609	40212	-20279	501928
1990-91	398529	69525	139663	6355	na	40635	48698	-19797	586212
1991-92	457735	78458	152466	-903	na	56254	56249	-13887	673875
1992-93	516118	88846	177929	9839	na	67312	73000	-12499	774545

Contd....

Table 1.6. Components of Gross Domestic Product at Current Prices (Contd....)

(₹ crore)

Year	PFCE	GFCE	GFCF	CIS	Valuables	Export of goods and services	Import of goods and services	Discrepancies	GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004-05 Series									
1993-94	591308	103066	191456	-1719	na	86147	85999	7095	891355
1994-95	687154	114672	228442	14072	na	101607	104710	4354	1045590
1995-96	792015	135883	295046	24557	na	130733	144953	-6556	1226725
1996-97	928629	154089	328046	-14991	na	144854	161022	39672	1419277
1997-98	1018559	182245	372401	13044	na	165203	184333	5275	1572394
1998-99	1166300	225716	427069	-3023	na	195280	224745	16780	1803378
1999-2000	1312537	258868	484666	42497	15519	227697	265702	-52952	2023130
2000-01	1406661	273400	495196	15158	14724	278126	297523	-8329	2177413
2001-02	1531672	291189	590240	-1971	14187	290757	311050	-49179	2355845
2002-03	1620293	301573	601120	18200	13957	355556	379981	5608	2536327
2003-04	1771305	324783	697478	20667	24572	417425	436878	22151	2841503
2004-05	1917508	354518	931028	80150	41054	569051	625945	-25154	3242209
2005-06	2152702	401619	1120292	104389	41392	712087	813466	-25647	3693369
2006-07	2476667	443477	1343774	147101	49709	904872	1040535	-30359	4294706
2007-08	2840727	513021	1641673	201534	53592	1018907	1219109	-63255	4987090
2008-09	3249284	615333	1821099	106791	72213	1328765	1614040	50618	5630063
2009-10	3707566	771151	2055772	179171	116312	1298780	1647139	-3786	6477827
2010-11	4360323	890136	2407069	273509	162836	1710193	2050182	30230	7784115
2011-12	5141896	1025895	2861062	170596	246673	2150326	2721947	135220	9009722
2011-12 Series									
2011-12	4910447	968375	2997733	207983	253033	2143931	2715554	-29620	8736329
2012-13	5614485	1062404	3324973	214524	273775	2439707	3108428	122573	9944013
2013-14	6475650	1156509	3515621	144621	161761	2856781	3191811	114389	11233522
2014-15	7232800	1298639	3783837	308697	209407	2863541	3235965	-15828	12445128
2015-16	7932331	1411460	4002781	301923	197256	2728643	3044917	152559	13682035
2016-17 (PE)	8927010	1769036	4117674	328198	166287	2911700	3133081	96886	15183709

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.
2. PFCE: Private Final Consumption Expenditure
3. GFCE: Government Final Consumption Expenditure
4. GFCF: Gross Fixed Capital Formation
5. CIS: Change in Stocks
6. na: not available
7. GDP: Gross Domestic Product

Table 1.7. Components of Gross Domestic Product at Constant Prices

(₹ crore)									
Year	PFCE	GFCE	GFCF	CIS	Valuables	Export of goods and services	Import of goods and services	Discrepancies	GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004-05 Series									
1950-51	244888	17979	40701	4205	na	20455	23085	-11206	293937
1951-52	260454	18166	39772	3949	na	22790	32667	-9865	302599
1952-53	270964	18187	37131	1046	na	20085	23038	-13831	310544
1953-54	287254	18415	38705	-2382	na	17625	20846	-9127	329643
1954-55	296678	18523	43546	1156	na	21411	26611	-9201	345503
1955-56	299514	19036	50947	1457	na	23206	30047	-7429	356684
1956-57	312764	20361	62224	4449	na	20817	37224	-6808	376582
1957-58	306585	22929	57579	7128	na	20981	39954	-215	375033
1958-59	334730	23742	56784	-480	na	18136	32533	2371	402749
1959-60	338538	24168	61613	4479	na	19117	28957	-5638	413320
1960-61	357795	25473	66760	6128	na	18891	33792	-5218	436037
1961-62	363895	27415	73110	5204	na	18856	30495	-5715	452270
1962-63	368636	33078	80082	4508	na	18747	31687	-7836	465527
1963-64	382349	40647	90736	3680	na	20322	32762	-11540	493432
1964-65	405190	42464	98565	6218	na	18999	33869	-7358	530207
1965-66	405548	46580	101821	4695	na	16365	30125	-28652	516232
1966-67	410819	47380	102257	6621	na	20593	38747	-32976	515947
1967-68	434061	48658	107340	5590	na	21614	37219	-23719	556324
1968-69	445463	51211	111372	1435	na	22292	31874	-24727	575172
1969-70	462008	56050	111724	7245	na	21860	27719	-18381	612787
1970-71	477697	61370	107541	8631	na	28759	32685	-6923	644390
1971-72	486992	67386	118995	11455	na	29062	38578	-20336	654976
1972-73	490254	68031	124912	3242	na	31456	37849	-28694	651352
1973-74	502285	67936	123058	11795	na	33017	40906	-24368	672818
1974-75	501907	65398	128951	14863	na	35724	35687	-30362	680793
1975-76	530409	71715	128683	2170	na	41600	36143	4652	743085
1976-77	540985	77084	141513	7607	na	49845	36829	-24763	755443
1977-78	585099	79719	158620	11260	na	48067	46918	-25597	810249
1978-79	620859	85618	165842	21755	na	51818	46941	-42416	856535
1979-80	606933	90975	165092	15528	na	57597	56011	-68448	811668
1980-81	661562	95196	178287	1004	na	60614	64051	-66273	866340
1981-82	690331	99203	185401	23590	na	60119	70474	-69795	918374
1982-83	697235	108747	197159	17857	na	63738	72909	-61533	950295
1983-84	751352	113612	209780	7483	na	63155	88937	-36884	1019561
1984-85	773009	122059	217283	17374	na	67764	76192	-62780	1058515
1985-86	805271	134924	229215	27276	na	63485	86761	-59276	1114133
1986-87	830682	147610	251020	21203	na	66934	101583	-48516	1167350
1987-88	859153	159705	266072	6009	na	75452	99889	-52862	1213640
1988-89	912779	168458	284466	24171	na	81091	109073	-31406	1330486
1989-90	958075	177460	306311	16060	na	90805	111346	-27749	1409615
1990-91	1000867	183488	347966	15063	na	100888	115094	-45562	1487615
1991-92	1022458	183180	328594	-1791	na	110637	115111	-24629	1503337
1992-93	1048825	189503	358162	18331	na	116050	139432	-5683	1585756
1993-94	1094417	200751	354848	-3816	na	132041	166297	49147	1661092

Contd....

Table 1.7. Components of Gross Domestic Product at Constant Prices (Contd....)

(₹ crore)

Year	PFCE	GFCE	GFCF	CIS	Valuables	Export of goods and services	Import of goods and services	Discrepancies	GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2004-05 Series									
1994-95	1147607	203529	388410	21529	na	149265	203883	65246	1771702
1995-96	1217472	219412	451596	34275	na	196128	261227	48244	1905900
1996-97	1312114	229594	465355	-22555	na	208464	254853	111667	2049786
1997-98	1351342	255429	506706	16929	na	203610	288495	87279	2132799
1998-99	1439195	286572	555913	-5221	na	231880	348634	104995	2264700
1999-2000	1526689	320320	599973	52890	na	273617	373012	64553	2465029
2000-01	1579201	324727	591610	17320	na	323288	390132	113697	2559711
2001-02	1673209	332369	682143	-3481	na	337221	401619	63348	2683190
2002-03	1721238	331753	679170	20049	na	408324	449800	74525	2785258
2003-04	1823227	340962	750940	21668	na	447450	512250	132194	3004190
2004-05	1917508	354518	931028	80150	41054	569051	625945	-25154	3242209
2005-06	2083309	386007	1081792	101511	40414	717424	829926	-37288	3543244
2006-07	2259892	400579	1231265	133556	45933	863459	1008198	-54998	3871489
2007-08	2471397	438919	1430764	175411	47263	914628	1110963	-116472	4250947
2008-09	2649610	484459	1480943	85290	59987	1048140	1363302	-28778	4416350
2009-10	2845303	551702	1594475	143052	94524	999030	1334180	-103059	4790847
2010-11	3092373	583544	1769792	206953	125191	1195003	1542428	-148042	5282386
2011-12	3378506	623574	1986645	117111	133454	1381129	1867249	-120120	5633050
2011-12 Series									
2011-12	4910447	968375	2997733	207983	253033	2143931	2715554	-29620	8736329
2012-13	5179091	974263	3145793	201528	259949	2289836	2879079	41636	9213017
2013-14	5557329	979825	3194924	129758	148879	2468269	2644555	-33060	9801370
2014-15	5902386	1073894	3302173	270613	187957	2512176	2667658	-44556	10536984
2015-16	6262373	1109725	3518446	274447	180274	2378687	2510753	167803	11381002
2016-17 (PE)	6806624	1340086	3602041	291179	148700	2486007	2568680	83897	12189854

Source: Central Statistics Office

Notes:

PE : Provisional Estimates

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.
2. PFCE: Private Final Consumption Expenditure
3. GFCE: Government Final Consumption Expenditure
4. GFCF: Gross Fixed Capital Formation
5. CIS: Change in Stocks
6. na: not available

Table 1.8. Gross Domestic Saving and Gross Capital Formation (at current prices)

Year	Gross domestic saving				Gross fixed capital formation				Change in stocks				Gross capital formation				Gross domestic product (18)
	Household sector (2)	Private corporate sector (3)	Public sector (4)	Total (2+3+4) (5)	Public sector (6)	Private sector (7)	Total (6+7) (8)	Public sector (9)	Private sector (10)	Total (9+10) (11)	Public sector (12)	Private sector (13)	Values (14)	Total (12+13+14) (15)	Errors & omissions (16)	Adjusted total (15+16) (17)	
2004-05 series																	
1950-51	681	93	215	989	264	704	968	26	140	165	290	844	na	1133	-165	968	10401
1951-52	634	136	309	1079	304	741	1045	30	143	173	334	884	na	1218	44	1262	11054
1952-53	695	64	195	954	324	650	974	-18	59	40	306	709	na	1014	-95	920	10850
1953-54	672	90	181	943	381	587	968	-26	-42	-67	355	545	na	901	29	930	11810
1954-55	774	118	213	1105	453	659	1112	45	-9	36	498	650	na	1148	-28	1121	11170
1955-56	1041	134	247	1422	619	765	1384	-25	77	53	594	842	na	1437	24	1461	11371
1956-57	1222	155	318	1696	721	1050	1771	37	198	235	758	1248	na	2006	49	2056	13547
1957-58	1028	121	336	1485	752	1051	1803	139	103	242	891	1154	na	2045	-87	1958	13951
1958-59	986	140	325	1450	817	965	1782	83	-81	2	900	884	na	1784	42	1826	15551
1959-60	1267	185	351	1803	1045	958	2003	12	198	209	1057	1156	na	2212	-178	2034	16384
1960-61	1226	281	572	2079	1215	1075	2290	63	265	328	1278	1340	na	2618	-58	2560	17942
1961-62	1237	320	654	2211	1269	1285	2554	29	247	276	1298	1532	na	2830	-274	2556	19010
1962-63	1519	344	750	2613	1510	1332	2842	97	260	357	1607	1592	na	3199	-146	3053	20429
1963-64	1589	394	929	2912	1794	1580	3374	87	188	275	1881	1768	na	3649	-297	3352	23462
1964-65	1897	389	1072	3358	2106	1866	3972	90	272	363	2196	2138	na	4335	-377	3958	27367
1965-66	2596	405	1085	4086	2348	2072	4420	124	192	316	2472	2264	na	4736	-51	4685	28857
1966-67	3161	424	941	4526	2360	2506	4866	64	450	514	2424	2956	na	5380	69	5449	32669
1967-68	3275	410	944	4629	2320	3075	5395	233	199	432	2553	3274	na	5827	-361	5466	38261
1968-69	3277	439	1165	4881	2431	3241	5672	41	55	96	2472	3296	na	5768	-471	5297	40512
1969-70	4375	549	1361	6285	2525	3667	6192	50	504	554	2575	4171	na	6746	-220	6526	44605
1970-71	4531	672	1618	6821	2742	3746	6488	302	507	809	3044	4253	na	7297	-82	7215	47638
1971-72	5229	769	1689	7687	3245	4234	7479	356	710	1066	3601	4944	na	8545	-380	8165	50999
1972-73	5330	806	1816	7952	4185	4295	8480	88	322	411	4273	4617	na	8891	-641	8249	56214
1973-74	8020	1083	2363	11466	4631	5044	9675	541	1097	1639	5172	6141	na	11314	545	11858	68420
1974-75	8677	1465	3340	13482	4948	7132	12080	938	1992	2929	5886	9124	na	15009	-874	14135	80770
1975-76	9790	1083	4192	15066	6401	7494	13895	1447	676	2123	7848	8170	na	16018	-1070	14949	86707

Contd....

Table 1.8. Gross Domestic Saving and Gross Capital Formation (at current prices)

(Contd....)

Year	Gross domestic saving			Gross fixed capital formation			Change in stocks			Gross capital formation							
	Household sector	Private corporate sector	Public sector	Total (2+3+4)	Public sector	Private sector	Total (6+7)	Public sector	Private sector	Total (9+10)	Public sector	Private sector	Valuations	Total (12+13+14)	Errors & omissions	Adjusted total (15+16)	Gross domestic product
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
2004-05 series																	
1976-77	11206	1181	5195	17582	8051	7495	15546	1121	272	1393	9172	7767	na	16939	-666	16273	93422
1977-78	13679	1413	5253	20345	8792	9043	17835	109	1278	1387	8901	10321	na	19222	-341	18880	105848
1978-79	16482	1652	5976	24110	9638	10081	19719	1100	2118	3218	10738	12199	na	22937	1301	24238	114647
1979-80	16338	2398	6331	25068	11532	11032	22564	1346	2445	3791	12878	13477	na	26355	-707	25648	125729
1980-81	18116	2339	6135	26590	13656	13159	26815	71	116	188	13727	13275	na	27003	1682	28684	149642
1981-82	19013	2560	9120	30692	17376	15274	32650	2006	3747	5753	19382	19021	na	38403	-5100	33303	175805
1982-83	21972	2980	10004	34956	22276	16629	38905	1136	3315	4451	23412	19944	na	43356	-5833	37522	196644
1983-84	26955	3254	9030	39239	24225	19780	44005	337	1450	1787	24562	21230	na	45792	-4037	41756	229021
1984-85	32796	4040	8950	45786	27823	22626	50449	1676	3144	4820	29499	25770	na	55269	-6191	49078	256611
1985-86	36666	5426	11322	53414	32590	27050	59640	1932	6383	8314	34522	33433	na	67954	-8306	59648	289524
1986-87	42111	5336	11246	58693	39723	29753	69476	896	5636	6532	40619	35389	na	76008	-10960	65048	323949
1987-88	57304	5932	10471	73707	41211	39993	81204	-1515	3534	2019	39696	43527	na	83223	-2691	80532	368211
1988-89	67063	8486	11943	87492	47566	48051	95617	-493	9036	8543	47073	57087	na	104160	-4364	99796	436893
1989-90	82985	11845	11900	106730	52517	61476	113993	1690	4324	6014	54207	65800	na	120007	-998	119009	501928
1990-91	108603	15164	10641	134408	60013	79650	139663	1987	4368	6355	62000	84018	na	146018	6586	152604	586212
1991-92	105632	20304	17594	143530	70701	81765	152466	-2207	1304	-903	68494	83069	na	151563	-4656	146907	673875
1992-93	127943	19968	16709	164621	71197	106732	177929	2657	7182	9839	73854	113914	na	187768	-9331	178437	774545
1993-94	151454	29866	11674	192994	79309	112147	191456	1974	-3693	-1719	81283	108454	na	189737	8048	197785	891355
1994-95	187142	35260	24266	246668	102134	126308	228442	-604	14676	14072	101530	140984	na	242514	16047	258561	1045590
1995-96	198585	59153	31527	289265	105704	189342	295046	-613	25170	24557	105091	214512	na	319603	-9558	310045	1226725
1996-97	224653	62540	31194	318387	108750	219296	328046	1883	-16873	-14991	110633	202423	na	313055	23069	336125	1419277
1997-98	284127	66080	29583	379790	112814	259587	372401	3553	9491	13044	116367	269078	na	385445	16647	402092	1572394
1998-99	352114	69191	-3146	418159	128621	298448	427069	2277	-5300	-3023	130898	293148	na	424046	12475	436521	1803378
1999-00	438851	87234	-9238	516847	138611	346055	484666	15553	26944	42497	154164	372999	15519	542682	-3848	538834	2023130
2000-01	463750	81062	-29266	515545	145973	349223	495196	9326	5831	15158	155299	355054	14724	525078	3222	528299	2177413
2001-02	545288	76906	-36820	585374	160190	430050	590240	9079	-11050	-1971	169269	419000	14187	602456	-31310	571146	2355845

Contd....

Table 1.8. Gross Domestic Saving and Gross Capital Formation (at current prices)

(Contd.....)

Year	Gross domestic saving			Gross fixed capital formation			Change in stocks			Gross capital formation			Adjusted total domestic product (15+16)	Gross domestic product (18)				
	Household sector (2)	Private corporate sector (3)	Public sector (4)	Total (2+3+4) (5)	Public sector (6)	Private sector (7)	Total (6+7) (8)	Public sector (9)	Private sector (10)	Total (9+10) (11)	Public sector (12)	Private sector (13)			Values (14)	Total (12+13+14) (15)	Errors & omissions (16)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	2004-05 series																	
2002-03	564161	99217	-7148	656230	168143	432977	601120	-4740	22940	18200	163403	455917	13957	633277	-5534	627743	2536329	
2003-04	657587	129816	36372	823775	190806	506672	697478	-3076	23743	20667	187730	530415	24572	742717	19699	762416	2841503	
2004-05	763685	212519	74499	1050703	224108	706920	931028	16472	63678	80150	240580	770598	41054	1052231	11809	1064041	3242209	
2005-06	868988	277208	88955	1235151	271342	848950	1120292	22008	82381	104389	293350	931331	41392	1266073	13681	1279754	3693369	
2006-07	994396	338584	152929	1485909	339617	1004157	1343774	16939	130162	147101	356556	1134319	49709	1540583	-9151	1531433	4294706	
2007-08	1118347	469023	248962	1836332	401326	1240347	1641673	40597	160937	201534	441923	1401284	53592	1896799	3963	1900762	4987090	
2008-09	1330873	417467	54280	1802620	480698	1340401	1821099	51032	55759	106791	531730	1396160	72213	2000103	-68723	1931380	5630063	
2009-10	1630799	540955	10585	2182338	543883	1511889	2055772	48905	130266	179171	592788	1642155	116312	2351255	11878	2363132	6477827	
2010-11	1800174	620300	201268	2621742	609189	1797881	2407069	47259	226250	273509	656448	2024131	162836	2843415	-1957	2841457	7784115	
2011-12	2054737	658428	111295	2824459	639157	2221905	2861062	56678	113918	170596	693835	2335823	246673	3278331	-77698	3200633	9009722	
	2011-12 Series																	
2011-12	2065566	826805	134466	3026837	641260	2356472	2997733	17098	190885	207983	658358	2547358	253033	3458749	-55741	3403008	8736329	
2012-13	2235280	994005	139917	3369202	698031	2626943	3324973	20618	193907	214524	718648	2820849	273775	3813272	33849	3847122	9944013	
2013-14	2285301	1207187	115705	3608193	796950	2718671	3515621	-2019	146640	144621	794931	2865311	161761	3822003	-27868	3794135	11233522	
2014-15	2555683	1455336	108746	4119766	833225	2950612	3783837	10305	298393	308697	843529	3249005	209407	4301941	-22353	4279587	12445128	
2015-16	2621531	1621684	175704	4418919	1008535	2994247	4002781	20073	281850	301923	1028608	3276097	197256	4501960	57358	4559318	13682035	

Source: Central Statistics Office

Notes:

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.
2. na: not available

Table 1.9. Gross Domestic Saving and Gross Capital Formation

Year	(As per cent of GDP at current market prices)																
	Gross domestic saving				Gross fixed capital formation				Change in stocks				Gross capital formation				
	Household sector	Private corporate sector	Public sector	Total (2+3+4)	Public sector	Private sector	Total (6+7)	Public sector	Private sector	Total (9+10)	Public sector	Private sector	Valuables	Total (12+13+14)	Errors & omissions	Adjusted total (15+16)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
2004-05 series																	
1950-51	6.5	0.9	2.1	9.5	2.5	6.8	9.3	0.2	1.3	1.6	2.8	8.1	na	10.9	-1.6	9.3	
1951-52	5.7	1.2	2.8	9.8	2.8	6.7	9.5	0.3	1.3	1.6	3.0	8.0	na	11.0	0.4	11.4	
1952-53	6.4	0.6	1.8	8.8	3.0	6.0	9.0	-0.2	0.5	0.4	2.8	6.5	na	9.3	-0.9	8.5	
1953-54	5.7	0.8	1.5	8.0	3.2	5.0	8.2	-0.2	-0.4	-0.6	3.0	4.6	na	7.6	0.2	7.9	
1954-55	6.9	1.1	1.9	9.9	4.1	5.9	10.0	0.4	-0.1	0.3	4.5	5.8	na	10.3	-0.2	10.0	
1955-56	9.2	1.2	2.2	12.5	5.4	6.7	12.2	-0.2	0.7	0.5	5.2	7.4	na	12.6	0.2	12.8	
1956-57	9.0	1.1	2.4	12.5	5.3	7.8	13.1	0.3	1.5	1.7	5.6	9.2	na	14.8	0.4	15.2	
1957-58	7.4	0.9	2.4	10.6	5.4	7.5	12.9	1.0	0.7	1.7	6.4	8.3	na	14.7	-0.6	14.0	
1958-59	6.3	0.9	2.1	9.3	5.3	6.2	11.5	0.5	-0.5	0.0	5.8	5.7	na	11.5	0.3	11.7	
1959-60	7.7	1.1	2.1	11.0	6.4	5.8	12.2	0.1	1.2	1.3	6.4	7.1	na	13.5	-1.1	12.4	
1960-61	6.8	1.6	3.2	11.6	6.8	6.0	12.8	0.4	1.5	1.8	7.1	7.5	na	14.6	-0.3	14.3	
1961-62	6.5	1.7	3.4	11.6	6.7	6.8	13.4	0.2	1.3	1.5	6.8	8.1	na	14.9	-1.4	13.4	
1962-63	7.4	1.7	3.7	12.8	7.4	6.5	13.9	0.5	1.3	1.7	7.9	7.8	na	15.7	-0.7	14.9	
1963-64	6.8	1.7	4.0	12.4	7.6	6.7	14.4	0.4	0.8	1.2	8.0	7.5	na	15.6	-1.3	14.3	
1964-65	6.9	1.4	3.9	12.3	7.7	6.8	14.5	0.3	1.0	1.3	8.0	7.8	na	15.8	-1.4	14.5	
1965-66	9.0	1.4	3.8	14.2	8.1	7.2	15.3	0.4	0.7	1.1	8.6	7.8	na	16.4	-0.2	16.2	
1966-67	9.7	1.3	2.9	13.9	7.2	7.7	14.9	0.2	1.4	1.6	7.4	9.0	na	16.5	0.2	16.7	
1967-68	8.6	1.1	2.5	12.1	6.1	8.0	14.1	0.6	0.5	1.1	6.7	8.6	na	15.2	-0.9	14.3	
1968-69	8.1	1.1	2.9	12.0	6.0	8.0	14.0	0.1	0.1	0.2	6.1	8.1	na	14.2	-1.2	13.1	
1969-70	9.8	1.2	3.1	14.1	5.7	8.2	13.9	0.1	1.1	1.2	5.8	9.4	na	15.1	-0.5	14.6	
1970-71	9.5	1.4	3.4	14.3	5.8	7.9	13.6	0.6	1.1	1.7	6.4	8.9	na	15.3	-0.2	15.1	
1971-72	10.3	1.5	3.3	15.1	6.4	8.3	14.7	0.7	1.4	2.1	7.1	9.7	na	16.8	-0.7	16.0	
1972-73	9.5	1.4	3.2	14.1	7.4	7.6	15.1	0.2	0.6	0.7	7.6	8.2	na	15.8	-1.1	14.7	
1973-74	11.7	1.6	3.5	16.8	6.8	7.4	14.1	0.8	1.6	2.4	7.6	9.0	na	16.5	0.8	17.3	
1974-75	10.7	1.8	4.1	16.7	6.1	8.8	15.0	1.2	2.5	3.6	7.3	11.3	na	18.6	-1.1	17.5	
1975-76	11.3	1.2	4.8	17.4	7.4	8.6	16.0	1.7	0.8	2.4	9.1	9.4	na	18.5	-1.2	17.2	

Contd....

(Contd....)

Table 1.9. Gross Domestic Saving and Gross Capital Formation

Year	(As per cent of GDP at current market prices)															
	Gross domestic saving				Gross fixed capital formation				Change in stocks				Gross capital formation			
	House- hold sector	Private corporate sector	Public sector	Total (2+3+4)	Public sector	Private sector	Total (6+7)	Public sector	Private sector	Total (9+10)	Public sector	Private sector	Total (12+13+14)	Valuables (15+16)	Errors & omissions	Adjusted total (15+16)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
2004-05 series																
2003-04	23.1	4.6	1.3	29.0	6.7	17.8	24.5	-0.1	0.8	0.7	6.6	18.7	0.9	26.1	0.7	26.8
2004-05	23.6	6.6	2.3	32.4	6.9	21.8	28.7	0.5	2.0	2.5	7.4	23.8	1.3	32.5	0.4	32.8
2005-06	23.5	7.5	2.4	33.4	7.3	23.0	30.3	0.6	2.2	2.8	7.9	25.2	1.1	34.3	0.4	34.7
2006-07	23.2	7.9	3.6	34.6	7.9	23.4	31.3	0.4	3.0	3.4	8.3	26.4	1.2	35.9	-0.2	35.7
2007-08	22.4	9.4	5.0	36.8	8.0	24.9	32.9	0.8	3.2	4.0	8.9	28.1	1.1	38.0	0.1	38.1
2008-09	23.6	7.4	1.0	32.0	8.5	23.8	32.3	0.9	1.0	1.9	9.4	24.8	1.3	35.5	-1.2	34.3
2009-10	25.2	8.4	0.2	33.7	8.4	23.3	31.7	0.8	2.0	2.8	9.2	25.4	1.8	36.3	0.2	36.5
2010-11	23.1	8.0	2.6	33.7	7.8	23.1	30.9	0.6	2.9	3.5	8.4	26.0	2.1	36.5	0.0	36.5
2011-12	22.8	7.3	1.2	31.3	7.1	24.7	31.8	0.6	1.3	1.9	7.7	25.9	2.7	36.4	-0.9	35.5
2011-12 Series																
2011-12	23.6	9.5	1.5	34.6	7.3	27.0	34.3	0.2	2.2	2.4	7.5	29.2	2.9	39.6	-0.6	39.0
2012-13	22.5	10.0	1.4	33.9	7.0	26.4	33.4	0.2	1.9	2.2	7.2	28.4	2.8	38.3	0.3	38.7
2013-14	20.3	10.7	1.0	32.1	7.1	24.2	31.3	0.0	1.3	1.3	7.1	25.5	1.4	34.0	-0.2	33.8
2014-15	20.5	11.7	0.9	33.1	6.7	23.7	30.4	0.1	2.4	2.5	6.8	26.1	1.7	34.6	-0.2	34.4
2015-16	19.2	11.9	1.3	32.3	7.4	21.9	29.3	0.1	2.1	2.2	7.5	23.9	1.4	32.9	0.4	33.3

Source: Central Statistics Office

Notes:

1. Estimates for the years 2011-12 to 2015-16, as released through the Press Note dated 31.01.2017 on First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation have been updated due to incorporation of new series of IIP and WPI with base year 2011-12, released in May 2017.
2. na: not available

Table 1.10A. Net State Domestic Product at Current Prices (2011-12 Series)

As on 31.03.2017						
(₹ in Crore)						
State\UT	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	339996	370196	413164	469909	545638	620974
Arunachal Pradesh	10229	11617	13398	15410	17229	na
Assam	129354	142039	160442	178479	201758	na
Bihar	228497	261327	292143	345571	382223	na
Chhattisgarh	142273	159431	185939	211016	233023	256346
Goa	38009	34567	32043	36290	40659	na
Gujarat	532809	634572	707456	789949	886092	na
Haryana	271152	314353	363590	395890	438140	494090
Himachal Pradesh	60536	69432	80129	88196	na	na
Jammu & Kashmir	67272	72963	79966	83217	98063	na
Jharkhand	137383	160304	172030	198386	223234	na
Karnataka	552720	632211	747788	843918	940006	na
Kerala	328021	371384	417265	473045	531126	na
Madhya Pradesh	282370	333936	391369	429896	483969	571934
Maharashtra	1119192	1271017	1450003	1572037	na	na
Manipur	11501	12193	14456	16189	na	na
Meghalaya	18028	19653	20415	21838	23936	26505
Mizoram	6404	7375	8989	10136	na	na
Nagaland	10217	11816	14545	16137	na	na
Odisha	201111	229888	256211	282322	300236	334067
Punjab	239227	267116	301673	332999	na	na
Rajasthan	396960	446835	497403	554783	na	na
Sikkim	9742	10817	12203	13318	14558	na
Tamil nadu	674478	768951	861429	970953	1080461	1193578
Telangana	325138	363929	408887	462636	522412	593930
Tripura	17419	19631	23329	27484	na	na
Uttar Pradesh	645130	733505	837614	925437	1024222	na
Uttarakhand	102156	117264	132556	142628	162168	na
West Bengal ¹						
Andaman & Nicobar Islands	3404	3793	4424	5025	na	na
Chandigarh	16930	19507	22290	25061	27341	na
Delhi	314619	357251	404664	447435	501104	565655
Puducherry	15160	16984	19778	21776	24220	27511
All-India NDP	7818898	8886659	10041060	11108576	12242873	13653519

Source: For States Directorate of Economics & Statistics of respective State Governments, and for All-India -- Central Statistics Office

Notes:

1. The estimates of West Bengal for new series with base year 2011-12 compiled by the DES, West Bengal are under examination
2. na: not available

Table 1.10B. Growth of Net State Domestic Product at Current Prices (2011-12 Series)

As on 31.03.2017					
State\UT	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	8.9	11.6	13.7	16.1	13.8
Arunachal Pradesh	13.6	15.3	15.0	11.8	na
Assam	9.8	13.0	11.2	na	na
Bihar	14.4	11.8	18.3	10.6	na
Chhattisgarh	12.1	16.6	13.5	na	na
Goa	-9.1	-7.3	13.3	na	na
Gujarat	19.1	11.5	11.7	na	na
Haryana	15.9	15.7	8.9	na	na
Himachal Pradesh	14.7	15.4	10.1	na	na
Jammu & Kashmir	8.5	9.6	4.1	na	na
Jharkhand	16.7	7.3	15.3	12.5	na
Karnataka	14.4	18.3	12.9	11.4	na
Kerala	13.2	12.4	13.4	na	na
Madhya Pradesh	18.3	17.2	9.8	12.6	18.2
Maharashtra	13.6	14.1	8.4	na	na
Manipur	6.0	18.6	12.0	na	na
Meghalaya	9.0	3.9	7.0	9.6	10.7
Mizoram	15.2	21.9	12.8	na	na
Nagaland	15.7	23.1	10.9	na	na
Odisha	14.3	11.5	10.2	6.3	11.3
Punjab	11.7	12.9	10.4	na	na
Rajasthan	12.6	11.3	11.5	na	na
Sikkim	11.0	12.8	9.1	9.3	na
Tamil nadu	14.0	12.0	12.7	11.3	10.5
Telangana	11.9	12.4	13.1	12.9	13.7
Tripura	12.7	18.8	17.8	na	na
Uttar Pradesh	13.7	14.2	10.5	10.7	na
Uttarakhand	14.8	13.0	7.6	13.7	na
West Bengal ¹					
Andaman & Nicobar Islands	11.4	16.6	13.6	na	na
Chandigarh	15.2	14.3	12.4	9.1	na
Delhi	13.6	13.3	10.6	12.0	12.9
Puducherry	12.0	16.4	10.1	11.2	13.6
All-India NDP	13.7	13.0	10.6	10.2	11.5

Source: For States -- Directorate of Economics & Statistics of respective State Governments, and for All-India -- Central Statistics Office

Notes:

1. The estimates of West Bengal for new series with base year 2011-12 compiled by the DES, West Bengal are under examination
2. na: not available

Table 1.11A. Per Capita Net State Domestic Product at Current Prices (2011-12 Series)

As on 31.03.2017						
State\UT	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	69000	74687	82870	93699	108163	122376
Arunachal Pradesh	73068	81353	91953	103633	113645	na
Assam	41142	44599	49734	54618	60952	na
Bihar	21750	24487	26948	31380	34168	na
Chhattisgarh	55177	60849	69839	78001	84767	91772
Goa	259444	234354	215776	242745	270150	na
Gujarat	87481	102826	113139	124678	138023	na
Haryana	106085	121269	138300	148485	162034	180174
Himachal Pradesh	87721	99730	114095	124500	na	na
Jammu & Kashmir	53171	56803	61319	62857	72958	na
Jharkhand	41254	47360	50006	56737	62816	na
Karnataka	89899	101722	119023	132880	146416	na
Kerala	97912	110314	123388	139195	155516	na
Madhya Pradesh	38550	44931	51897	56182	62334	72599
Maharashtra	98910	111005	125146	134081	na	na
Manipur	39762	41246	47852	52436	na	na
Meghalaya	60013	64036	65118	68202	73176	79332
Mizoram	57654	65013	77581	85659	na	na
Nagaland	51314	58727	71511	78526	na	na
Odisha	47632	53900	59468	64869	68293	75223
Punjab	85577	94318	105143	114561	na	na
Rajasthan	57427	63722	69925	76881	na	na
Sikkim	158667	174183	194624	210394	227465	na
Tamil nadu	92984	105032	116583	130197	143547	157116
Telangana	91121	100979	112328	125832	140683	158360
Tripura	47079	52434	61570	71666	na	na
Uttar Pradesh	32002	35837	40306	43861	48520	na
Uttarakhand	100497	113826	126957	134784	151219	na
West Bengal ¹						
Andaman & Nicobar Islands	88183	96032	109787	121954	na	na
Chandigarh	159114	180624	203377	225369	242386	na
Delhi	185343	206503	229518	249004	273618	303073
Puducherry	119649	130548	148147	158830	172143	190384
All-India Per Capita NNI	63460	71011	79146	86513	94178	103818

Source: For States -- Directorate of Economics & Statistics of respective State Governments, and for All-India -- Central Statistics Office

Notes:

1. The estimates of West Bengal for new series with base year 2011-12 compiled by the DES, West Bengal are under examination
2. na: not available

Table 1.11B. Growth of Per Capita Net State Domestic Product at Current Prices (2011-12 Series)

As on 31.03.2017

(per cent)

State\UT	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	8.2	11.0	13.1	15.4	13.1
Arunachal Pradesh	11.3	13.0	12.7	9.7	na
Assam	8.4	11.5	9.8	na	na
Bihar	12.6	10.1	16.4	8.9	na
Chhattisgarh	10.3	14.8	11.7	na	na
Goa	-9.7	-7.9	12.5	na	na
Gujarat	17.5	10.0	10.2	na	na
Haryana	14.3	14.0	7.4	na	na
Himachal Pradesh	13.7	14.4	9.1	na	na
Jammu & Kashmir	6.8	8.0	2.5	na	na
Jharkhand	14.8	5.6	13.5	10.7	na
Karnataka	13.2	17.0	11.6	10.2	na
Kerala	12.7	11.9	12.8	na	na
Madhya Pradesh	16.6	15.5	8.3	10.9	16.5
Maharashtra	12.2	12.7	7.1	na	na
Manipur	3.7	16.0	9.6	na	na
Meghalaya	6.7	1.7	4.7	7.3	8.4
Mizoram	12.8	19.3	10.4	na	na
Nagaland	14.4	21.8	9.8	na	na
Odisha	13.2	10.3	9.1	5.3	10.1
Punjab	10.2	11.5	9.0	na	na
Rajasthan	11.0	9.7	9.9	na	na
Sikkim	9.8	11.7	8.1	8.1	na
Tamil nadu	13.0	11.0	11.7	10.3	9.5
Telangana	10.8	11.2	12.0	11.8	12.6
Tripura	11.4	17.4	16.4	na	na
Uttar Pradesh	12.0	12.5	8.8	10.6	na
Uttarakhand	13.3	11.5	6.2	12.2	na
West Bengal ¹					
Andaman & Nicobar Islands	8.9	14.3	11.1	na	na
Chandigarh	13.5	12.6	10.8	7.6	na
Delhi	11.4	11.1	8.5	9.9	10.8
Puducherry	9.1	13.5	7.2	8.4	10.6
All-India Per Capita NNI	11.9	11.5	9.3	8.9	10.2

Source: For States -- Directorate of Economics & Statistics of respective State Governments, and for All-India -- Central Statistics Office

Notes:

1. The estimates of West Bengal for new series with base year 2011-12 compiled by the DES, West Bengal are under examination
2. na: not available

Table 1.12. Index Numbers of Agricultural Production

(Base : Triennium ending 2007-08= 100)

	Weight	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. Foodgrains	50.7	105.4	106.5	100.6	114.3	119.5	119.4	123.3	115.9	115.6	129.7
(a) Cereals	41.7	105.5	107.4	100.2	111.1	119.1	117.3	120.7	114.6	115.5	123.1
Rice	16.9	102.9	105.6	94.8	102.2	112.1	112.0	113.5	112.3	111.1	116.2
Wheat	18.0	105.4	108.2	108.3	116.5	127.2	125.4	128.5	116.0	123.7	130.7
(b) Coarse Cereals ^a	6.9	112.1	110.0	92.3	118.9	114.8	109.2	118.0	116.7	104.6	120.6
Maize	2.9	116.6	121.4	102.9	133.7	133.9	136.9	149.3	148.7	138.8	160.8
(c) Pulses ^b	8.9	105.1	102.0	102.3	129.3	121.3	129.2	135.6	122.0	116.4	160.3
Gram	3.5	97.5	119.8	126.8	139.5	130.7	149.9	161.6	124.4	119.7	154.0
Tur	1.7	113.5	83.6	91.0	105.6	98.0	111.6	117.2	103.6	94.5	169.7
B. Non-foodgrains	49.3	108.6	107.5	104.9	128.0	131.2	129.1	136.1	132.3	122.0	122.4
(a) Oilseeds ^c	13.2	108.6	100.8	88.9	116.8	106.5	107.4	119.0	99.7	92.5	115.3
Groundnut	4.1	125.0	97.6	73.9	112.5	94.8	63.9	132.2	100.8	91.7	104.1
Rapeseed and Mustard	3.6	81.8	100.9	92.6	114.6	92.6	112.5	110.4	88.1	95.3	111.8
(b) Fibres											
Cotton	4.4	115.9	99.7	107.5	147.7	157.6	153.2	160.7	155.8	134.3	145.8
Jute	0.7	100.5	94.7	110.4	98.4	105.6	101.7	109.0	104.4	97.8	96.7
Mesta	0.0	105.5	77.9	62.5	65.1	70.6	62.8	64.6	54.1	62.1	46.9
(c) Plantation Crops											
Tea	0.3	95.9	98.8	100.7	98.2	99.2	99.2	124.4	123.2	126.9	na
Coffee	0.6	95.4	95.5	105.4	110.0	114.3	115.8	110.9	119.1	126.7	na
Rubber	1.9	99.8	104.5	100.5	104.2	109.3	110.5	93.6	78.0	68.0	na
(d) Others											
Sugarcane	9.9	106.1	86.8	89.0	104.3	110.0	103.9	107.3	110.4	106.1	93.2
Tobacco	0.4	93.0	115.1	141.6	170.6	160.0	139.8	156.4	156.4	na	na
Potato	3.6	114.6	138.4	147.2	170.4	166.9	182.5	167.2	193.2	174.7	176.6
C. All Commodities	100.0	107.0	107.0	102.7	121.0	125.2	124.2	129.6	124.0	118.8	126.1

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes maize, jowar, ragi, bajra, small millets and barley

b : Includes tur, urad, moong, gram, lentils and other pulses

c : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soyabean.

na: not available

Table 1.13. Index Numbers of Area under Principal Crops

(Base : Triennium ending 2007-08= 100)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. Foodgrains	101.2	100.9	100.0	104.4	104.0	102.0	105.6	105.4	103.7	107.6
(a) Cereals	100.9	101.6	99.5	101.8	103.3	101.7	104.0	105.7	102.9	103.4
Rice	100.3	104.0	95.7	97.9	100.5	97.6	100.8	100.7	99.3	98.0
Wheat	101.9	100.9	103.5	105.7	108.6	109.1	110.8	114.4	110.6	111.7
(b) Coarse Cereals ^a	99.9	97.9	98.5	101.2	96.4	92.1	94.4	95.0	91.3	94.9
Maize	103.2	103.9	105.0	108.7	111.6	110.2	115.3	116.8	111.9	124.0
(c) Pulses ^b	102.3	97.3	102.2	116.4	107.5	103.8	112.8	104.2	107.5	127.4
Gram	103.0	107.8	111.6	125.5	113.4	116.4	135.6	112.7	114.7	130.3
Tur	102.8	93.2	95.7	120.5	110.6	107.5	107.8	106.4	109.4	148.7
B. Non-foodgrains	103.2	106.1	104.3	114.0	116.5	116.2	119.4	118.7	116.1	106.3
(a) Oilseeds ^c	98.5	101.8	94.8	101.0	97.5	97.5	104.1	94.3	95.4	98.2
Groundnut	101.2	99.2	88.1	94.2	84.7	76.0	88.6	76.7	74.0	85.2
Rapeseed and Mustard	87.9	95.0	84.3	104.1	88.9	96.0	100.2	87.5	86.7	93.9
(b) Fibres										
Cotton	103.7	103.6	111.6	123.8	134.1	131.9	131.7	141.2	135.4	119.0
Jute	103.2	99.6	102.8	98.1	102.5	98.4	95.8	95.0	92.3	88.3
Mesta	102.9	81.1	66.3	69.4	67.3	60.4	57.4	42.2	38.0	36.4
(c) Plantation Crops										
Tea	98.2	98.2	98.2	98.2	98.2	98.2	98.2	99.9	99.9	99.9
Coffee	113.2	115.0	116.5	118.0	119.5	121.1	122.2	112.6	115.8	115.8
Rubber	103.1	107.5	111.4	115.5	119.3	123.0	126.3	129.1	131.6	131.6
(d) Others										
Sugarcane	105.3	91.9	86.9	101.7	104.9	104.1	104.0	105.5	102.6	93.8
Tobacco	95.9	107.6	122.0	135.3	128.3	117.3	125.5	125.5	na	na
Potato	105.0	123.6	124.0	125.9	128.9	134.6	133.3	140.3	143.1	143.5
C. All Commodities	102.2	103.5	102.1	109.1	110.2	109.0	112.4	112.0	109.8	107.0

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes maize, jowar, ragi, bajra, small millets and barley

b : Includes tur, urad, moong, gram, lentils and other pulses

c : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soyabean.

na: not available

Table 1.14. Index Numbers of Yield of Principal Crops

(Base : Triennium ending 2007-08= 100)										
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. Foodgrains	104.2	105.5	100.6	109.5	114.8	117.0	116.8	114.1	114.8	120.5
(a) Cereals	104.5	105.7	100.7	109.1	115.3	115.4	116.0	113.9	116.9	119.1
Rice	102.6	101.5	99.1	104.4	111.5	114.7	112.6	111.5	111.9	118.5
Wheat	103.4	107.2	104.7	110.2	117.2	114.9	116.0	101.4	111.9	117.0
(b) Coarse Cereals ^a	112.3	112.4	93.8	117.5	119.1	118.6	125.0	135.1	125.3	127.1
Maize	113.0	116.8	97.9	122.9	119.9	124.2	129.5	127.4	124.0	129.7
(c) Pulses ^b	102.7	104.9	100.1	111.1	112.8	124.5	120.2	119.0	107.3	125.8
Gram	94.7	111.1	113.7	111.2	115.3	128.7	119.2	110.4	104.4	118.2
Tur	110.4	89.7	95.1	87.6	88.6	103.8	108.7	97.4	86.4	114.1
B. Non-foodgrains	105.2	101.4	100.6	112.2	112.6	111.1	114.0	103.7	108.9	112.4
(a) Oilseeds ^c	110.3	99.0	93.8	115.7	109.3	110.1	114.3	106.2	95.7	117.4
Groundnut	123.5	98.4	83.8	119.4	111.9	84.1	149.3	131.3	123.9	122.2
Rapeseed and Mustard	93.1	106.3	109.9	110.2	104.1	117.3	110.2	100.7	110.0	119.1
(b) Fibres										
Cotton	111.7	96.2	96.4	119.4	117.5	116.1	122.0	110.3	99.2	122.6
Jute	97.4	95.1	107.4	100.4	103.0	103.3	113.7	109.9	105.9	109.5
Mesta	102.5	96.0	94.3	93.8	104.9	104.0	112.6	128.1	163.5	128.8
(c) Plantation Crops										
Tea	97.7	100.6	102.5	100.0	101.1	101.1	126.7	123.4	127.1	na
Coffee	84.3	83.1	90.5	93.2	95.7	95.7	90.7	105.7	109.4	na
Rubber	96.8	97.3	90.2	90.2	91.6	89.9	74.1	60.4	51.6	na
(d) Others										
Sugarcane	100.8	94.4	102.4	102.5	104.8	99.8	103.2	104.6	103.5	99.4
Tobacco	97.0	107.0	116.1	126.1	124.6	119.2	124.6	124.6	na	na
Potato	109.1	112.0	118.7	135.3	129.5	135.5	125.4	137.7	122.1	115.2
C. All Commodities	104.7	103.4	100.6	110.9	113.6	113.9	115.4	112.3	113.0	117.9

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes maize, jowar, ragi, bajra, small millets and barley

b : Includes tur, urad, moong, gram, lentils and other pulses

c : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soyabean.

na : not available

Table 1.15. Production of Major Crops

(Million Tonnes)

Group/Commodity	1980-81	1990-91	2000-01	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Foodgrains^a	129.6	176.4	196.8	218.1	244.5	259.3	257.1	265.0	252.0	251.5	273.4
Kharif	77.7	99.4	102.1	104.0	120.9	131.3	128.1	128.7	128.1	125.1	138.0
Rabi	51.9	77.0	94.7	114.1	123.6	128.0	129.1	136.4	124.0	126.5	135.3
Cereals^b	119.0	162.1	185.7	203.4	226.3	240.8	238.8	245.8	234.8	235.2	251.0
Kharif	73.9	94.0	97.6	99.7	113.8	125.2	122.2	122.7	122.3	119.6	128.9
Rabi	45.1	68.1	88.1	103.7	112.5	115.6	116.6	123.1	112.5	115.7	122.0
Coarse Cereals^c	29.0	32.7	31.1	33.6	43.4	42.0	40.0	43.3	42.9	38.5	44.4
Kharif	23.8	27.7	24.9	23.8	33.1	32.4	29.8	31.2	30.9	28.2	32.8
Rabi	5.2	5.0	6.2	9.7	10.3	9.6	10.3	12.1	11.3	10.4	11.6
Pulses^d	10.6	14.3	11.0	14.7	18.2	17.1	18.3	19.3	17.2	16.4	22.4
Kharif	3.8	5.4	4.4	4.2	7.1	6.1	5.9	6.0	5.7	5.5	9.1
Rabi	6.8	8.9	6.6	10.5	11.1	11.0	12.4	13.3	11.4	10.8	13.3
Rice	53.6	74.3	85.0	89.1	96.0	105.3	105.2	106.6	105.5	104.4	109.1
Kharif	50.1	66.3	72.8	75.9	80.7	92.8	92.4	91.5	91.4	91.4	96.1
Rabi	3.5	8.0	12.2	13.2	15.3	12.5	12.9	15.1	14.1	13.0	13.1
Wheat	36.3	55.1	69.7	80.8	86.9	93.5	93.5	95.8	86.5	92.3	97.4
Jowar	10.4	11.7	7.5	6.7	7.0	6.0	5.3	5.5	5.5	4.2	4.7
Kharif	7.5	8.3	4.5	2.8	3.4	3.3	2.8	2.4	2.3	1.8	1.9
Rabi	2.9	3.4	3.0	3.9	3.6	2.7	2.4	3.1	3.2	2.4	2.8
Maize	7.0	9.0	12.0	16.7	21.7	21.8	22.3	24.3	24.2	22.6	26.1
Bajra	5.3	6.9	6.8	6.5	10.4	10.3	8.7	9.3	9.2	8.1	9.9
Gram	4.3	5.4	3.9	7.5	8.2	7.7	8.8	9.5	7.3	7.1	9.1
Tur	2.0	2.4	2.2	2.5	2.9	2.7	3.0	3.2	2.8	2.6	4.6
Oilseeds^e	9.4	18.6	18.4	24.9	32.5	29.8	30.9	32.7	27.5	25.3	32.5
Kharif	5.0	9.8	11.9	15.7	21.9	20.7	20.8	22.6	19.2	16.8	22.8
Rabi	4.4	8.8	6.5	9.2	10.6	9.1	10.2	10.1	8.3	8.6	9.7
Groundnut	5.0	7.5	6.4	5.4	8.3	7.0	4.7	9.7	7.4	6.7	7.7
Kharif	3.7	5.1	4.9	3.8	6.6	5.1	3.2	8.1	5.9	5.4	6.3
Rabi	1.3	2.4	1.5	1.6	1.6	1.8	1.5	1.7	1.5	1.4	1.4
Rapeseed and Mustard	2.3	5.2	4.2	6.6	8.2	6.6	8.0	7.9	6.3	6.8	8.0
Sugarcane	154.2	241.0	296.0	292.3	342.4	361.0	341.2	352.1	362.3	348.4	306.0
Cotton^f	7.0	9.8	9.5	24.0	33.0	35.2	34.2	35.9	34.8	30.0	32.6
Jute and Mesta^g	8.2	9.2	10.5	11.8	10.6	11.4	10.9	11.7	11.1	10.5	10.3
Jute	6.5	7.9	9.3	11.2	10.0	10.7	10.3	11.1	10.6	9.9	9.8
Mesta	1.7	1.3	1.2	0.6	0.6	0.7	0.6	0.6	0.5	0.6	0.4
Plantation Crops											
Tea	0.6	0.7	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.2	na
Coffee	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	na
Rubber	0.2	0.3	0.6	0.8	0.8	0.8	0.9	0.8	0.8	0.8	na
Potato	9.7	15.2	22.5	36.6	42.3	46.6	45.3	41.6	48.0	43.4	43.9

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes cereals, coarse cereals and pulses

b : Includes rice, wheat and coarse cereals

c : Includes maize, jowar, ragi, bajra, small millets and barley

d : Includes tur, urad, moong, gram, lentils and other pulses

e : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soybean

f : Bales of 170 Kgs.

g : Bales of 180 Kgs.

na : not available

Table 1.16. Gross Area Under Major Crops

(Million Hectares)											
Group/Commodity	1980-81	1990-91	2000-01	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Foodgrains^a	126.7	127.8	121.0	121.3	126.7	124.8	120.8	125.0	124.3	123.2	127.6
Kharif	83.2	80.8	75.2	69.5	72.4	72.1	67.7	69.1	68.8	69.2	72.2
Rabi	43.5	47.0	45.8	51.8	54.3	52.7	53.1	56.0	55.5	54.0	55.4
Cereals^b	104.2	103.2	100.7	98.0	100.3	100.3	97.5	99.8	100.7	98.3	98.3
Kharif	72.8	69.3	64.6	58.9	60.1	60.9	57.7	58.7	58.8	57.9	57.9
Rabi	31.4	33.9	36.1	39.1	40.2	39.4	39.8	41.1	42.0	40.4	40.4
Coarse Cereals^c	41.8	36.3	30.3	27.7	28.3	26.4	24.8	25.2	25.2	24.4	24.7
Kharif	34.3	29.6	23.9	21.3	22.1	20.8	18.8	19.3	18.9	18.2	19.0
Rabi	7.4	6.7	6.4	6.4	6.3	5.7	5.9	5.9	6.2	6.2	5.6
Pulses^d	22.5	24.7	20.3	23.3	26.4	24.5	23.3	25.2	23.6	24.9	29.3
Kharif	10.4	11.5	10.6	10.6	12.3	11.2	10.0	10.3	10.0	11.3	14.3
Rabi	12.1	13.2	9.7	12.7	14.1	13.3	13.3	14.9	13.6	13.6	14.9
Rice	40.1	42.7	44.7	41.9	42.9	44.0	42.8	44.1	44.1	43.5	42.9
Kharif	38.4	39.7	40.7	37.6	38.0	40.1	38.9	39.4	39.8	39.7	38.8
Rabi	1.7	3.0	4.0	4.3	4.8	3.9	3.8	4.7	4.3	3.8	4.1
Wheat	22.3	24.2	25.7	28.5	29.1	29.9	30.0	30.5	31.5	30.4	30.7
Jowar	15.8	14.4	9.9	7.7	7.4	7.4	6.2	5.8	6.2	6.1	5.1
Kharif	10.2	8.6	4.9	3.2	3.1	3.1	2.4	2.3	2.3	2.1	1.9
Rabi	5.6	5.8	5.0	4.5	4.3	4.3	3.8	3.5	3.9	3.9	3.2
Maize	6.0	5.9	6.6	8.3	8.6	8.8	8.7	9.1	9.2	8.8	9.8
Bajra	11.7	10.5	9.8	8.9	9.6	8.8	7.3	7.8	7.3	7.1	7.5
Gram	6.6	7.5	5.2	8.2	9.2	8.3	8.5	9.9	8.3	8.4	9.5
Tur	2.8	3.6	3.6	3.5	4.4	4.0	3.9	3.9	3.9	4.0	5.4
Oilseeds^e	17.6	24.1	22.8	26.0	27.2	26.3	26.5	28.1	25.6	26.1	26.5
Kharif	10.2	14.0	15.8	18.0	18.2	18.4	18.3	19.7	18.2	18.9	18.9
Rabi	7.4	10.1	7.0	8.0	9.0	7.9	8.2	8.4	7.4	7.2	7.6
Groundnut	6.8	8.3	6.6	5.5	5.9	5.3	4.7	5.5	4.8	4.6	5.3
Kharif	5.9	6.8	5.7	4.6	5.0	4.3	3.9	4.6	4.0	3.8	4.5
Rabi	0.9	1.5	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.8
Rapeseed and Mustard	4.1	5.8	4.5	5.6	6.9	5.9	6.4	6.6	5.8	5.7	6.2
Sugarcane	2.7	3.7	4.3	4.2	4.9	5.0	5.0	5.0	5.1	4.9	4.5
Cotton^f	7.8	7.4	8.6	10.1	11.2	12.2	12.0	12.0	12.8	12.3	10.8
Jute and Mesta^g	1.3	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7
Jute	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Mesta	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Plantation crops											
Tea	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	na
Coffee (Plucked area)	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	na
Rubber (Tapped area)	0.3	0.5	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	na
Potato	0.7	0.9	1.2	1.8	1.9	1.9	1.9	2.0	2.1	2.1	2.1

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes cereals, coarse cereals and pulses

b : Includes rice, wheat and coarse cereals

c : Includes maize, jowar, ragi, bajra, small millets and barley

d : Includes tur, urad, moong, gram, lentils and other pulses

e : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soyabean

f : Bales of 170 Kgs.

g : Bales of 180 Kgs.

na : not available

Table 1.17. Yield Per Hectare of Major Crops

											(Kg. / Hectare)
Group/Commodity	1980-81	1990-91	2000-01	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Foodgrains^a	1023	1380	1626	1798	1930	2078	2128	2120	2028	2042	2142
Kharif	933	1231	1357	1496	1669	1822	1892	1864	1862	1808	1911
Rabi	1195	1635	2067	2203	2278	2430	2431	2435	2232	2342	2444
Cereals^b	1142	1571	1844	2076	2256	2415	2449	2462	2331	2393	2553
Kharif	1015	1357	1512	1693	1893	2057	2116	2089	2081	2065	2227
Rabi	1434	2010	2438	2649	2800	2968	2932	2995	2681	2862	3019
Coarse Cereals^c	695	900	1027	1212	1531	1590	1617	1717	1703	1579	1798
Kharif	693	937	5298	1118	1500	1563	1583	1619	1633	1544	1724
Rabi	702	741	973	1526	1641	1689	1725	2034	1915	1686	2049
Pulses^d	473	578	544	630	691	699	789	764	728	656	765
Kharif	361	471	417	397	578	541	594	580	573	489	636
Rabi	571	672	604	823	790	831	934	891	843	796	889
Rice	1336	1740	1901	2125	2239	2393	2462	2416	2391	2400	2543
Kharif	1303	1670	1788	2019	2121	2312	2374	2319	2295	2305	2474
Rabi	2071	2671	3042	3055	3173	3228	3353	3232	3291	3382	3201
Wheat	1630	2281	2708	2839	2989	3178	3117	3145	2750	3034	3172
Jowar	660	814	764	860	949	957	850	957	884	697	924
Kharif	737	969	938	853	1119	1257	1171	1050	1014	850	1014
Rabi	520	582	594	865	827	746	644	896	808	615	871
Maize	1159	1518	1822	2024	2540	2478	2566	2676	2632	2563	2679
Bajra	458	658	688	731	1079	1171	1198	1184	1255	1132	1319
Gram	657	712	744	915	895	928	1036	960	889	840	951
Tur	689	673	618	711	655	662	776	813	729	646	854
Oilseeds^e	532	771	810	958	1193	1133	1168	1168	1075	968	1229
Kharif	492	698	757	875	1203	1123	1135	1151	1055	884	1210
Rabi	588	872	929	1146	1174	1155	1244	1207	1125	1186	1275
Groundnut	736	904	977	991	1411	1323	995	1764	1552	1465	1445
Kharif	629	751	861	835	1335	1188	811	1735	1478	1399	1387
Rabi	1444	1611	1756	1830	1846	1938	1910	1926	1948	1801	1776
Rapeseed and Mustard	560	904	935	1183	1185	1121	1262	1185	1083	1183	1281
Sugarcane (tonnes/hect.)	58	65	69	70	70	72	68	71	71	71	68
Cotton^f	152	225	190	403	499	491	486	510	462	415	513
Jute and Mesta^g	1130	1634	1867	2349	2192	2268	2281	2512	2473	2421	2471
Jute	1245	1833	2026	2492	2329	2389	2396	2639	2549	2457	2541
Mesta	828	988	1078	1121	1115	1248	1237	1338	1525	1945	1532
Plantation Crops											
Tea	1491	1794	1673	1756	1712	1967	2037	2170	2170	2170	na
Coffee	624	759	959	725	746	766	766	727	766	766	na
Rubber	788	1076	1576	1211	1211	1230	1206	994	994	994	na
Potato	13	16	18	20	23	22	23	21	22	21	21

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Includes cereals, coarse cereals and pulses

b : Includes rice, wheat and coarse cereals

c : Includes maize, jowar, ragi, bajra, small millets and barley

d : Includes tur, urad, moong, gram, lentils and other pulses

e : Includes groundnut, rapeseed & mustard, sesamum, linseed, castorseed, nigerseed, safflower, sunflower and soybean

f : Bales of 170 Kgs.

g : Bales of 180 Kgs.

na : not available

Table 1.18. Production of Important Crops in Three Largest Producing States in 2016-17*

(Production in Million Tonnes)				
Crops/Groups of Crops	States	Production	Per cent Share of Production to All India	Cumulative per cent Share of Production
(1)	(2)	(3)	(4)	(5)
I. Foodgrains				
Rice	West Bengal	15.0	13.8	13.8
	Uttar Pradesh	12.9	11.9	25.6
	Punjab	11.0	10.1	35.7
Wheat	Uttar Pradesh	30.4	31.2	31.2
	Madhya Pradesh	17.8	18.2	49.4
Maize	Punjab	16.0	16.5	65.9
	Maharashtra	3.4	13.1	13.1
	Karnataka	3.2	12.2	25.3
Total Coarse Cereals	Madhya Pradesh	3.1	11.9	37.2
	Rajasthan	6.7	15.1	15.1
	Maharashtra	6.6	14.9	30.0
Gram	Karnataka	5.0	11.3	41.4
	Madhya Pradesh	3.5	39.1	39.1
	Maharashtra	1.6	18.1	57.2
Tur	Rajasthan	1.4	15.2	72.5
	Maharashtra	1.4	30.2	30.2
	Karnataka	0.9	18.8	49.0
Total Pulses	Madhya Pradesh	0.8	17.0	66.0
	Madhya Pradesh	6.1	27.1	27.1
	Maharashtra	3.7	16.4	43.5
Total Foodgrains	Rajasthan	3.0	13.3	56.7
	Uttar Pradesh	49.4	18.1	18.1
	Madhya Pradesh	32.6	11.9	30.0
II. Oilseeds	Punjab	27.6	10.1	40.1
	II. Oilseeds			
	Groundnut	Gujarat	3.1	41.1	41.1
Rajasthan		1.1	14.9	56.0
Andhra Pradesh		0.7	9.4	65.4
Rapeseed & Mustard	Rajasthan	3.7	46.8	46.8
	Haryana	0.9	11.4	58.2
	Madhya Pradesh	0.9	10.9	69.1
Soyabean	Madhya Pradesh	7.0	50.3	50.3
	Maharashtra	5.0	35.4	85.7
	Rajasthan	1.1	8.1	93.8
Sunflower	Karnataka	0.1	49.6	49.6
	Odisha	0.02	9.2	58.8
	Andhra Pradesh	0.02	7.3	66.1
Total Oilseeds	Madhya Pradesh	8.7	26.7	26.7
	Rajasthan	6.3	19.5	46.2
	Maharashtra	5.4	16.5	62.7
III. Other Cash Crops				
Sugarcane	Uttar Pradesh	133.7	43.7	43.7
	Maharashtra	49.7	16.2	59.9
	Karnataka	33.4	10.9	70.9
Cotton ^a	Maharashtra	10.2	31.4	31.4
	Gujarat	8.3	25.3	56.7
	Telangana	2.9	9.0	65.7
Jute & Mesta ^b	West Bengal	7.6	74.3	74.3
	Bihar	1.6	15.5	89.7
	Assam	0.8	8.0	97.8

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Notes:

* : 3rd Advance Estimates

a : Production in million bales of 170 kgs.

b : Production in million bales of 180 kgs.

Table 1.19. Per Capita Net Availability of Cereals and Pulses

Year	Population (million)	Cereals				Pulses Net availability (million tonnes)	Per capita net availability per day (grams)		
		Net production (million tonnes)	Net imports (million tonnes)	Change in Government stocks (million tonnes)	Net availability (Col. 3+4-5) (million tonnes)		Cereals	Pulses	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1951	363.2	40.1	4.1	(+)0.6	43.6	8.0	334.2	60.7	394.9
1961	442.4	60.9	3.5	(-)0.2	64.6	11.1	399.7	69.0	468.7
1971	551.3	84.5	2.0	(+)2.6	84.0	10.3	417.6	51.2	468.8
1981	688.5	104.1	0.5	(-)0.2	104.8	9.4	417.3	37.5	454.8
1991	851.7	141.9	(-)0.6	(-)4.4	145.7	12.9	468.5	41.6	510.1
2001	1033.2	162.5	(-)4.5	(+)12.3	145.6	11.3	386.2	30.0	416.2
2002	1050.6	174.5	(-)8.5	(-)9.9	175.9	13.6	458.7	35.4	494.1
2003	1068.2	143.2	(-)7.1	(-)23.2	159.3	11.3	408.5	29.1	437.6
2004	1085.6	173.5	(-)7.7	(-)3.3	169.1	14.2	426.9	35.8	462.7
2005	1102.8	162.1	(-)7.2	(-)2.4	157.3	12.7	390.9	31.5	422.4
2006	1119.8	170.8	(-)3.8	(-)1.8	168.8	13.3	412.8	32.5	445.3
2007	1136.6	177.7	(-)7.0	(+)1.7	169.0	14.7	407.4	35.5	442.8
2008	1153.1	197.3	(-)14.4	(+)17.0	165.9	17.6	394.2	41.8	436.0
2009	1169.4	192.4	(-)7.2	(+)11.5	173.7	15.8	407.0	37.0	444.0
2010	1185.8	178.0	(-)4.7	(-)0.5	173.8	15.3	401.7	35.4	437.1
2011	1201.9	198.0	(-)9.6	(+)8.3	180.1	18.9	410.6	43.0	453.6
2012	1213.4	211.9	(-)19.8	(+)11.2	181.0	18.4	408.6	41.7	450.3
2013	1228.8	208.9	(-)71.9	(-) 23.6	160.6	19.4	358.1	43.3	401.4
2014	1244.0	215.0	(-)19.9	(-)6.0	201.0	21.0	442.9	46.4	489.3
2015	1259.1	205.5	(-)12.3	(-)0.5	193.6	20.1	421.4	43.8	465.2
2016	1273.9	205.8	(-)8.6	(-)9.2	206.3	20.2	443.7	43.6	487.3
2017(P)	1288.5	218.6	(-)7.7	(+)7.9	203.0	25.2	431.6	53.8	485.4

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Notes:

P: Provisional

1. Population figure relates to mid year.
2. The net availability of foodgrains is estimated to be gross production (-) seed, feed and wastage, (-) exports (+) imports (+/-) change in stocks.
3. The net availability of foodgrains divided by the population estimates for a particular year indicates per capita availability of foodgrains in terms of Kg/ year.
4. Figures in respect of per capita net availability given above are not strictly representative of actual level of consumption in the country especially as they do not take into account any change in stocks in possession of traders, procedures and consumers.
5. For calculation of per capita net availability, the figure of net imports from 1981 to 1994 are based on imports and exports on Government of India account only, Net imports from 1995 are, however, based on the total exports and imports (both Government as well as Private accounts).

Table 1.20. Net Availability, Procurement and Public Distribution of Foodgrains

(Million tonnes)

Year	Net production of foodgrains	Net imports	Net availability of foodgrains ^a	Procurement	Public distribution ^b	Col. 3 as per cent of Col. 4	Col. 5 as per cent of Col. 2	Col. 6 as per cent of Col. 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1951	48.1	4.8	52.4	3.8	8.0	9.2	7.9	15.3
1961	72.0	3.5	75.7	0.5	4.0	4.6	0.7	5.3
1971	94.9	2.0	94.3	8.9	7.8	2.1	9.3	8.3
1981	113.4	0.7	114.3	13.0	13.0	0.6	11.4	11.4
1991	154.3	(-)0.1	158.6	19.6	20.8	...	12.7	13.1
2001	172.2	(-)2.9	156.9	42.6	13.2	(-)1.8	24.7	8.4
2002	186.2	(-)6.7	189.5	40.3	18.2	(-)3.5	21.7	9.6
2003	152.9	(-)5.5	170.6	34.5	23.2	(-)2.8	22.6	13.2
2004	186.5	(-)6.5	183.3	41.1	28.3	(-) 3.5	22.0	15.5
2005	173.6	(-)6.0	170.0	41.5	31.0	(-) 3.5	23.9	18.2
2006	182.5	(-)2.3	181.9	37.0	31.8	(-) 1.3	20.3	17.5
2007	190.1	(-)4.7	183.7	35.8	32.8	(-) 2.6	18.8	17.8
2008	210.2	(-) 9.7	183.5	54.2	34.7	(-) 5.3	25.8	18.9
2009	205.2	(-) 4.1	189.5	60.5	41.3	(-) 2.2	29.5	21.8
2010	190.8	(-) 2.2	189.2	56.1	43.7	(-) 1.2	29.4	23.1
2011	213.9	(-) 2.9	203.1	64.5	47.9	(-) 1.4	30.1	23.6
2012	226.9	na	na	73.4	44.9	na	na	na
2013	224.9	na	na	58.9	44.5	na	na	na
2014	232.4	na	na	59.8	43.5	na	na	na
2015	na	na	na	65.0	na	na	na	na
2016	na	na	na	60.8	na	na	na	na
2017	na	na	na	40.2*	na	na	na	na

Sources:

1. Department of Food and Public Distribution
2. Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

Notes:

na: not available ... Negligible P: Provisional * : as on 09.05.2017

a : Net availability = Net production + Net Imports - changes in Government stocks.

b : Includes quantities released under the Food for Work Programme during the years 1978 to 1990.

1. Figures for procurement and public distribution relate to calendar years.
2. For calculation of per capita net availability, the figure of net imports from 1981 to 1994 are based on imports and exports on Government of India account only. Net import from 1995 are, however, based on the total exports and imports (both Government as well as Private accounts).
3. Net Imports are total Imports minus Exports of the Country.

Table 1.21. Per Capita Availability of Certain Important Articles of Consumption

Year	Edible oil ^a (Kg.)	Vanaspati ^b (Kg.)	Sugar ^c (Nov.-Oct.) (Kg.)	Cloth ^d			Tea (Gram.)	Coffee ^f (Gram.)	Electricity Domestic (KWH)
				Cotton ^e (metres)	Man-made (metres)	Total (metres)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61	3.2	0.8	4.8	13.8	1.2	15.0	296.0	80.0	3.4
1970-71	3.5	1.0	7.4	13.6	2.0	15.6	401.0	65.0	7.0
1980-81	3.8	1.2	7.3	12.9	4.4	17.3	511.0	79.0	13.5
1990-91	5.5	1.0	12.7	15.1	9.0	24.1	612.0	59.0	38.2
2000-01	8.2	1.3	15.8	14.2	16.5	30.7	631.0	58.0	75.2
2001-02	8.8	1.4	16.0	14.8	17.2	32.0	650.0	67.0	76.8
2002-03	7.2	1.4	16.3	14.4	17.0	31.4	623.0	67.0	79.0
2003-04	9.9	1.2	16.1	13.4	17.6	31.0	662.0	70.0	83.6
2004-05	10.2	1.1	15.5	14.1	19.4	33.5	663.0	72.0	87.8
2005-06	10.6	1.1	16.3	16.4	19.7	36.1	687.0	75.0	90.4
2006-07	11.1	1.2	16.8	18.0	21.6	39.6	687.0	77.0	98.8
2007-08	11.4	1.3	17.8	19.0	22.8	41.9	701.0	80.0	106.0
2008-09	12.7	1.2	18.8	17.9	21.1	39.0	704.0	82.0	112.7
2009-10	13.1	1.1	18.6	19.7	23.4	43.1	709.0	86.0	121.2
2010-11	13.0	1.0	17.0	21.4	22.6	44.0	715.0	90.0	130.9
2011-12	13.8	1.0	18.7	19.8	20.7	40.5	728.0	95.0	142.4
2012-13	15.8	0.7	18.7	19.9	18.6	38.5	779.0	97.0	150.9
2013-14	16.8	0.8	19.5	19.9	16.4	36.2	744.0	100.0	162.0
2014-15	18.3	0.8	20.3	23.6	17.0	40.6	752.0	100.0	174.2
2015-16	17.7	0.8	19.4(P)	24.6	15.9	40.5	758.0	100.0	189.1(P)

Sources:

1. Directorate of Sugar & Vegetable Oils, Ministry of Consumer Affairs, Food & Public Distribution
2. Tea Board
3. Coffee Board
4. Ministry of Textiles
5. Central Electricity Authority, Ministry of Power

Notes:

na : not available P : Provisional

a : Includes groundnut oil, rapeseed and mustard oil, sesamum oil, nigerseed oil, soyabean oil and sunflower oil but excludes oil for manufacture of vanaspati.

b : Relates to calendar year.

c : Relates to actual releases for domestic consumption, sugar season/year commencing from November to October of following year as opposed to financial year.

d : The data of cloth; prior to 1980-81 is calendar year wise; in meters upto 1984-85; in square meter from 1985-86 onwards.

e : Figures for blended/mixed fabrics were not separately available prior to 1969. These have been included under man-made fibre fabrics after 1969.

f : Figures up to 1971-72 relate to coffee season and are thereafter on calendar year basis.

Table 1.22. Production, Imports and Consumption of Fertilizers

	(Thousand tonnes of nutrients)													
	1970-71	1980-81	1990-91	2000-01	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(13)	(14)
A. Nitrogenous fertilizers														
Production	830	2164	6993	11004	10900	10870	11900	12157	12259	12194	12378	12394	13416	13331
Imports	477	1510	414	154	3707	3751	3447	4493	5240	4801	3920	4766	5068	3385
Consumption	1487	3678	7997	10920	14419	15090	15580	16558	17300	16821	16750	16946	17372	na
B. Phosphatic fertilizers														
Production	229	842	2052	3748	3807	3464	4321	4223	4368	3830	3960	4121	4394	4567
Imports	32	452	1311	396	1391	3067	2756	3802	4427	2797	1588	1832	2888	2130
Consumption	462	1214	3221	4215	5515	6506	7274	8050	7914	6653	5633	6098	6979	na
C. Potassic fertilizers														
Imports	120	797	1328	1541	2653	3403	2945	4069	3335	1559	1926	2537	2053	2325
Consumption	228	624	1328	1567	2636	3313	3632	3514	2576	2062	2099	2532	2402	na
D. All fertilizers (NPK)														
Production	1059	3006	9045	14752	14707	14334	16221	16380	16627	16024	16338	16515	17810	17898
Imports	629	2759	2758	2090	7750	10221	9148	12364	13002	9157	7434	9135	10009	7840
Consumption	2177	5516	12546	19702	22570	24909	26486	28122	27790	25534	24482	25576	26753	na

Source: Department of Fertilizers, Ministry of Chemicals & Fertilizers

Note:

na : not available

Table 1.23. Production of Major Livestock Products and Fish

Year	Milk (Million tonnes)	Eggs (Million Nos.)	Fish (Thousand tonnes)
(1)	(2)	(3)	(4)
1950-51	17.0	1832	752
1960-61	20.0	2881	1160
1970-71	22.0	6172	1756
1980-81	31.6	10060	2442
1990-91	53.9	21101	3836
2000-01	80.6	36632	5656
2006-07	102.6	50653	6869
2007-08	107.9	53583	7127
2008-09	112.2	55562	7620
2009-10	116.4	60267	7914
2010-11	121.8	63024	8400
2011-12	127.9	66450	8700
2012-13	132.4	69730	9040
2013-14	137.7	74752	9572
2014-15	146.3	78484	10164
2015-16	155.5	82929	10795

Source: Department of Animal Husbandry , Dairying & Fisheries

Table 1.24. Production of Coal and Lignite

Year	Coal				Lignite	Total coal and lignite (5)+(6)
	Coking		Non-coking	Total		
	Metallurgical	Non- Metallurgical				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1950-51	na	na	na	32.3	na	na
1960-61	17.0	na	38.2	na	na	na
1970-71	17.8	na	55.1	na	3.4	na
1980-81	24.6	8.0	81.3	113.9	5.1	119.0
1981-82	26.9	9.2	88.1	124.2	6.3	130.5
1982-83	30.1	7.5	92.9	130.5	6.9	137.4
1983-84	30.1	6.2	101.9	138.2	7.3	145.5
1984-85	30.6	6.0	110.8	147.4	7.8	155.2
1985-86	29.1	6.6	118.6	154.2	8.1	162.3
1986-87	27.9	11.6	126.2	165.8	9.4	175.2
1987-88	26.3	14.7	138.7	179.7	11.2	190.9
1988-89	25.2	17.6	151.9	194.6	12.4	207.0
1989-90	24.5	19.9	156.5	200.9	12.8	213.7
1990-91	24.1	21.2	166.4	211.7	13.8	225.5
1991-92	26.3	20.0	183.0	229.3	14.6	243.8
1992-93	25.7	19.6	192.9	238.3	16.6	254.9
1993-94	26.0	19.1	201.0	246.0	18.1	264.1
1994-95	24.5	19.7	209.6	253.8	19.3	273.1
1995-96	23.5	16.6	230.0	270.1	22.1	292.3
1996-97	22.6	17.9	245.1	285.7	22.5	308.2
1997-98	24.2	19.3	252.4	295.9	23.1	319.0
1998-99	23.8	15.4	253.1	292.3	23.4	315.7
1999-2000	21.2	12.0	266.7	300.0	22.1	322.1
2000-01	19.3	11.8	278.6	309.6	23.0	332.6
2001-02 ^a	18.0	10.7	299.1	327.8	24.8	352.6
2002-03 ^a	18.4	11.8	311.1	341.3	26.0	367.3
2003-2004	18.3	11.1	331.9	361.3	28.0	389.3
2004-2005	18.2	12.0	352.4	382.6	30.3	413.0
2005-2006	17.0	14.5	375.5	407.0	30.1	437.1
2006-2007	17.2	14.9	398.7	430.8	31.3	462.1
2007-08	18.1	16.4	422.6	457.1	34.0	491.0
2008-09	17.3	17.5	458.0	492.8	32.4	525.2
2009-10	17.7	26.7	487.6	532.0	34.1	566.1
2010-11	17.7	31.9	483.2	532.7	37.7	570.4
2011-12	16.2	35.4	488.3	540.0	42.3	582.3
2012-13	14.6	37.0	504.8	556.4	46.5	602.9
2013-14	15.1	41.7	509.0	565.8	44.3	610.0
2014-15	13.8	43.7	551.7	609.2	48.3	657.4
2015-16	14.3	46.5	578.3	639.2	43.8	683.0
2016-17 (P)	14.5	47.2	597.5	659.3	45.1	704.4

Source : Ministry of Coal

Notes:

na: not available

a : Including Meghalaya Coal.

P : Provisional

Table 1.25. Progress of Electricity Supply (Utilities & Non-Utilities)

A : Installed Plant Capacity

(Thousand MW)

Year	Utilities				Non-Utilities	Total [5]+[6]
	Hydro	Thermal +RES	Nuclear	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1950-51 ^a	0.6	1.1	0.0	1.7	0.6	2.3
1960-61	1.9	2.7	0.0	4.6	1.0	5.6
1970-71	6.4	7.9	0.4	14.7	1.6	16.3
1980-81	11.8	17.6	0.9	30.3	3.1	33.4
1981-82	12.2	19.3	0.9	32.4	3.4	35.8
1982-83	13.1	21.4	0.9	35.4	3.9	39.3
1983-84	13.9	24.4	1.1	39.4	4.4	43.8
1984-85	14.5	27	1.1	42.6	5.1	47.7
1985-86	15.5	30	1.3	46.8	5.5	52.3
1986-87	16.2	31.8	1.3	49.3	5.7	55
1987-88	17.3	35.6	1.3	54.2	6.3	60.5
1988-89	17.8	39.7	1.5	59	7.5	66.5
1989-90	18.3	43.8	1.5	63.6	8.2	71.8
1990-91	18.8	45.8	1.5	66.1	8.6	74.7
1991-92	19.2	48.1	1.8	69.1	9.3	78.4
1992-93	19.6	50.7	2.0	72.3	10.1	82.4
1993-94	20.4	54.4	2.0	76.8	10.7	87.5
1994-95	20.8	58.1	2.2	81.1	11.2	92.3
1995-96	21	60.1	2.2	83.3	11.8	95.1
1996-97	21.7	61.9	2.2	85.8	12.1	97.9
1997-98	21.9	65	2.2	89.1	13.2	102.3
1998-99	22.4	68.7	2.2	93.3	14.1	107.4
1999-00	23.9	71.3	2.7	97.9	14.7	112.6
2000-01	25.1	73.6	2.9	101.6	16.2	117.8
2001-02	26.3	76	2.7	105	17.1	122.1
2002-03	26.8	78.4	2.7	107.9	18.3	126.2
2003-04	29.5	80.5	2.7	112.7	18.7	131.4
2004-05	30.9	84.7	2.8	118.4	19.1	137.5
2005-06	32.3	88.6	3.4	124.3	21.3	145.6
2006-07	34.7	93.7	3.9	132.3	22.3	154.6
2007-08	35.9	103	4.1	143	25	168
2008-09	36.9	107	4.1	148	27	175
2009-10	36.9	118	4.6	159.4	31.5	190.9
2010-11	37.6	131.3	4.8	173.7	34.4	208.1
2011-12	39	156.1	4.8	199.9	36.5	236.4
2012-13	39.5	179.1	4.8	223.4	40.7	264.1
2013-14	40.5	199.9	4.8	245.2	42.3	287.5
2014-15	41.3	224.7	5.8	271.7	44.7	316.4
2015-16	42.8	253.5	5.8	302.1	48.3	350.4
2016-17	44.5	275.6	6.8	326.8	51.0 (\$)	377.8

Source: Ministry of Power

Notes:

P : Provisional RES : Renewable Energy Source
a : Calendar Year \$: Estimated

Table 1.25. Progress of Electricity Supply (Utilities & Non-Utilities)

B : Energy Generated

Year	Utilities					Non-Utilities	Total [5]+[6]
	Hydro	Thermal +RES	Nuclear	Total			
	(2)	(3)	(4)	(5)	(6)		
1950-51 ^a	2.5	2.6	....	5.1	1.5	6.6
1960-61	7.8	9.1	....	16.9	3.2	20.1
1970-71	25.2	28.2	2.4	55.8	5.4	61.2	
1975-76	33.3	43.3	2.6	79.2	6.7	85.9	
1977-78	38.0	51.1	2.3	91.4	7.6	99.0	
1978-79	47.1	52.6	2.8	102.5	7.6	110.1	
1979-80	45.5	56.3	2.9	104.7	8.2	112.9	
1980-81	56.5	61.3	3.0	120.8	8.4	129.2	
1981-82	49.6	69.5	3.0	122.1	9.0	131.1	
1982-83	48.4	79.9	2.0	130.3	10.0	140.3	
1983-84	50.0	86.7	3.5	140.2	10.8	151.0	
1984-85	53.9	98.8	4.1	156.8	12.3	169.1	
1985-86	51.0	114.4	5.0	170.4	13.0	183.4	
1986-87	53.8	128.9	5.0	187.7	13.6	201.3	
1987-88	47.5	149.6	5.0	202.1	16.9	219.0	
1988-89	57.9	157.7	5.8	221.4	19.9	241.3	
1989-90	62.1	178.7	4.6	245.4	23.0	268.4	
1990-91	71.7	186.5	6.1	264.3	25.1	289.4	
1991-92	72.8	208.7	5.5	287.0	28.6	315.6	
1992-93	69.9	224.8	6.7	301.4	31.3	332.7	
1993-94	70.4	248.2	5.4	324.0	32.3	356.3	
1994-95	82.7	262.1	5.6	350.4	35.1	385.5	
1995-96	72.6	299.3	8.0	380.0	38.2	418.1	
1996-97	68.9	317.9	9.1	395.9	40.8	436.7	
1997-98	74.6	337.0	10.1	421.7	44.1	465.8	
1998-99	82.9	353.7	11.9	448.5	48.4	496.9	
1999-00	80.6	386.8	13.3	480.7	51.5	532.2	
2000-01	74.5	408.1	16.9	499.5	55.0	554.5	
2001-02	73.5	424.4	19.5	517.4	61.7	579.1	
2002-03	64.0	449.3	19.4	532.7	63.8	596.5	
2003-04	75.2	472.1	17.8	565.1	68.2	633.3	
2004-05	84.6	492.8	17.0	594.4	71.4	665.8	
2005-06	101.5	506.0	17.3	623.8	73.6	697.4	
2006-07	113.5	538.4	18.8	670.7	81.8	752.5	
2007-08	120.4	585.3	16.9	723.0	90.5	813.1	
2008-09 ^a	110.1	616.2	14.9	741.2	99.7	840.9	
2009-10	104.1	677.1	18.6	799.8	106.1	906.0	
2010-11	114.4	704.3	26.3	844.8	120.9	965.7	
2011-12	130.5	759.4	33.3	923.2	128.2	1051.4	
2012-13	113.7	817.9	32.9	964.5	144.0	1108.5	
2013-14	134.9	857.5	34.2	1026.6	149.0	1175.6	
2014-15	129.2	951.5	36.1	1116.8	162.1	1278.9	
2015-16	121.4	1008.8	37.4	1167.6	168.4	1336.0	
2016-17	122.4	1075.6 (P)	37.9	1235.9	183.0 (\$)	1418.9	

Source: Ministry of Power

Notes:

P : Provisional RES : Renewable Energy Source
a : Calendar Year \$: Estimated

Table 1.26. Operations of Indian Railways

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Route Kilometres (000's)												
Electrified	0.4	0.8	3.7	5.4	10.0	14.9	19.6	20.3 ^b	20.9 ^b	21.6 ^b	22.2 ^b	23.6 ^b
Total	53.6	56.2	59.8	61.2	62.4	63.0	64.4	64.6 ^b	65.4 ^b	65.8 ^b	66.0 ^b	66.7 ^b
2. Originating traffic (million tonnes)												
Revenue Earning	73.2	119.8	167.9	195.9	318.4	473.5	921.7 ^a	969.1 ^a	1008.1 ^a	1051.6 ^a	1095.3 ^a	1101.5 ^a
Total Traffic	93.0	156.2	196.5	220.0	341.4	504.2	926.4 ^a	975.2 ^a	1014.2 ^a	1058.8 ^a	1101.1 ^a	1108.6 ^a
3. Goods carried (billion tonne km.)												
Revenue Earning	37.6	72.3	110.7	147.7	235.8	312.4	625.7 ^a	667.6	691.7 ^a	665.8 ^a	681.7 ^a	654.5 ^a
Total Traffic	44.1	87.7	127.4	158.5	242.7	315.5	626.5 ^a	668.6	692.6 ^a	666.7 ^a	682.6 ^a	655.6 ^a
4. Earnings from goods carried (Rs. Crores)	139.3	280.5	600.7	1550.9	8247.0	23045.4	60687.1 ^a	67761.4 ^a	83478.8 ^a	91570.9 ^a	103015.2 ^a	106940.6 ^a
5. Average Lead: all goods traffic (Km)	470	561	648	720	711	626	676	686	683	630	620	591
6. Average rate/tonne km. (paise)	3.2	3.9	5.4	10.5	35.0	73.8	97.0	101.5	120.7	137.5	151.2	163.4
7. Passengers Originating (million)	1284	1594	2431	3613	3858	4833	7651.1	8224.4 ^b	8420.7 ^b	8397.1 ^b	8224.1 ^b	8107.3 ^b
8. Passengers kilometres (billion)	66.5	77.7	118.1	208.6	295.6	457	978.5	1046.5 ^b	1098.1 ^b	1158.7 ^b	1147.2 ^b	1143.0 ^b
9. Passengers Earnings (Rs. Crores)	98.2	131.6	295.5	827.5	3144.7	10515.1 ^b	25792.6 ^b	28246.4 ^b	31322.8 ^b	36532.3 ^b	42189.6 ^b	44283.3 ^b
10. Average lead : passenger traffic (km)	51.8	48.7	48.6	57.7	76.6	94.6	127.9	127.2 ^b	130.4 ^b	135.8 ^b	139.5 ^b	141.0 ^b
11. Average rate per passenger - kilometre (paise)	1.5	1.7	2.5	4.0	10.6	22.9	26.3	27.0 ^b	28.5 ^b	31.5 ^b	36.8 ^b	38.7 ^b

Source : Ministry of Railways

Notes:

P: Provisional a : Excluding Konkan Railways Corporation Limited Loading

b: Includes Metro Railway/Kolkata

1.27. Revenue Earning Goods Traffic on Indian Railways
A : Traffic Originating

Commodity	(Million tonnes)												
	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11 ^a	2011-12 ^a	2012-13 ^a	2013-14 ^a	2014-15 ^a	2015-16 ^a	(13)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(13)
1. Coal	20.2	30.9	47.9	64.1	135.2	223.7	420.4	455.8	496.4	508.1	545.8	551.8	551.8
2. Raw materials for Steel Plant except iron ore	na	10.5	16.1	20.2	25.9	38.8	13.3	14.5	15.6	17.3	18.3	20.3	20.3
3. Pig iron & finished steel													
i) steel plants	na	3.8	6.2	7.5	10.0	11.8	24.1	25.7	26.0	27.8	28.3	29.6	29.6
ii) from other points	na	na	na	na	na	na	8.8	9.5	9.4	11.1	14.6	15.2	15.2
iii) Total	na	na	na	na	na	na	32.8	35.2	35.3	39.0	42.9	44.8	44.8
4. Iron ore													
i) for export	na	2.6	9.8	11.1	13.1	14.6	25.7	8.4	5.5	6.6	2.5	2.1	2.1
ii) for steel plants	na	na	na	na	na	na	44.7	54.7	61.6	66.8	69.4	78.6	78.6
iii) for other domestic users	na	na	na	na	na	na	48.1	40.3	44.4	50.9	40.9	36.2	36.2
iv) Total	na	na	na	na	na	na	118.5	103.4	111.4	124.3	112.8	116.9	116.9
5. Cement	2.5	6.5	11.0	9.6	28.9	42.9	99.1	107.7	105.9	109.8	109.8	105.4	105.4
6. Foodgrains	7.8	12.7	15.1	18.3	25.4	26.7	43.5	46.3	49.0	55.1	55.5	45.7	45.7
7. Fertilizers	na	1.4	4.7	8.1	18.4	27.1	48.2	52.7	46.2	44.7	47.4	52.2	52.2
8. POL	2.7	4.7	8.9	15.0	25.0	36.3	39.3	39.8	40.6	41.2	41.1	43.2	43.2
9. Container Service -													
i) Domestic container	na	na	na	na	na	na	11.0	9.5	9.4	10.9	10.5	9.0	9.0
ii) EXIM containers	na	na	na	na	na	na	26.6	28.5	31.7	32.6	37.9	36.8	36.8
iii) Total	na	na	na	na	na	na	37.6	38.0	41.0	43.5	48.4	45.8	45.8
10. Balance (other goods)	40.0	46.7	48.2	42.1	36.6	51.8	69.2	75.7	66.6	68.8	73.4	75.3	75.3
11. Total revenue earning freight traffic	73.2	119.8	167.9	195.9	318.4	473.5	921.7	969.1	1008.1	1051.6	1095.3	1101.5	1101.5

Source: Ministry of Railway

Notes:

na : Not available

a : Excluding Konkan Railways Corporation Limited loading

POL : Petroleum, Oil & Lubricants

1. Figures from 2008-09 onwards reflect the revised commodity group as modified from October 2007

2. Figures may not add due to rounding off

1.27. Revenue Earning Goods Traffic on Indian Railways B : Goods Carried

(Billion tonne km.)												
Commodity	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11 ^a	2011-12 ^a	2012-13 ^a	2013-14 ^a	2014-15 ^a	2015-16 ^a
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Coal	11.3	20.5	27.8	36.4	85.9	133.4	268.3	291.5	303.4	271.9	301.5	280.7
2. Raw materials for Steel Plant except iron ore	na	2.0	2.7	4.3	7.5	13.5	9.8	10.3	10.2	10.1	11.0	11.7
3. Pig iron & finished steel												
i) steel plants	na	3.3	6.2	8.6	11.6	12.1	24.9	26.3	27.2	27.9	29.0	30.5
ii) from other points	na	na	na	na	na	na	7.4	7.6	6.9	7.0	8.4	9.9
iii) Total	na	na	na	na	na	na	32.2	33.9	34.1	34.9	37.4	40.4
4. Iron ore												
i) for export	na	na	5.5	7.3	7.5	7.9	15.5	2.0	3.1	2.7	1.3	0.9
ii) for steel plants	na	na	na	na	na	na	9.6	14.3	15.4	16.4	19.2	19.1
iii) for other domestic users	na	na	na	na	na	na	21.2	19.7	19.6	18.1	16.2	12.3
iv) Total	na	na	na	na	na	na	46.4	36.0	38.1	37.2	36.7	32.4
5. Cement	na	2.5	7.0	7.2	18.9	24.9	57.0	62.0	62.7	59.3	59.1	56.0
6. Foodgrains	4.0	9.6	14.5	24.3	35.6	33.1	52.0	57.9	71.3	70.5	67.0	60.1
7. Fertilizers	na	na	3.8	8.9	17.3	23.0	40.7	43.9	39.0	34.5	38.8	43.7
8. POL	na	2.6	5.3	11.7	15.1	19.9	26.1	26.1	28.5	29.3	27.2	29.3
9. Container Service -												
i) Domestic container	na	na	na	na	na	na	13.8	13.6	13.8	15.9	15.0	12.4
ii) EXIM containers	na	na	na	na	na	na	27.2	31.6	36.2	36.3	32.9	33.0
iii) Total	na	na	na	na	na	na	41.0	45.2	50.0	52.2	47.9	45.4
10. Balance (other goods)	22.3	31.9	37.9	39.1	36.4	44.5	52.3	60.8	54.4	66.0	55.1	54.7
11. Total revenue earning freight traffic	37.6	72.3	110.7	147.7	235.8	312.4	625.7	667.6	691.7	665.8	681.7	654.5

Source: Ministry of Railway

Notes:

na : Not available

a : Excluding Konkan Railways Corporation Limited loading

POL : Petroleum, Oil & Lubricants

1. Figures from 2008-09 onwards reflect the revised commodity group as modified from October 2007

2. Figures may not add due to rounding off

Table 1.28. Operations of Road Transport

Unit	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.Length of roads												
Total ^a	Thousand Km.	399.9	524.5	914.9	1485.4	2327.4	3373.5	4690.3	4865.4	5231.9	5402.5	5472.1
Surfaced	Thousand Km.	157.0	263.0	398.0	684.0	1090.2	1601.7	2524.7	2698.6	3171.0	3220.5	3341.0
2.Length of national Highways												
Total ^a	Thousand Km.	19.8	23.8	23.8	31.7	33.7	57.7	70.9	76.8	79.1	91.3	98.0
Surfaced	Thousand Km.	na	21.0	23.3	31.5	33.4	57.7	70.9	76.8	79.1	91.3	98.0
3.Length of State Highways												
Total ^a	Thousand Km.	na	na	56.8	94.4	127.3	132.1	163.9	164.4	169.2	170.8	167.1
Surfaced	Thousand Km.	na	na	51.7	90.3	124.8	129.9	161.9	163.0	167.2	169.0	165.3
4. No. of Registered vehicles												
All vehicles	Thousand	306.0	665.0	1865.0	5391.0	21374.0	54991.0	141866.0	159491.0	176044 (R)	190704	210023
Goods vehicles	Thousand	82.0	168.0	343.0	554.0	1356.0	2948.0	7064.0	7658.0	8307 (R)	8698	9344
Buses*	Thousand	34.0	57.0	94.0	162.0	331.0	634.0	1604.0	1677.0	1814.0 (R)	1887	1971
5. Revenue realised from Road Transport												
Central	(₹ Crore)	34.8	111.7	451.8	930.9	4596.0	23861.0	75453.2	75572.5	90931.2 (R)	89084.1	109941
States	(₹ Crore)	12.6	55.2	231.4	750.4	3259.6	12901.7	45992.4	55161.1	50602.7 (R)	56749.8	63064.9

Sources: Ministry of Road Transport & Highways

1. Basic Road Statistics of India 2013-14 & 2014-15

2. Road Transport Year Book 2013-14 & 2014-15

Notes:

a : Includes rural roads constructed under Jawahar Rojgar Yojna as on 31st March, 1996. na : Not available

* : Included omni buses.

R: Revised

Table 1.29. Growth of Civil Aviation

	1960-61	1970-71	1980-81	1990-91	1999-00	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1. Total fleet strength (Number)																	
(i) Air India	13	11	18	24	26	38	35	-	-	-	-	-	-	-	-	-	-
(ii) Indian Airlines	88	73	45	56	44	55	59	-	-	-	-	-	-	-	-	-	-
(iii) Air India Ltd. (Erstwhile National Aviation Company of India Ltd)	-	-	-	-	-	-	-	108	103	109	106	94	93	96	101	107	na
(iv) Alliance Air	-	-	-	-	12	15	15	20	16	17	14	11	11	8	10	11	na
(v) Air India Express	-	-	-	-	-	4	13	18	21	25	NR	21	21	21	17	18	na
(vi) Other Pvt Scheduled Airlines	-	-	-	-	37	131	183	235	238	232	220	229	253	273	279	312	na
2. Revenue tonne-kilometers (Million)																	
(i) Air India	109.4	275.2	980.1	1342.7	1456.5	2364.0	2220.0	-	-	-	-	-	-	-	-	-	-
(ii) Indian Airlines	82.4	202.1	400.3	697.6	738.0	1589.0	1253.0	-	-	-	-	-	-	-	-	-	-
(iii) Air India Ltd. (Erstwhile national Aviation Company of India Ltd)	-	-	-	-	-	-	-	3460.0	3191.0	3535.0	3682.0	3704.4	3346.3	3910.0	4196.0	4363.7	4739.0
(iv) Alliance Air	-	-	-	-	131.0	73.0	55.0	40.0	29.0	38.0	36.0	30.2	26.6	22.7	18.0	20.2	29.4
(v) Air India Express	-	-	-	-	-	113.0	270.0	435.0	553.0	576.0	547.0	538.0	507.9	620.5	541.4	672.2	856.2
(vi) Other Pvt Scheduled Airlines	-	-	-	-	441.9	1789.0	2901.0	4173.6	4684.5	5338.6	6499.1	7673.0	7020.8	7280.8	8267.2	9607.2	11386.7
(vii) Dedicated Private Freighter	-	-	-	-	-	-	-	-	-	-	-	-	-	114314.5	113865.0	123876.0	131155.5
(viii) Total (Other Pvt Scheduled Airlines+ Dedicated Private Freighter)	-	-	-	-	-	-	-	-	-	-	-	-	-	121595.3	122132.2	133483.2	142542.2
3. Number of passengers carried (Lakh)																	
(i) Air India	1.3	4.9	14.2	21.6	31.9	43.6	43.0	-	-	-	-	-	-	-	-	-	-

Contd....

Table 1.29. Growth of Civil Aviation

	1960-61	1970-71	1980-81	1990-91	1999-00	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(ii) Indian Airlines	7.9	21.3	54.3	78.7	58.9	78.2	85.1	-	-	-	-	-	-	-	-	-	-
(iii) Air India Ltd. (Erstwhile National Aviation Company of India Ltd)	-	-	-	-	-	-	-	132.1	104.0	117.7	128.3	136.1	141.8	154.1	172.6	184.8	196.0
(iv) Alliance Air	-	-	-	-	18.6	10.1	8.2	5.4	3.2	4.6	5.0	4.7	3.9	3.6	3.1	4.0	6.3
(v) Air India Express	-	-	-	-	-	4.9	7.3	17.1	22.4	25.0	23.8	23.0	21.6	26.7	25.8	27.8	34.2
(vi) Other Pvt Scheduled Airlines	-	-	-	-	54.2	180.7	289.6	380.3	365.7	422.2	512.9	588.3	548.5	580.0	672.6	821.6	1009.2
4. Passengers handled at (Lakh)																	
AAI Airports	na	na	107.38	177.23	390.35	733.42	-	-	-	508.71	596.43	684	683.87	716.48	1112.35	931.5	1132.8
Joint venture Internl. Airports	-	-	-	-	-	-	-	-	-	728.84	837.87	939.1	910.14	972.68	788.94	1307.9	1516.8
Total at Indian Airports	na	na	107.38	177.23	390.35	733.42	-	-	-	1237.55	1434.3	1623.1	1594.01	1689.16	1901.29	2239.5	2649.6
5. Cargo handled at (Thousand Tonnes)																	
AAI Airports	na	na	178.7	377.33	797.41	1397.3	-	-	-	592.95	726.98	703.43	650.41	636.48	681.56	724.5	808.7
Joint venture Internl. Airports	-	-	-	-	-	-	-	-	-	1366.76	1621.92	1576.56	1540.14	1641.43	1846	1980.0	2169.6
Total at Indian Airports	na	na	178.7	377.33	797.41	1397.3	-	-	-	1959.71	2348.9	2279.99	2190.55	2277.91	2527.56	2704.5	2978.3

Source: Ministry of Civil aviation

Notes:

P : Provisional

NR : Not reported

na : not available

Table 1.30. Commodity Balance of Petroleum and Petroleum Products

Item	(Million Tonnes)													
	1950-51 ^a	1960-61 ^a	1970-71 ^a	1980-81	1990-91	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
I. Crude Oil														
1. Refinery throughput	0.3	6.6	18.4	25.8	51.8	103.4	197.0	204.1	219.2	222.5	223.2	232.8	245.3	
2. Domestic production	0.3	0.5	6.8	10.5	32.2	32.4	37.7	38.1	37.9	37.8	37.4	36.9	36.0	
(a) On-shore	0.3	0.5	6.8	5.5	11.8	11.8	16.4	18.0	19.4	19.6	18.5	17.7	17.5	
(b) Off-shore	...	...	...	5.0	20.4	20.6	21.3	20.1	18.4	18.2	18.9	19.2	18.4
3. Imports	na	6.0	11.7	16.2	20.7	74.1	163.6	171.7	184.8	189.2	189.4	202.8	213.9	
4. Exports	na	na	na	na	na	na	na	-	-	-	-	-	-	
5. Net Imports (3-4)	na	na	na	na	na	na	na	171.7	184.8	189.2	189.4	202.8	213.9	
II. Petroleum Products														
1. Domestic consumption ^b	3.3	7.7	17.9	30.9	55.0	100.1	141.0	148.1	157.1	158.4	165.5	184.6	194.2	
of which														
(a) Naphtha	...	...	0.9	2.3	3.4	11.7	10.7	11.2	12.3	11.3	11.0	13.2	13.2
(b) Kerosene	0.9	2.0	3.3	4.2	8.4	11.3	8.9	8.2	7.5	7.2	7.0	6.8	5.4	
(c) High speed diesel oil	0.2	1.2	3.8	10.3	21.1	37.9	60.1	64.8	69.1	68.4	69.4	74.6	76.0	
(d) Fuel oils	0.9	1.7	4.7	7.5	9.0	12.7	10.8	9.3	7.7	6.2	6.0	6.6	7.2	
2. Domestic production ^c	0.2	5.7	17.1	24.1	48.6	95.6	194.8	203.2	217.7	220.8	221.1	231.9	243.5	
of which														
(a) Naphtha	na	...	1.2	2.1	4.9	9.9	19.2	18.8	19.0	18.5	17.3	17.8	19.9	
(b) Kerosene	na	0.9	2.9	2.4	5.5	8.7	7.8	7.9	8.0	7.4	7.5	7.5	6.0	
(c) High speed diesel oil	na	1.1	3.8	7.4	17.2	39.1	78.1	82.9	91.1	93.8	94.4	98.5	102.4	
(d) Fuel oils	na	1.6	4.1	6.1	9.4	11.4	20.5	18.4	15.1	13.4	11.9	9.7	9.9	
3. Imports	3.1	2.5	1.1	7.3	8.7	9.3	17.4	15.8	16.4	16.7	21.3	29.4	35.8	
4. Exports	na	na	0.3	...	2.7	8.4	59.1	60.8	63.4	67.9	63.9	60.5	65.5	
5. Net Imports (3-4)	na	na	0.8	7.3	6.0	0.9	-41.7	-45.0	-47.6	-51.1	-42.6	-31.0	-29.4	

Source: Ministry of Petroleum and Natural Gas

Notes:

* : Provisional na: not available

a : Excluding Import of LNG

b : Excluding refinery fuel consumption. Including import by private parties.

c : Including Production of Petroleum Products from Fractionators

1. Note Excludes other inputs from refineries crude throughput.

Table 1.31. Index of Industrial Production (Base 2011-12)

Industry Group (NIC 2008)	Industry	Weight	2012-13	2013-14	2014-15	2015-16	2016-17*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	General Index	100.00	103.3	106.8	111.1	114.9	120.7
	Mining	14.37	94.7	94.6	93.3	97.3	102.5
	Manufacturing	77.63	104.8	108.6	112.8	116.2	121.9
10	Manufacture of food products	5.30	103.3	104.6	110.9	104.7	98.9
11	Manufacture of beverages	1.04	106.7	104.8	108.2	109.7	105.9
12	Manufacture of tobacco products	0.80	107.5	116.3	131.0	135.8	116.3
13	Manufacture of textiles	3.29	108.0	112.6	116.8	119.4	117.6
14	Manufacture of wearing apparel	1.32	100.0	114.7	114.9	131.8	154.9
15	Manufacture of leather and related products	0.50	110.6	113.0	123.0	123.6	122.1
16	Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	0.19	97.0	94.6	95.3	97.5	93.3
17	Manufacture of paper and paper products	0.87	103.3	114.2	115.2	116.5	113.9
18	Printing and reproduction of recorded media	0.68	96.8	105.8	100.0	103.9	106.5
19	Manufacture of coke and refined petroleum products	11.77	105.9	108.0	108.6	113.7	119.1
20	Manufacture of chemicals and chemical products	7.87	103.9	108.8	109.2	113.7	116.2
21	Manufacture of pharmaceuticals, medicinal chemical and botanical products	4.98	108.1	114.6	117.7	133.5	177.6
22	Manufacture of rubber and plastics products	2.42	100.9	112.3	117.8	118.2	120.0
23	Manufacture of other non-metallic mineral products	4.09	103.0	103.1	108.2	110.4	109.9
24	Manufacture of basic metals	12.80	107.8	112.5	123.5	124.3	130.6
25	Manufacture of fabricated metal products, except machinery and equipment	2.65	96.7	101.7	105.7	103.5	105.6
26	Manufacture of computer, electronic and optical products	1.57	100.6	115.1	117.6	123.6	126.5
27	Manufacture of electrical equipment	3.00	112.9	117.2	121.8	128.3	122.0
28	Manufacture of machinery and equipment n.e.c.	4.77	102.9	103.3	103.3	105.5	111.3
29	Manufacture of motor vehicles, trailers and semi-trailers	4.86	100.1	99.5	103.0	104.4	113.9
30	Manufacture of other transport equipment	1.78	99.2	103.5	110.0	112.5	117.5
31	Manufacture of furniture	0.13	112.7	125.0	114.7	162.5	173.8
32	Other manufacturing	0.94	113.1	105.2	105.7	119.8	124.8
	Electricity	7.99	104.0	110.3	126.6	133.8	141.6

Source: Central Statistics Office

Note:

*: Provisional

Table 2.1. Budgetary Transactions of the Central and State Governments and Union Territories
(Including internal and extra-budgetary resources of public sector undertakings for their plans)

	1980-81	1990-91	2000-01	2010-11	2012-13	2013-14	2014-15 (BE)	2014-15 (RE)	2015-16 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I. Total Outlay	36845	176548	615658	2396419	3021229	3372982	3885473	3843346	3838558
A. Development ¹	24426	105922	317464	1385265	1782915	1935977	2226539	2180981	2018434
B. Non-Development	12419	70626	298194	1011154	1238314	1437005	1658934	1662365	1820124
1. Defence (net)	3600	15427	49622	154117	181776	203499	229000	222370	246727
2. Interest payments	2957	25006	122792	351145	457550	537468	615553	599570	670904
3. Tax collection charges	504	1973	6570	20205	26489	29995	35626	34592	37292
4. Police	1163	5657	21343	77103	101881	115217	132175	134442	146244
5. Others ²	4195	22563	97867	408584	470618	550826	646580	671391	718957
II. Current Revenue	24563	110607	393284	1720242	2116869	2393750	2783477	2630510	2947996
A. Tax Revenue	19844	87723	305320	1271665	1716117	1879143	2238115	2098175	2419085
1. Income and corporation tax	2817	10712	67460	437790	553170	632548	729283	698689	791467
2. Customs	3409	20644	47542	135813	165346	172085	201819	188713	208336
3. Union excise duties	6500	24514	68526	137701	175845	169455	206356	184731	229054
4. Sales tax	4018	18228	72874	293256	422578	475131	561597	544256	622856
5. Others	3100	13625	48918	267105	399178	429924	539060	481786	567372
B. Non-Tax Revenue ³	4719	22884	87964	448577	400752	514607	545362	532335	528911
(Internal resources of public sector undertakings for the Plan)	(1374)	(11183)	(39415)	(184323)	(196771)	(237848)	(231445)	(211014)	(176778)
III. Gap (I-II)	12282	65941	222374	676177	904360	979232	1101996	1212836	890562
Financed By:									
IV Net Capital Receipts (A+B)	8831	54455	223283	684695	927020	973545	1090298	1125810	855414
A. Internal (net)	7161	50192	214965	658466	917508	962635	1082159	1113294	842467
1. Net market loans ⁴	3163	11308	85341	445433	673820	701972	700997	695693	456405
2. Net small savings	1121	8309	8192	3950	11934	33283	9533	4983	23836
3. Net State and public provident funds	558	3887	23661	26131	26303	17559	41674	20320	36540
4. Special deposits of non-Government provident funds	604	6721	7177	0	0	0	0	0	0
5. Special borrowings from RBI against compulsory deposits	-70	-105	na	na	na	na	na	na	na
6. Net misc. capital receipts ⁵	1785	20072	90594	182952	205451	209821	329955	392298	325686
B. External ⁶	1670	4263	8318	26229	9512	10910	8139	12516	12947
1. Net loans	749	3181	7505	23556	7201	7292	5734	9705	11173
(i) Gross	1141	5339	17328	35330	23309	25416	28175	30407	34373
(ii) Less repayments	392	2158	9823	11774	16108	18124	22441	20702	23200
2. Grants	436	586	813	2673	2311	3618	2405	2811	1774
3. Net special credit	-53	-76	0						
V. Overall Budgetary Deficit	3451	11486	-909	-8517	-22658	5689	11697	87026	35147

Source : Economic Division, Department of Economic Affairs, Ministry of Finance

Notes:

na Not available

RE : Revised Estimates

BE : Budget Estimates

1. Includes plan expenditure of Railways, Communications and non-departmental commercial undertakings financed out of their internal and extra budgetary resources, including market borrowings and term loans from financial institutions to State Government public enterprises. Also includes developmental loans given by the Central and State Governments to non-departmental undertakings, local bodies and other parties. However, it excludes a notional amount of ₹45 crore in 1980-81 on account of conversion of loan capital given to non-departmental commercial undertakings into equity capital.
2. Includes general administration, pensions and ex-gratia payments to famine relief (only non-plan portion), subsidies on food and controlled cloth, grants and loans to foreign countries and loans for non-developmental purpose to other parties, but excludes Contingency Fund transactions. It also excludes notional transactions in respect of subscriptions to International Monetary Fund of ₹559 crore in 1980-81, ₹550 crore in 1990-1991, ₹629 crore in 2000-2001, ₹9051 crore in 2010-11, ₹1613 crore in 2011-12, ₹4323 crore in 2012-13, ₹367 crore in 2013-14, ₹4846 crore in 2014-15 (RE) and ₹35 crore in 2015-16 (BE).
3. Includes internal resources of Railways, Communications and non-departmental commercial undertakings for the plan.
4. Includes market borrowings of State Government public enterprises.
5. Excludes the notional receipts on account of repayments of loans by non-departmental commercial undertakings due to their conversion into equity capital. It also excludes notional transactions in respect of International Monetary Fund and Contingency Fund transactions.
6. ₹538 crore for loans from IMF Trust Fund are included in 1980-81 under external loans and an amount of ₹572 crores for revolving fund is included in External loans for 1990-91.

Table 2.2. Total Expenditure of the Central Government

(₹ crore)

	Final outlays			Transfer payments to the rest of the economy			Financial investments & loans to the rest of the economy (gross)	Total expenditure (4+7+8)
	Government consumption expenditure	Gross capital formation	Total (2+3)	Current	Capital	Total (5+6)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
First Plan (1951-52 to 1955-56)	1241	612	1854	809	123	932	966	3751
Second Plan (1956-57 to 1960-61)	1962	1445	3406	1567	249	1816	2600	7823
Third Plan (1960-61 to 1965-66)	4256	2445	6701	2983	501	3484	5076	15261
Annual Plan (1966-67 to 1968-69)	3878	1243	5121	3214	407	3621	4740	13481
Fourth Plan (1969-70 to 1973-74)	9775	2969	12745	8036	1454	9490	10760	32994
Fifth Plan (1974-75 to 1978-79)	17576	5951	23527	19773	3230	23003	21145	67674
Sixth Plan (1980-81 to 1984-85)	35885	14823	50708	50604	9910	60514	47034	158256
Seventh Plan (1985-86 to 1989-90)	81974	31616	113590	134246	26292	160538	89764	363892
Eighth Plan (1992-93 to 1996-97)	179676	73599	253275	387746	66433	454179	127752	835206
Ninth Plan (1997-98 to 2001-02)	331143	100568	431711	795621	106925	902546	150754	1485011
Tenth Plan (2002-03 to 2006-07)	516165	144027	660192	1390293	185704	1575997	123921	2360110
Eleventh Plan (2007-08 to 2011-12)	1002126	284215	1286341	2946106	529055	3475161	212323	4973825
1950-51	235	80	315	111	6	117	72	504
1955-56	269	153	422	203	49	251	301	975
1960-61	433	307	740	427	69	495	570	1806
1965-66 ^a	1109	520	1630	754	132	886	1425 ^a	3940 ^a
1970-71	1669	519	2189	1239	193	1432	1956	5577
1975-76	3449	1204	4654	3018	536	3553	3830	12037
1980-81	5174	1908	7082	6912	1302	8214	7200	22495
1985-86	11210	4558	15768	18347	3825	22173	15172	53112
1990-91	22359	8602	30961	45134	7117	52251	21760	104973
1993-94 ^b	31815	12765	44580	66750	11811	78560	22648	145788
1995-96	41881	16685	58566	85304	15263	100566	26101	185233
1997-98 ^c	53090	18955	72046	111577	17360	128937	23884	224866
2000-01	71977	22258	94235	183696	22404	206100	27929	328265
2005-06	116305	34450	150755	297267	41681	338948	11380	501083

Contd....

Table 2.2. Total Expenditure of the Central Government*(Contd....)*

₹ crore)

	Final outlays			Transfer payments to the rest of the economy			Financial investments & loans to the rest of the economy (gross)	Total expenditure (4+7+8)
	Government consumption expenditure	Gross capital formation	Total (2+3)	Current	Capital	Total (5+6)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2010-11	230262	65059	295321	656300	150312	806612	62795	1164728
2011-12	255498	65041	320539	756885	141353	898238	44439	1263216
2012-13	271119	74747	345866	851208	130771	981979	46902	1374747
2013-14	306898	74940	381838	940445	144129	1084574	44552	1510964
2014-15(RE)	335838	87518	423356	1010460	15541	1026001	47659	1497016
2015-16(BE)	373276	108683	481959	1049553	133317	1182870	46811	1711640

Source : Ministry of Finance, Economic & Functional Classification of the Central Government Budget-various issues

Notes:

RE : Revised Estimates

BE : Budget Estimates

a : For 1965-66, includes ₹ 53 crore as additional payments to IMF, IBRD, IDA & ADB following the change in the par value of the rupee. This is a nominal outlay as it is met by the issue of non-negotiable Government of India securities.

b : From 1993-94 onwards, Delhi is not included.

c : From 1997-98 onwards loans to States/UTs are exclusive of loans against States/UTs shares in small saving collections.

Table 2.3. Twelfth Plan (2012-17) Outlay by Heads of Development : Centre

Head of development	Amount (₹ crore)												Percentage distribution					
	Twelfth Plan (2012-17) Projected (At current prices)						Annual Plan (2016-17) (BE)						Annual Plan (2015-16) (RE)		Annual Plan (2016-17) (BE)			
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)				
1. Agriculture & allied activities	134636	17030	17788	9795	10942	19394	3.1	3.4	2.9	2.3	1.9	2.7	2.3	1.9				
2. Rural development	267047	36579	38776	1222	3005	2623	6.2	7.3	6.4	0.3	0.5	0.4	0.3	0.5				
3. Special area programmes	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
4. Irrigation & flood control	17212	439	441	910	1105	1024	0.4	0.1	0.1	0.2	0.2	0.1	0.2	0.2				
5. Energy	1085997	132146	182388	170812	171519	205877	25.1	26.5	30.2	40.6	29.4	29.2	40.6	29.4				
6. Industry & Minerals	292090	33202	33433	44006	45512	49371	6.7	6.7	5.5	10.5	7.8	7.0	10.5	7.8				
7. Transport	819482	90518	103959	100520	178502	229874	18.9	18.2	17.2	23.9	30.6	32.5	23.9	30.6				
8. Communications	80984	6289	16209	6437	13451	13806	1.9	1.3	2.7	1.5	2.3	2.0	1.5	2.3				
9. Science, Technology & Environment	130054	12048	13535	14382	17965	20926	3.0	2.4	2.2	3.4	3.1	3.0	3.4	3.1				
10. General economic services	181476	20217	26064	16767	38597	46686	4.2	4.1	4.3	4.0	6.6	6.6	4.0	6.6				
11. Social services	1274261	144305	163718	50867	83555	100420	29.4	28.9	27.1	12.1	14.3	14.2	12.1	14.3				
12. General services	50500	5702	7263	5164	18554	16247	1.2	1.1	1.2	1.2	3.2	2.3	1.2	3.2				
Total	4333739	498475	603574	420882	582707	706248	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				

Source : NITI Aayog

Notes:

RE Revised Estimates

BE Budget Estimates

Table 2.4. Financing for Central Plans

		(₹ crore)	
Items		2015-16(RE)	2016-17(BE)
(1)		(2)	(3)
I	Domestic non-debt resources	-43607	67097
a	BCR	-92278	-41256
b	MCR (excluding deductions for repayment of loans)	48671	108353
c	Plan grants from GOI (TFC)	0	0
d	ARM	0	0
e	Adjustment of opening balance	0	0
II	Domestic Debt Resources	505026	459289
	Net Borrowings (i) - (ii)	505026	459289
	(i) Gross Borrowings (a to f)	505026	459289
a	State Provident Fund	11000	12000
b	Small Savings	53418	22108
c	Negotiated Loans	0	0
d	Government of India Loans(EAPS)	0	0
e	Market Borrowings	440608	425181
f	Bonds/Debentures	0	0
	(ii) Repayments	0	0
	Own Resources (incl. Borrowings) I+II	461419	526386
III	Central Assistance(Grants) (1+2+3) to state & UT plans	-216108	-241900
1	Normal Central Assistance	0	0
2	ACA for EAPs ^b	-16000	-14850
3	Others	-200108	-227050
A	Government Resources (I+II+III)	245311	284486
B	Contribution of Public Sector Enterprises (PSE)	321618	398139
C	Local Bodies	0	0
D	Net Inflow from Abroad	15778	23624
	Aggregate Plan Resources (A+B+C+D)	582707	706249

Source : NITI Aayog

Notes:

RE : Revised Estimates

BE : Budget Estimates

BCR : Balance from Current Revenues

MCR : Miscellaneous Capital Receipts

ARM : Additional Resource Mobilisation

ACA : Additional Central Assistance

EAPs : Externally Aided Projects

b : ACA for EAPs includes loan and grants

Table 2.5. Overall Financing Pattern of the Public Sector Plan Outlay During the Twelfth Plan : 2012-17

		(₹ crore at current prices)		
Resources		Centre	States and UTs	Total
(1)		(2)	(3)	(4)
1	Balance from current revenues (BCR)	1387371	959979	2347350
2	Borrowings(including net MCR)	2181255	1518301	3699556
3	Net inflow from abroad	...	...	...
4	Centre's GBS (1+2+3)	3568626	...	3568626
5	Resources of Public Sector Enterprises	1622899	380319	2003218
6	State's Own Resources (1+2+5)	...	2858599	2858599
7	Central Assistance States & UTs	-857786	857786	...
8	Resources of the Public Sector Plan (1+2+3+5+7)	4333739	3716385	8050123

Source : Draft Twelfth Plan Document, Planning Commission

Table 2.6. Financial Performance of Indian Railways

		(₹ crore)							
	1980-81	1990-91	2001-02	2010-11	2013-14	2014-15	2015-16	2016-17 (Prov.)	2017-18 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Gross traffic receipts	2624	12096	37837	94536	139558	156711	164334	165294	188999
(i) Passenger coaching	827	3147	11197	25793	36532	42190	44283	46280	50125
(ii) Other coaching	116	336	872	2470	3679	3998	4371	4312	6494
(iii) Goods	1618	8408	24845	62845	93906	105791	109208	104339	118157
(iv) Other earnings	82	242	944	3418	5721	5093	5929	10370	14123
(v) Suspense account	-19	-37	-21	10	-280	-361	543	-7	100
2. Working expenses	2537	11154	36293	89474	130321	142996	147836	159036	178350
(i) Ordinary working expenses	2233	8234	28703	68139	97571	105996	107736	118836	129750
(ii) Appropriations to depreciation reserve fund	220	1950	2000	5515	7900	7775	5600	5200	5000
(iii) Appropriation to pension fund	84	970	5590	15820	24850	29225	34500	35000	43600
3. Net traffic receipts (1-2)	87	942	1544	5062	9237	13715	16498	6258	10649
4. Net miscellaneous receipts	40	171	793	1285	2512	3124	2731	-1500	-1700
5. Net revenues (3+4)	127	1113	2337	6347	11749	16839	19229	4758	8949
6. Dividend									
(i) Payable to general revenues	325	938	2337	4941	8009	9174	8723	***	***
(ii) Payment of Deferred Dividend									
(iii) Deferred dividend	0	0	1000						
(iv) Net dividend payable	325	938	1337	4941	8009	9174	8723		
7. Surplus (+) or deficit (-)	-198	175	1000	1406	3740	7665	10506	4758	8949
8. (i) Capital at charge	6096	16126	37757	130540	170168	197992	224685	257221	293301
(ii) Investment from capital fund	0	0	10390	38676	38676	44125	50450	53450	59450
(iii) Total[(i)+(ii)]	6096	16126	48147	169216	208844	242117	275135	310671	352751
9. Item 5 as % of item 8(iii)	2.1	6.9	4.9	3.8	5.6	7.0	7.0	1.5	2.5
10. Item 7 as % of item 8(iii)	-3.2	1.1	2.1	0.8	1.8	3.2	3.8	1.5	2.5

Source : Ministry of Railways

Notes:

BE : Budget Estimates

*** Dividend payment has been done away with as per Budget merger conditions and hence no dividend payment from 2017-18

Table 2.7. Financial Performance of the Department of Posts

		(₹ crore)							
	1980-81	1990-91	2000-01	2010-11	2012-13	2013-14	2014-15	2015-16	2016-17
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Gross receipts	278	840	3298	6962	9367	10730	11636	12940	11509
2. Net working expenses	346	1033	4848	13308	14792	16204	17895	18947	23481
3. Net receipts (1-2)	-68	-193	-1550	-6346	-5425	-5474	-6259	-6007	-11972
4. Dividend to general revenues	4	0	0	0	0	0	0	0	0
5. Surplus(+)/deficit (-) (3-4)	-72	-193	-1550	-6346	-5425	-5474	-6259	-6007	-11972

Source : Department of Posts, Ministry of Communications

Table 2.8 A. Receipts and Expenditure of the Central Government

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (B.E.)	2016-17 (R.E.)	2016-17 (P)	2017-18 (B.E.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Revenue receipts (a+b)	540259	572811	788471	751437	879232	1014724	1101473	1195025	1377022	1423563	1376284	1515771
(a). Tax revenue (net of States' share)	443319	456536	569869	629765	741877	815854	903615	943765	1054101	1088793	1102063	1227014
(b). Non-tax revenue	96940	116275	218602	121672	137355	198870	197858	251260	322921	334770	274221	288757
2. Revenue expenditure	793798	911809	1040723	1145785	1243514	1371772	1466992	1537761	1731038	1734561	1684556	1836933
<i>of which:</i>												
(a) Interest payments	192204	213093	234022	273150	313170	374254	402444	441659	492670	483069	480519	523078
(b) Major subsidies	123206	134658	164516	211319	247493	244717	249016	241833	231782	232705	206586	240339
(c) Defence expenditure	73305	90669	92061	103011	111277	124374	136807	145937	162759	170374	172737	173862
3. Revenue deficit (2-1)	253539	338998	252252	394348	364282	357048	365519	342736	354016	310998	308272	321162
4. Capital receipts	343696	451676	408856	552929	531140	544724	562200	595758	601038	590845	598571	630964
<i>of which:</i>												
(a) Recovery of loans	6139	8613	12420	18850	15060	12497	13738	20835	10634	11071	15755	11932
(b) Other receipt (mainly PSU disinvestment)	566	24581	22846	18088	25890	29368	37737	42132	56500	45500	47748	72500
(c) Borrowings and other liabilities \$	336991	418482	373590	515991	490190	502859	510725	532791	533904	534274	535068	546532
5. Capital expenditure	90158	112678	156604	158580	166858	187675	196681	253022	247024	279847	290299	309801
6. Non Debt Receipts [1+4(a)+4(b)]	546964	606005	823737	788375	920182	1056589	1152948	1257992	1444156	1480134	1439787	1600203
7. Total expenditure [2+5=7(a)+7(b)]	883956	1024487	1197327	1304365	1410372	1559447	1663673	1790783	1978062	2014408	1974855	2146734
<i>of which:</i>												
(a) Plan expenditure	275235	303391	379029	412375	413625	453327	462644	471083	550010		572106	
(b) Non-plan expenditure	608721	721096	818298	891990	996747	1106120	1201029	1319700	1428050		1402749	
8. Fiscal deficit [7-1-4(a)-4(b)]	336992	418482	373590	515990	490190	502858	510725	532791	533906	534274	535068	546531
9. Primary deficit [8-2(a)]	144788	205389	139568	242840	177020	128604	108281	91132	41236	51205	54549	23453
Memorandum items												
(a) Interest receipts	20717	21784	19734	20252	20761	21868	23804	25379	29620	18149	16288	19021
(b) Non-plan revenue expenditure	559024	657925	726491	812049	914306	1019040	1109394	1210587	1327408		1297721	

Source: Union Budget documents and Controller General of Accounts

Notes:

BE-Budget Estimates P: Provisional Actuals (Unaudited)

RE: Revised Estimates

\$: Does not include receipts in respect of Market Stabilization Scheme, which will remain in the cash balance of the Central Government and will not be used for expenditure.

Table 2.8 B. Receipts and Expenditure of the Central Government

(1)	(as per cent to GDP)												
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (B.E.)	2016-17 (R.E.)	2016-17 (P)	2017-18 (B.E.)	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1. Revenue receipts (a+b)	9.6	8.8	10.1	8.6	8.8	9.0	8.9	8.7	9.1	9.4	9.1	9.0	
(a). Tax revenue (net of States' share)	7.9	7.0	7.3	7.2	7.5	7.3	7.3	6.9	7.0	7.2	7.3	7.3	
(b). Non-tax revenue	1.7	1.8	2.8	1.4	1.4	1.8	1.6	1.8	2.1	2.2	1.8	1.7	
2. Revenue expenditure	14.1	14.1	13.4	13.1	12.5	12.2	11.8	11.2	11.5	11.5	11.1	10.9	
<i>of which:</i>													
(a) Interest payments	3.4	3.3	3.0	3.1	3.1	3.3	3.2	3.2	3.3	3.2	3.2	3.1	
(b) Major subsidies	2.2	2.1	2.1	2.4	2.5	2.2	2.0	1.8	1.5	1.5	1.4	1.4	
(c) Defence expenditure	1.3	1.4	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	
3. Revenue deficit (2-1)	4.5	5.2	3.2	4.5	3.7	3.2	2.9	2.5	2.3	2.1	2.0	1.9	
4. Capital receipts	6.1	7.0	5.3	6.3	5.3	4.8	4.5	4.4	4.0	3.9	3.9	3.7	
<i>of which:</i>													
(a) Recovery of loans	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	
(b) Other receipt (mainly PSU disinvestment)	0.0	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	
(c) Borrowings and other liabilities \$	6.0	6.5	4.8	5.9	4.9	4.5	4.1	3.9	3.5	3.5	3.5	3.2	
5. Capital expenditure	1.6	1.7	2.0	1.8	1.7	1.7	1.6	1.8	1.6	1.9	1.9	1.8	
6. Non Debt Receipts [1+4(a)+4(b)]	9.7	9.4	10.6	9.0	9.3	9.4	9.3	9.2	9.6	9.8	9.5	9.5	
7. Total expenditure [2+5=7(a)+7(b)]	15.7	15.8	15.4	14.9	14.2	13.9	13.4	13.1	13.1	13.4	13.0	12.7	
<i>of which:</i>													
(a) Plan expenditure	4.9	4.7	4.9	4.7	4.2	4.0	3.7	3.4	3.7	-	3.8	-	
(b) Non-plan expenditure	10.8	11.1	10.5	10.2	10.0	9.8	9.7	9.6	9.5	-	9.2	-	
8. Fiscal deficit [7-1-4(a)-4(b)]	6.0	6.5	4.8	5.9	4.9	4.5	4.1	3.9	3.5	3.5	3.5	3.2	
9. Primary deficit [8-2(a)]	2.6	3.2	1.8	2.8	1.8	1.1	0.9	0.7	0.3	0.3	0.4	0.1	

Source: Union Budget documents and Controller General of Accounts

Notes:

BE- Budget Estimates P: Provisional Actuals (Unaudited)

RE: Revised Estimates

\$: Does not include receipts in respect of Market Stabilization Scheme, which will remain in the cash balance of the Central Government and will not be used for expenditure.

Table 2.9. Outstanding Liabilities of the Central Government

(End-March) (₹ crore)										
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (RE)	2017-18 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. Internal liabilities #	3036132	3395877	3781135	4347164	4893303	5484848	6045007	6691709	7215739	7722082
(a) Internal debt	2019841	2328339	2667115	3230622	3764566	4240767	4738291	5304835	5731392	6180027
i) Market borrowings	1338194	1746619	2072033	2516953	2984309	3441641	3891734	4298784	4647492	5006718
ii) Others	681647	581720	595082	713669	780257	799126	846557	1006051	1083900	1173309
(b) Other Internal liabilities	1016291	1067538	1114020	1116542	1128737	1244081	1306716	1386874	1484347	1542055
2. External debt (outstanding)*	123046	134083	157639	170088	177289	184581	197514	210262	225135	240924
3. Total outstanding liabilities (1+2)	3159178	3529960	3938774	4517252	5070592	5669429	6242521	6901971	7440874	7963006
4. Amount due from Pakistan on account of share of pre-partition debt	300	300	300	300	300	300	300	300	300	300
5. Net liabilities (3-4)	3158878	3529660	3938474	4516952	5070292	5669129	6242221	6901671	7440574	7962706
Memorandum items										
(a) External debt @	264059	249306	278877	322897	332004	374483	366191	406586	408094	423883
(b) Total outstanding liabilities(adjusted)	3300191	3645183	4060012	4670061	5225307	5859331	6411198	7098295	7623833	8145965
(c) Internal liabilities(Non-RBI) ##	2707846	3087360	3464858	3904022	4396810	4984590	5540570	6139580	6646470	7161810
(d) Outstanding liabilities (Non-RBI) ##	2971905	3336666	3743735	4226919	4728814	5359073	5906761	6546166	7054564	7585693
(e) Contingent liabilities of Central Government	113335	137460	151292	190519	233769	249503	294700	343762	n.a.	n.a.
(f) Total assets	1569043	1607544	1794504	1927143	2080649	2253627	2464424	2773756	3022919	3275837
(As per cent of GDP)										
1. Internal liabilities#	53.9	52.4	48.6	49.8	49.2	48.8	48.6	48.9	47.9	45.8
a) Internal debt	35.9	35.9	34.3	37.0	37.9	37.8	38.1	38.8	38.0	36.7
i) Market borrowings	23.8	27.0	26.6	28.8	30.0	30.6	31.3	31.4	30.8	29.7
ii) Others	12.1	9.0	7.6	8.2	7.8	7.1	6.8	7.4	7.2	7.0
(b) Other Internal liabilities	18.1	16.5	14.3	12.8	11.4	11.1	10.5	10.1	9.8	9.2
2. External debt (outstanding)*	2.2	2.1	2.0	1.9	1.8	1.6	1.6	1.5	1.5	1.4
3. Total outstanding liabilities (1+2)	56.1	54.5	50.6	51.7	51.0	50.5	50.2	50.4	49.4	47.3

Source: Union Budget documents and DMO and CAA&A

Notes:

n.a. : not available

* : External debt figures represent borrowings by Central Government from external sources and are based upon historical rates of exchange

@ : The external debt figures at current exchange rates are taken from Controller of Aid, Account and Audit Division, Ministry of Finance. For 2017-18(BE), the Net external assistance in 2017-18 has been added to outstanding stock at end-March 2017.

: Internal debt includes net borrowing of ₹ 88,773 crore for 2008-09, ₹2,737 crore for 2009-10

: This includes marketable dated securities held by the RBI

R.E: Revised Estimates BE-Budget Estimates

Table 2.10. Total Expenditure and Capital Formation by the Central Government and its Financing
(As per economic and functional classification of the Central Government budget)

		(₹ crore)								
		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 (RE)	2015-16 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
I.	Total expenditure	688908	864530	992440	1164727	1263216	1374747	1510964	1636916	1711641
II.	Gross capital formation out of budgetary resources of Central Government	143892	136935	184501	256368	234969	230792	242877	260955	262192
	(i) Gross capital formation by the Central Government	43652	51464	58999	65059	65041	74747	74940	87518	108683
	(ii) Financial assistance for capital formation in the rest of the economy	100240	85471	125502	191309	169928	156045	167937	173437	153509
III.	Gross saving of the Central Government	13674	-176082	-232452	-103270	-267428	-241090	-238268	-221961	-275055
IV.	Gap(II-III)	130218	313017	416953	359638	502397	471882	481145	482916	537247
Financed by										
a.	Draft on other sectors of domestic economy	118180	299208	402774	333409	486987	462370	470235	470399	524300
	(i) Domestic capital receipts	145351	246612	404160	326979	502977	513382	489406	486071	512259
	(ii) Budgetary deficit/draw down of cash balance	-27171	52596	-1386	6430	-15990	-51012	-19171	-15672	12041
b.	Draft on foreign savings	12038	13809	14179	26229	15410	9512	10910	12517	12947
(percentage increase over previous year)										
II.	Gross capital formation out of budgetary resources of Central Government	63.7	-4.8	34.7	39.0	-8.3	-1.8	5.2	7.4	0.5
Memorandum items										
(₹ crore)										
1	Total expenditure	688908	864530	992440	1164727	1263216	1374747	1510964	1636916	1711641
2	Gross capital formation out of budgetary resources of Central Government	143891	136935	184501	256368	234969	230792	242877	260955	262192
3	Consumption expenditure	131396	174345	210625	230262	255498	271119	306898	335838	373276
4	Current transfers	408676	543347	580898	656300	756885	851208	940445	1010460	1049553
5	Others	4945	9903	16417	21798	15864	21628	20744	29663	26620
(Growth rate in per cent)										
1	Total expenditure	20.8	25.5	14.8	17.4	8.5	8.8	9.9	8.3	4.6
2	Gross capital formation out of budgetary resources of Central Government	63.7	-4.8	34.7	39.0	-8.3	-1.8	5.2	7.4	0.5
3	Consumption expenditure	8.0	32.7	20.8	9.3	11.0	6.1	13.2	9.4	11.1
4	Current transfers	14.6	33.0	6.9	13.0	15.3	12.5	10.5	7.4	3.9
5	Others	19.7	100.3	65.8	32.8	-27.2	36.3	-4.1	43.0	-10.3
(Point contribution in per cent)										
1	Total expenditure	20.8	25.5	14.8	17.4	8.5	8.8	9.9	8.3	4.6
2	Gross capital formation out of budgetary resources of Central Government	9.8	-1.0	5.5	7.2	-1.8	-0.3	0.9	1.2	0.1
3	Consumption expenditure	1.7	6.2	4.2	2.0	2.2	1.2	2.6	1.9	2.3
4	Current transfers	9.1	19.5	4.3	7.6	8.6	7.5	6.5	4.6	2.4
5	Others	0.1	0.7	0.8	0.5	-0.5	0.5	-0.1	0.6	-0.2

Source: Ministry of Finance, An Economic and Functional classification of the Central Government Budget-various issues

Notes:

RE: Revised Estimates BE: Budget Estimates

- (i) Gross capital formation in this table includes loans given for capital formation on a gross basis. Consequently domestic capital receipts include loan repayments to the Central Government.
- (ii) Consumption expenditure is the expenditure on wages and salaries and commodities and services for current use.
- (iii) Interest payments, subsidies, pension etc. are treated as current transfers.
- (iv) Gross capital formation & total expenditure are exclusive of loans to States'/UTs' against States'/UTs' share in the small savings collection.
- (v) The figures of total expenditure of the Central Government as per economic and functional classification do not tally with figures given in the Budget documents. In the economic and functional classification, interest transferred to DCUs, loans written off etc, are excluded from the current account. In the capital account, expenditure financed out of Railways, Posts & Telecommunications' own funds etc, are included.
- (vi) Point contribution refers to contribution of individual component to total growth.

Table 2.11. Receipts and Disbursements of State and Consolidated General Government

(₹ crore)									
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (RE)	2016-17 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
State Governments									
I. Total Receipts (A+B)	891292	1007634	1173575	1367917	1557338	1688047	2008066	2508076	2829700
A. Revenue Receipts (1+2)	694658	768137	935347	1098531	1252024	1369187	1591584	1958127	2257382
1. Tax Receipts	482983	528075	680198	812987	946081	1030692	1117113	1407779	1595368
<i>of which</i>									
States' Own Tax Revenue	321930	363061	460709	557396	654551	712419	779278	891013	1014302
2. Non-tax Receipts	211675	240062	255149	285544	305943	338495	474471	550348	662014
<i>of which</i>									
Interest Receipts	16356	15294	15625	18582	24118	27215	24135	17349	16590
B. Capital Receipts	196634	239497	238227	269385	305314	318860	416482	549949	572318
<i>of which</i>									
Recovery of Loans and Advances	11072	8088	4995	17157	7265	6896	18916	7480	16867
II. Total Disbursements (a+b+c)	882332	1015330	1158730	1351612	1534255	1706144	2025782	2555549	2826804
a) Revenue	681985	799154	932297	1074571	1231702	1379750	1637288	1989233	2236535
b) Capital	184376	198689	207617	238150	272576	302402	358856	477647	546628
c) Loans and Advances	15971	17487	18816	38891	29977	23992	29638	88669	43641
III. Revenue Deficit	-12673	31017	-3051	-23960	-20322	10563	45704	31106	-20847
IV. Gross Fiscal Deficit	134589	188819	161461	168353	195470	247852	327191	493361	449524
General Government									
I. Total Receipts (A+B)	1564803	1845808	2153561	2454062	2769029	3001372	3189737	3948715	4438562
A. Revenue Receipts (1+2)	1117098	1210559	1578820	1692679	1971619	2211475	2387693	2905410	3393791
1. Tax Receipts	926302	984611	1250067	1442752	1687959	1846545	2020728	2355287	2649470
2. Non-tax receipts	190796	225948	328753	249927	283660	364930	366965	550123	744321
<i>of which:</i>									
Interest receipts	25368	25748	25078	28870	35543	40162	39622	33219	38467
B. Capital Receipts	447705	635249	574742	761383	797410	789897	802044	1043305	1044771
<i>of which:</i>									
a) Disinvestment proceeds	833	25393	24087	18753	25991	29728	38883	26363	56649
b) Recovery of loans & advances	14611	11499	8206	25370	12929	9385	22072	17737	18474
II. Total Disbursements (a+b+c)	1599677	1852119	2145145	2421768	2694934	3000299	3285211	3974103	4448859
a) Revenue	1357963	1580574	1828020	2063068	2315578	2579086	2798917	3278106	3726958
b) Capital	218679	246246	268328	291818	328324	377545	426949	571836	651407
c) Loans and Advances	23035	25299	48797	66883	51031	43668	59345	124161	70494
III. Revenue Deficit	240865	370015	249200	370388	343959	367611	411224	372696	333167
IV. Gross Fiscal Deficit	467137	604668	534032	684966	684395	749711	836563	1024593	979945

Source: Reserve Bank of India

Notes:

RE: Revised Estimates BE : Budget Estimates

1. Negative (-) sign indicates surplus in deficit indicators.
2. The ratios to GDP at current market prices are based on CSO's National Accounts 2004-05 series and data from 2011-12 onwards are based on new base 2011-12.
3. Capital receipts include public accounts on a net basis.
4. Capital disbursements are exclusive of public accounts.

Table 2.12. Receipts and Disbursements of State and Consolidated General Government

	(As per cent to GDP)								
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (RE)	2016-17 (BE)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
State Governments									
I. Total Receipts (A+B)	15.8	15.6	15.1	15.7	15.7	15.0	16.1	18.5	18.8
A. Revenue Receipts (1+2)	12.3	11.9	12.0	12.6	12.6	12.2	12.8	14.4	15.0
1. Tax Receipts	8.6	8.2	8.7	9.3	9.5	9.2	9.0	10.4	10.6
<i>of which</i>									
States' Own Tax Revenue	5.7	5.6	5.9	6.4	6.6	6.3	6.3	6.6	6.7
2. Non-tax Receipts	3.8	3.7	3.3	3.3	3.1	3.0	3.8	4.1	4.4
<i>of which</i>									
Interest Receipts	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
B. Capital Receipts	3.5	3.7	3.1	3.1	3.1	2.8	3.3	4.1	3.8
<i>of which</i>									
Recovery of Loans and Advances	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1
II. Total Disbursements (a+b+c)	15.7	15.7	14.9	15.5	15.4	15.2	16.3	18.8	18.8
a) Revenue	12.1	12.3	12.0	12.3	12.4	12.3	13.2	14.7	14.8
b) Capital	3.3	3.1	2.7	2.7	2.7	2.7	2.9	3.5	3.6
c) Loans and Advances	0.3	0.3	0.2	0.4	0.3	0.2	0.2	0.7	0.3
III. Revenue Deficit	-0.2	0.5	0.0	-0.3	-0.2	0.1	0.4	0.2	-0.1
IV. Gross Fiscal Deficit	2.4	2.9	2.1	1.9	2.0	2.2	2.6	3.6	3.0
General Government									
I. Total Receipts (A+B)	27.8	28.5	27.7	28.1	27.8	26.7	25.6	29.1	29.5
A. Revenue Receipts (1+2)	19.8	18.7	20.3	19.4	19.8	19.7	19.2	21.4	22.5
1. Tax Receipts	16.5	15.2	16.1	16.5	17.0	16.4	16.2	17.4	17.6
2. Non-tax receipts	3.4	3.5	4.2	2.9	2.9	3.2	2.9	4.1	4.9
<i>of which:</i>									
Interest receipts	0.5	0.4	0.3	0.3	0.4	0.4	0.3	0.2	0.3
B. Capital Receipts	8.0	9.8	7.4	8.7	8.0	7.0	6.4	7.7	6.9
<i>of which:</i>									
a) Disinvestment proceeds	0.0	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.4
b) Recovery of loans & advances	0.3	0.2	0.1	0.3	0.1	0.1	0.2	0.1	0.1
II. Total Disbursements (a+b+c)	28.4	28.6	27.6	27.7	27.1	26.7	26.4	29.3	29.5
a) Revenue	24.1	24.4	23.5	23.6	23.3	23.0	22.5	24.2	24.7
b) Capital	3.9	3.8	3.4	3.3	3.3	3.4	3.4	4.2	4.3
c) Loans and Advances	0.4	0.4	0.6	0.8	0.5	0.4	0.5	0.9	0.5
III. Revenue Deficit	4.3	5.7	3.2	4.2	3.5	3.3	3.3	2.7	2.2
IV. Gross Fiscal Deficit	8.3	9.3	6.9	7.8	6.9	6.7	6.7	7.6	6.5

Source: Reserve Bank of India

Notes:

RE: Revised Estimates

BE : Budget Estimates

1. Negative (-) sign indicates surplus in deficit indicators.
2. The ratios to GDP at current market prices are based on CSO's National Accounts 2004-05 series and data from 2011-12 onwards are based on new base 2011-12.
3. Capital receipts include public accounts on a net basis.
4. Capital disbursements are exclusive of public accounts.

Table 3.1. Employment in Organised Sectors—Public and Private (as on March 31, 2012)

	(Lakh persons)						
	2006	2007	2008	2009	2010	2011	2012
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Public Sector							
By branch							
Central Government	28.6	28.0	27.4	26.6	25.5	24.6	25.2
State Governments	73.0	72.1	71.7	72.4	73.5	72.2	71.8
Quasi-Governments	59.1	58.6	58.0	58.4	58.7	58.1	58.0
Local bodies	21.2	21.3	19.7	20.7	20.9	20.5	21.1
Total	181.9	180.0	176.7	178.0	178.6	175.5	176.1
By industry							
Agriculture, hunting etc.	4.7	4.8	4.7	4.8	4.8	4.8	4.7
Mining and quarrying	11.5	11.4	11.2	11.1	11.0	10.9	10.8
Manufacturing	10.9	10.9	10.4	10.6	10.7	10.2	10.7
Electricity, gas and water	8.5	8.5	8.0	8.4	8.4	8.3	8.2
Construction	8.9	8.7	8.5	8.5	8.6	8.5	8.3
Wholesale and retail trade	1.8	1.8	1.7	1.7	1.7	1.7	1.7
Transport, storage & communications	26.8	26.4	26.3	26.0	25.3	23.8	24.9
Finance, insurance, real estate etc.	13.9	13.7	13.5	13.6	14.1	13.6	13.6
Community, social & personal services	91.8	90.9	88.5	90.1	90.5	91.0	90.4
Total	178.7	176.9	172.8	174.8	175.1	172.7	173.3
2. Private Sector							
Agriculture, hunting etc.	10.3	9.5	9.9	9.0	9.2	9.2	9.2
Mining and quarrying	1.0	1.0	1.1	1.2	1.6	1.3	1.4
Manufacturing	45.5	47.5	49.7	52.0	51.8	54.0	55.3
Electricity, gas and water	0.4	0.5	0.5	0.6	0.6	0.7	0.6
Construction	0.6	0.7	0.7	0.8	0.9	1.0	1.2
Wholesale and retail trade	3.9	4.1	2.7	4.7	5.1	5.5	6.0
Transport, storage & communications	0.9	1.0	1.0	1.3	1.7	1.9	2.1
Finance, insurance, real estate etc.	6.5	8.8	11.0	13.1	15.5	17.2	19.1
Community, social & personal services	18.8	19.5	21.7	20.2	21.4	23.5	24.5
Total	87.7	92.4	98.4	102.9	107.9	114.2	119.4
3. Public Sector							
Male	151.9	149.8	146.3	147.0	146.7	143.8	144.6
Female	30.0	30.2	30.4	30.9	32.0	31.7	31.5
Total	181.9	180.0	176.7	178.0	178.6	175.5	176.1
4. Private Sector							
Male	66.9	69.8	74.0	78.9	81.8	86.7	90.7
Female	21.2	22.9	24.7	25.0	26.6	27.8	29.0
Total	88.1	92.7	98.8	103.8	108.5	114.5	119.7
5. Public and Private Sector							
Male	218.7	219.6	220.4	225.9	228.5	230.5	235.3
Female	51.2	53.1	55.1	55.8	58.6	59.5	60.5
Total	269.9	272.8	275.5	281.7	287.1	290.0	295.8

Source: Directorate General of Employment, Ministry of Labour & Employment

Notes:

1. Excludes Sikkim, Arunachal Pradesh, Dadra & Nagar Haveli and Lakshadweep as these are not yet covered under the programme.
2. Industry-wise break-up may not tally with public sector, private sector and grand total due to non-inclusion of data as per NIC 1998, in respect of J&K, Manipur and Daman & Diu in 2012.

Table 3.2. Performance of Central Public Sector Enterprises

Particulars	(₹ Crore)										
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
No. of Operating Enterprises	217	214	213	217	220	225	230	234	236	244	
Capital Employed	660630	724009	792232	908007	1153833	1337821	1508177	1710453	1833274	1938795	
Total Gross Turnover/ Revenue	964890	1096308	1271536	1244805	1498018	1822049	1945814	2066057	1995176	1854667	
Total Net Income/Revenue	970357	1102772	1309639	1272219	1470569	1804614	1931186	2056336	1965638	1764749	
Net Worth	452613	518485	583144	652993	709498	776162	850921	926663	962518	1002749	
Profit before dep., Impairment, Int., Exc. Items, Ex. Ord. Items, & Taxes (PBDIET)	177990	195049	186836	211184	216602	250654	255936	289361	270400	280254	
Depreciation, Depletion & Amortization (DRE)/Impairment	38982	42470	44441	51168	57118	63591	66109	69817	77500	74631	
Profit before Interest, Exc. Items, Ex. Ord. Items & Taxes (PBIET)	5841	5802	7661	9565	187	154	436	851	554	409	
Interest	139008	152579	142395	160017	159298	186910	189390	218693	192346	205213	
Profit before Exp. Items Ex. Or. Items & Taxes (PBEET)	27481	32126	39300	36060	26521	36152	38184	51638	44942	48373	
Exceptional Items	111528	120453	103095	123957	132777	150758	151207	167055	147412	156841	
Profit before Ex. Or. Items & Tax. (PBET)	0	0	0	0	-1479	3957	-13525	-14618	-1335	5580	
Extra-Ordinary Items	0	0	0	0	134256	146801	164732	181673	148747	151261	
Profit Before Tax (PBT)	-3553	-2549	-2684	-8280	-2695	-428	-1276	-1550	-1394	-8865	
Tax Provisions	115407	122023	117695	132222	136951	147230	166008	183223	150141	160126	
Net Profit/Loss after Tax from Continuing Operations	34352	40749	33828	40018	44871	48985	51025	55178	47230	44638	
Net Profit/Loss after Tax from Discontinuing Operations	81055	81274	83867	92203	92079	98245	114982	128045	102911	115488	
Overall Net Profit/Loss	0	0	0	0	49	1	-1	250	-45	279	
Profit of Profit-making CPSEs	81055	81274	83867	92203	92129	98246	114981	128295	102866	115767	
Loss of Loss incurring CPSEs	89581	91577	98488	108434	113944	125929	143543	149636	130364	144523	
Profit – making CPSEs (No.)	-8526	-10303	-14621	-16231	-21816	-27683	-28562	-21341	-27498	-28756	
Loss – incurring CPSEs (No.)	154	160	158	157	158	161	151	164	159	165	
CPSEs making no Profit/Loss (No.)	61	54	55	60	62	64	78	70	76	78	
Dividend	2	0	0	0	0	0	1	0	1	1	
Dividend Tax	26819	28123	25501	33223	35700	42627	49703	65115	56527	70954	
	4107	4722	4132	5151	5372	5877	6704	8709	8642	11086	

Source: Department of Public Enterprises

Table 4.1. Scheduled Commercial Banks: Seasonal Flow of Funds

		(₹ Crore)																	
		2008-09		2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17 (P)	
Items	(1)	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Sources																			
1. Increase in aggregate deposits	242388	394782	284494	374223	218449	496694	326878	374235	383090	458282	399896	555210	347996	479730	375101	418903	766357	665404	
2. Increase in borrowings from RBI	2094	5633	-11728	42	2274	2716	-2333	6057	7713	5120	20640	-615	43092	73497	-94166	168431	-198100	-12557	
3. Increase in other borrowings@	5900	1532	-19495	9836	15677	11386	40853	34260	-5384	20594	32942	-33569	-33371	38205	15126	57980	-4124	21467	
4. Increase in other demand and time liabilities	-1886	11051	11635	10265	1068	11317	18100	13484	1706	36539	-2597	29294	2635	16235	-4457	51297	-45890	6169	
5. Residual (Net)	20077	-89931	31894	44908	47277	49845	6660	97635	-25620	-1757	36734	-58126	-62017	-20456	19919	-142805	-12192	-66041	
Total	268573	323068	296800	439273	284744	571958	390158	525671	361505	518777	487615	492194	298334	587210	311523	553807	506051	614442	
Uses																			
1. Increase in bank credit	189112	224524	99121	370118	180440	51685	152743	517026	151888	496718	341562	392075	123970	418354	149471	563723	245253	344539	
2. Increase in investments	12844	181852	205675	12667	89454	27413	200747	35421	209966	58351	105416	101300	150982	128023	150061	-16378	231321	174127	
3. Increase in cash in hand	5438	-3201	4518	779	4475	293	5665	119	4660	-299	2256	3123	3392	4093	5075	-991	4512	-590	
4. Increase in balances with RBI	61179	-80107	-12514	55709	10375	27398	31003	-26896	-5010	-35993	38381	-4304	19989	36740	6916	7452	24964	96367	
Total	268573	323068	296800	439273	284744	571958	390158	525671	361505	518777	487615	492194	298334	587210	311523	553807	506051	614442	

Source: Reserve Bank of India

Notes:

H1 : April to September

H2 : October to March

(P): Provisional.

@ : Excludes borrowings from RBI, IDBI, EXIM Bank and NABARD.

1. Data on aggregate deposits also reflect redemption of Resurgent India Bonds (RIBs) of ₹ 226.93 billion, since October 1, 2003.

2. Residual (net) is the balance of Uses of Funds over Sources of Funds and includes borrowings from RBI, IDBI, EXIM Bank and NABARD.

3. The data relate to last reporting Fridays.

4. Figures may not add up to totals due to rounding off.

5. Data for March 31, 2017 are provisional.

Table 4.2. Scheduled Commercial Banks: Variations in Selected Items

Items	(₹ Crore)												Outstanding as on May 26, 2017 (P)
	2007-08 Mar 30 to Mar 28	2008-09 Mar 28 to Mar 27	2009-10 Mar 27 to Mar 26	2010-11 Mar 26 to Mar 25	2011-12 Mar 25 to Mar 23	2012-13 Mar 23 to Mar 22	2013-14 Mar 22 to Mar 21	2014-15 Mar 21 to Mar 20	2015-16 Mar 20 to Mar 18	2016-17 Mar 18 to Mar 31 (P)	(11)	(12)	
1. Demand deposits	94579	-1225	122525	-3904	-16376	36969	51622	80108	94967	392861	1087343		
2. Time deposits* @	490427	638395	536191	719048	717488	804402	903484	747617	699038	1038899	9466548		
3. Aggregate deposits @	585006	637170	658716	715143	701113	841371	955106	827725	794005	1431760	10553889		
4. Borrowings from RBI	-2245	7728	-11686	4989	3723	12833	20026	116589	74265	-210657	2285		
5. Cash in hand & balances with RBI	78805	-16690	48492	42541	9891	-36642	39456	64215	18452	125252	497930		
6. Investments in Govt. securities	182603	197124	222609	118753	237870	268636	207541	278557	539991	194524	3225859		
7. Bank credit	430724	413636	469239	697295	669769	648607	733637	542325	713194	589792	7598482		

Source: Reserve Bank of India.

Notes:

(P): Provisional

* : Revised in line with the new accounting standards and are consistent with the methodology suggested by the Working Group on Money Supply : Analytics and Methodology of Compilation (June 1998) from 1998-99 onwards.

The revision is in respect of pension and provident funds with commercial banks which are classified as other demand and time liabilities and includes those banks which have reported such changes so far.
@: Data also reflect redemption of Resurgent India Bonds of ₹ 226.93 billion, since October 2003.

Table 4.3. Scheduled Commercial Banks' Outstanding Advances against Sensitive Commodities

Commodities	(₹ Crore)											
	March 2012	March 2013	March 2014	October 2014	March 2015	October 2015	March 2016	October 2016	Variation during March 2016 over March 2015	Variation during October 2015 over March 2015	Variation during October 2016 over March 2016	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
1 Paddy & Rice	18314	23218	25911	24803	30068	27588	31373	30240	1305	-2480	-1133	
2 Wheat	3000	4016	4146	6777	6710	5649	6568	7722	-142	-1061	1154	
3 Other Foodgrains	2303	2696	3368	3497	4195	4501	7402	7544	3207	306	142	
4 Pulses	3594	4031	3395	3552	4497	3956	4865	4539	368	-541	-326	
5 Sugar	15718	15451	15940	13518	14863	13979	16544	15785	1681	-884	-759	
6 Khandasari	330	446	402	260	378	298	431	296	53	-80	-135	
7 Gur	212	361	410	355	382	243	245	134	-137	-139	-111	
8 Groundnut	478	558	658	1654	1810	1412	1733	1700	-77	-398	-33	
9 Rapeseed/Mustard Seed	528	478	790	855	574	586	578	1159	4	12	581	
10 Linseed	16	15	18	17	14	13	13	4	-1	-1	-9	
11 Castorseed	163	298	651	617	568	583	570	600	2	15	30	
12 Cottonseed	259	407	375	254	433	357	656	415	223	-76	-240	
13 Soyabean	1359	1200	1778	797	1382	1088	2361	2660	979	-294	299	
14 Other Oilseed	775	880	903	851	930	1013	905	1383	-25	83	478	
15 Groundnut Oil	810	861	834	765	785	723	791	403	6	-62	-388	
16 Rapeseed/Mustard Oil	386	631	383	369	472	315	426	858	-46	-157	432	
17 Linseed Oil	10	41	61	50	65	57	39	28	-26	-8	-11	
18 Castor Oil	456	447	492	435	437	405	379	742	-58	-32	363	
19 Cottonseed Oil	639	423	731	584	695	616	614	528	-81	-79	-86	
20 Soyabean Oil	1321	1959	1504	1297	1561	1498	1377	1661	-184	-63	284	
21 Other Vegetable Oil	1587	2012	1569	1233	1444	4002	2281	2221	837	2558	-60	
22 Vanaspati Oil	484	338	537	383	434	252	342	515	-92	-182	173	
23 Cotton and Kapas	15562	15903	16602	16666	18881	17706	19823	17309	942	-1175	-2514	
24 Raw Jute	639	521	551	641	740	651	673	929	-67	-89	256	
Total	68943	77191	82009	80232	92320	87489	100994	99376	8674	-4831	-1618	

Source: Reserve Bank of India

Notes:

1. Effective from October 10, 2000 all commodities except unreleased stocks of levy sugar stand exempted from selective credit controls.
2. Figures may not add up to total due to rounding.
3. Data for 2016 is provisional.

Table 4.4. Number of Functioning Branches of Commercial Banks - Bank Group-wise

	Branches as on June 30						% of Rural branches to Total
	2012	2013	2014	2015	2016		
	Total	Total	Total	Total	Total	Rural	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SBI and its Associates	20797	22015	23710	24576	25362	7705	30.4
Nationalised Banks	50231	54206	60394	64360	66578	20370	30.6
Other Public Sector Banks	1014	1147	1476	1862	2154	415	19.3
Foreign Banks	332	342	324	330	332	7	2.1
Regional Rural Banks	17259	18231	19471	20484	21224	14605	68.8
Local Area Banks	69	79	89	105	127	35	27.6
Private Sector Banks	14270	16692	18934	20714	23629	4484	19.0
Total	103972	112712	124398	132431	139406	47621	34.2

Source: RBI

Notes:

1. Data include 'Administrative Offices'
2. Population groups are defined as follows: 'Rural' includes centres with population of less than 10,000, 'Semi-Urban' includes centres with population of 10,000 and above but less than of one lakh, 'Urban' includes centres with population of one lakh and above but less than of ten lakhs, and 'Metropolitan' includes centres with population of 10 lakhs and above. All population figures are as per census 2011.
3. 'Public Sector banks' comprises of State Bank of India and its' associates, Nationalized banks, 'Other Public Sector Banks' and Regional Rural Banks.
4. "State Bank of India and its Associates' comprises of State Bank of India, State Bank of Bikaner And Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala, State Bank of Travancore.
5. Source: Master Office File (MOF) System, Department of Statistics and Information Management, Reserve Bank of India. MOF data are dynamic in nature. It is updated based on information as received from banks. It remains provisional because reporting of good many newly opened branches in recent period remain in the pipeline before capturing it in the MOF System."

Table 4.5. Advances to Agriculture and Other Priority Sectors by Public Sector Banks

Sectors	Number of of Accounts (in thousands)				Amount Outstanding (₹ Crore)			
	March	March	March	March	March	March	March	March
	2013	2014	2015	2016	2013	2014	2015	2016
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Agriculture	43947	48336	51231	51363	531701	702541	743577	902331
(a) Direct Finance ^a	43167	47581	50535	na	447094	525652	580164	na
(b) Indirect Finance ^a	780	755	696	na	84607	176889	163413	na
2. Small Scale Industries ^b								
3. Micro & Small Enterprises	7478	8358	8329	10592	478361	593410	647855	733164
4. Setting up of Industrial Estates								
5. Small road & water transport Operators								
6. Retail Trade								
7. Small Business								
8. Professional & self employed persons								
9. Micro Credit								
10. Education	2479	2555	2536	2435	50927	55112	56997	59306
11. Consumption								
12. State sponsored Corpn/Organisations for on lending to Other Priority Sector								
13. State sponsored organisation for SC/ST purchase & supply of inputs & marketing of outputs								
14. Housing Loans	3929	4009	4082	4187	213892	235484	247887	273835
15. Funds provided to RRBs								
16. Advances to Self Help Groups								
17. Advances to Software Industries								
18. Advances to Food & Agro Processing Sector								
19. Investment in Venture Capital								
20. Total Priority Sector Advances ^c	58804	64346	67151	69305	1283411	1602907	1707489	1981256
21. ANBC ^d					3530808	4110591	4584973	5056594
Percentage to ANBC								
1. Agriculture					15.06	17.09	16.22	17.84
(a) Direct Finance ^a					12.66	12.79	12.65	
(b) Indirect Finance ^a					2.40	4.30	3.56	
2. Small Scale Industries ^b								
3. Micro & Small Enterprises					13.55	14.44	14.13	14.50
4. Setting up of Industrial Estates								
5. Small road & water transport Operators								
6. Retail Trade								
7. Small Business								

Contd....

Table 4.5. Advances to Agriculture and Other Priority Sectors by Public Sector Banks (Contd....)

Sectors	Number of of Accounts (in thousands)				Amount Outstanding (₹ Crore)			
	March	March	March	March	March	March	March	March
	2013	2014	2015	2016	2013	2014	2015	2016
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. Professional & self employed persons								
9. Micro Credit								
10. Education					1.44	1.34	1.24	1.17
11. Consumption								
12. State sponsored corps/Organisations for on lending to Other Priority Sector								
13. State sponsored organisation for SC/ST purchase & supply of inputs & marketing of outputs								
14. Housing Loans					6.06	5.73	5.41	5.42
15. Funds provided to RRBs								
16. Advances to Self Help Groups								
17. Advances to Software Industries								
18. Advances to Food & Agro Processing Sector								
19. Investment in Venture Capital								
20. Total Priority Sector Advances					36.35	38.99	37.24	39.18

Source: Reserve Bank of India

Notes:

na : not available

a : Excludes advances to plantations other than development finance

b : Includes small business

c : Total priority sector advances is the total of items 1 to 12 & 14 to 17 and half of item 13

d : ANBC stands for Adjusted Net Bank Credit

Table 4.6: State-wise Number of Reporting Bank-offices, Deposit and Bank Credit of SCBs and Percentage Share of Advances to Priority Sectors by PSBs

States or UTs	Number of Reporting Bank Offices *		Deposit (₹ crore)		Credit (₹ crore)		Percentage share of advances to priority sector in total bank credit of PSBs (P)	
	March 2016	September 2016	March 2016	September 2016	March 2016	September 2016	March 2016	September 2016
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Andaman & Nicobar Islands	63	65	3325	3692	1409	1481	55	na
2 Andhra Pradesh	6485	6594	213266	228478	222899	233650	70	na
3 Arunachal Pradesh	141	148	8879	9211	2539	2650	33	na
4 Assam	2177	2221	103795	106120	42671	46063	57	na
5 Bihar	6379	6489	245223	254309	81246	85880	66	na
6 Chandigarh	396	400	56231	57130	55923	58865	20	na
7 Chhattisgarh	2317	2357	104054	109436	66067	68036	39	na
8 Dadra & Nagar Haveli	54	56	3083	3379	2814	1202	69	na
9 Daman & Diu	47	47	3820	4039	874	914	76	na
10 Goa	658	671	56559	59109	15044	15333	54	na
11 Gujarat	7303	7507	522407	550358	392377	398218	39	na
12 Haryana	4505	4617	253707	273973	178241	170955	58	na
13 Himachal Pradesh	1497	1521	66793	73395	22500	23439	65	na
14 Jammu & Kashmir	1687	1714	81122	85487	35484	37249	49	na
15 Jharkhand	2819	2867	162469	171234	46635	46408	56	na
16 Karnataka	9469	9745	704274	732348	490850	496626	48	na
17 Kerala	6166	6259	363511	385614	224800	240596	60	na
18 Lakshadweep	13	13	880	913	79	77	61	na
19 Madhya Pradesh	6148	6256	286913	285593	173308	180823	60	na
20 Maharashtra	11789	12023	2177596	2210712	2235305	2216029	27	na
21 Manipur	147	157	6054	5950	2495	2778	50	na
22 Meghalay	317	341	18411	18286	4523	4878	40	na
23 Mizoram	168	172	5957	6180	2373	2481	56	na
24 Nagaland	151	155	7796	8031	2637	2785	35	na
25 Nct of Delhi	3408	3482	976166	1054836	970597	924928	11	na
26 Odisha	4528	4614	212055	224984	85607	85483	49	na
27 Puducherry	231	231	12686	14185	8426	8773	62	na
28 Punjab	6053	6169	293084	307211	205540	198761	57	na
29 Rajasthan	6648	6822	260432	278585	190794	196698	65	na
30 Sikkim	127	130	6275	6505	1679	1832	62	na
31 Tamil Nadu	9939	10117	604539	636925	682310	684615	47	na
32 Telangana	4807	4911	358650	375645	371581	372831	29	na
33 Tripura	412	428	17514	18498	6083	6621	72	na
34 Uttar Pradesh	16018	16233	749371	786674	327749	327643	60	na
35 Uttarkhand	1954	1989	97521	104290	33617	35404	85	na
36 West Bengal	7566	7742	615552	645226	333854	336877	36	na
All India	132587	135263	9659968	10096540	7520929	7517886	39	na

Sources: RBI

Notes:

SCBs: Scheduled Commercial Banks

PSBs: Public Sector Banks

na: Not available

(P): Data for March 2016 is provisional

*The number of reporting bank offices are number of branches / offices, which reported the data and does not necessarily relates to all branches.

1. Data are as per their latest geographical boundaries as updated in the MOF system. Data correspondence to 'Andhra Pradesh' relate to divided Andhra Pradesh.
2. Source: Quarterly statistics on Deposits and Credit of Scheduled Commercial Banks (Basic Statistical Return (BSR)-7)
3. Share of Priority sector advances based on the Annual returns received from Public Sector Banks.

Table 5.1. Index Numbers of Wholesale Prices

	Primary articles			Fuel & power			Manufactured products				All commodities		
	Total	Food articles		Non-Food articles	Minerals	power	Total	Food products	Textiles	Chemicals & chemical products		Basic metals, alloys & metal products	Machinery & machine tools
		Total	Food grains											Food articles
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Weight-Base: (2004-05=100)	20.1	14.3	4.1	4.3	1.5	14.9	65.0	10.0	7.3	12.0	10.7	8.9	100.0
Weight-Base: (2011-12=100)	22.6	15.3	3.5	4.1	0.8	13.2	64.2	9.1	4.9	6.5	9.6	4.8	100.0
Last month of (2004-05 = 100)													
2005-06	104	105	113	97	119	117	104	102	100	105	103	105	105.7
2006-07	118	119	126	107	135	119	110	107	101	110	116	112	112.8
2007-08	129	126	137	124	173	127	118	116	101	116	138	115	121.5
2008-09	136	136	152	125	168	123	120	123	103	116	130	118	123.5
2009-10	166	164	172	150	232	140	126	142	112	120	133	120	136.3
2010-11	188	179	176	191	267	158	136	145	132	129	148	123	149.5
2011-12	208	197	186	190	359	178	143	154	128	139	163	126	161.0
2012-13	223	214	216	208	352	192	149	166	133	146	165	129	170.1
2013-14	239	235	231	218	346	214	154	169	143	153	168	133	180.3
2014-15	239	249	236	203	243	188	154	170	140	151	162	135	176.1
2015-16	246	260	260	220	193	172	154	180	140	150	153	135	175.3
2016-17	259	269	270	231	247	204	159	192	143	152	161	135	185.8
Last month of (2011-12 = 100)													
2012-13	115	114	120	120	122	110	106	109	107	110	103	105	108.6
2013-14	121	123	127	118	115	119	111	116	114	116	105	108	114.3
2014-15	120	129	129	112	112	92	110	113	110	114	100	109	109.9
2015-16	123	133	141	117	116	77	109	117	109	111	89	109	107.7
2016-17	127	138	147	122	115	94	112	127	113	112	96	108	113.2
Average of months (2004-05 = 100)													
2005-06	104	105	107	97	115	114	102	101	99	104	102	104	104.5
2006-07	114	116	122	102	137	121	108	107	101	109	112	110	111.4
2007-08	124	124	131	114	153	121	113	110	102	113	123	114	116.6
2008-09	138	135	145	129	187	135	120	120	103	118	138	117	126.0
2009-10	155	155	166	136	203	132	123	136	107	118	130	118	130.8

Contd...

Table 5.1. Index Numbers of Wholesale Prices (Contd....)

	Primary articles			Fuel & power			Manufactured products				All commodities		
	Total	Food articles		Minerals	Non-Food articles	Total	Food products	Textiles	Chemicals & chemical products	Basic metals, alloys & metal products		Machinery & machine tools	
		Food grains	Food articles										(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Weight-Base: (2004-05=100)	20.1	14.3	4.1	4.3	1.5	14.9	65.0	10.0	7.3	12.0	10.7	8.9	100.0
Weight-Base: (2011-12=100)	22.6	15.3	3.5	4.1	0.8	13.2	64.2	9.1	4.9	6.5	9.6	4.8	100.0
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2010-11	182	180	174	167	253	148	130	141	120	124	141	121	143.5
2011-12	200	193	181	183	321	169	140	151	129	135	156	125	156.1
2012-13	220	212	207	202	347	186	147	163	131	144	166	128	167.6
2013-14	242	239	226	213	346	205	151	169	139	149	165	132	177.6
2014-15	249	253	235	212	309	203	155	173	143	153	166	135	181.2
2015-16	250	262	253	220	216	180	153	174	140	151	155	135	176.7
2016-17	262	275	281	230	220	190	157	191	142	151	156	135	183.2
Average of months (2011-12 = 100)													
2012-13	111	111	115	113	118	107	105	109	104	108	105	104	106.9
2013-14	122	125	125	118	114	115	109	114	112	113	103	106	112.5
2014-15	125	132	128	115	119	108	111	116	113	116	104	108	113.9
2015-16	125	135	137	118	106	87	109	115	109	113	92	109	109.7
2016-17	129	140	152	122	113	86	111	125	111	111	91	108	111.6
2015-16													
April	122	131	130	112	107	91	110	113	109	114	99	109	110.2
May	123	132	132	116	103	96	111	113	110	115	98	110	111.4
June	125	134	133	117	108	96	110	113	110	115	97	111	111.8
July	124	134	134	116	105	94	110	113	110	114	95	110	111.1
August	125	136	135	118	105	88	109	114	110	113	92	110	110.0
September	126	136	137	119	108	86	109	114	109	113	92	108	109.9
October	126	138	140	120	95	86	109	115	109	113	92	109	110.1
November	127	139	141	121	100	86	109	115	108	112	89	109	109.9
December	127	138	142	122	120	85	108	115	109	111	87	109	109.4
January	124	136	142	121	99	80	108	116	108	111	87	108	108.0
February	122	133	141	118	102	76	108	116	109	111	87	108	107.1

Contd....

Table 5.1. Index Numbers of Wholesale Prices (Contd.....)

	Primary articles			Fuel & power			Manufactured products				All commodities		
	Total	Food articles		Minerals	Non-Food articles	power	Total	Food products	Textiles	Chemicals & chemical products		Basic metals, alloys & metal products	Machinery & machine tools
		Food grains	Non-Food articles										
Weight-Base: (2004-05=100)	20.1	14.3	4.1	4.3	1.5	14.9	65.0	10.0	7.3	12.0	10.7	8.9	100.0
Weight-Base: (2011-12=100)	22.6	15.3	3.5	4.1	0.8	13.2	64.2	9.1	4.9	6.5	9.6	4.8	100.0
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
March	123	133	141	117	116	77	109	117	109	111	89	109	107.7
2016-17													
April	126	138	144	121	104	78	109	120	110	112	90	108	109.0
May	129	141	147	121	111	81	110	121	110	112	90	108	110.4
June	132	144	151	124	119	85	110	123	110	111	90	108	111.7
July	132	145	155	127	96	85	110	124	111	112	89	108	111.8
August	131	143	154	125	128	81	110	125	112	111	88	108	111.2
September	131	142	153	123	129	83	110	126	112	110	89	107	111.4
October	129	142	155	120	105	85	111	127	111	110	91	108	111.5
November	129	142	158	118	111	87	111	127	111	111	92	108	111.9
December	127	138	158	119	114	88	111	128	111	110	93	108	111.7
January	127	137	153	122	113	93	112	128	111	111	94	108	112.6
February	127	137	150	124	113	95	112	128	112	111	94	108	113.0
March	127	138	147	122	115	94	112	127	113	112	96	108	113.2

Source: Office of the Economic Adviser, Ministry of Commerce & Industry

Table 5.2. Index Numbers of Wholesale Prices – Selected Commodities and Commodity Groups

	Rice	Wheat	Pulses	Tea	Raw cotton	Raw jute	Ground-nut seed	Coal	Mineral oils	Sugar, khandasari & gur	Edible oils	Cotton yarn	Cotton fabric	Jute, hemp & mesta textiles	Fertilizers	Cement	Iron, steel & ferro alloys ^a
	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Weight-Base: (2004-05=100)	1.79	1.12	0.72	0.11	0.70	0.06	0.40	2.09	9.36	2.09	3.04	1.38	1.23	0.26	2.66	1.39	6.88
Weight-Base: (2011-12=100)	1.43	1.03	0.64	0.12	0.66	0.05	0.27	2.14	7.95	1.16	2.64	1.34	0.95	0.32	1.48	1.64	6.55
Last month of (Base: 2004-05=100)																	
2005-06	105	117	126	92	91	159	94	118	122	112	93	98	98	114	103	106	97
2006-07	115	129	147	97	99	118	132	118	123	97	107	98	97	120	105	130	111
2007-08	131	140	148	110	122	130	147	136	133	93	127	100	98	110	107	138	138
2008-09	151	151	159	156	124	142	141	151	124	126	114	102	105	125	108	148	126
2009-10	163	173	199	129	149	173	153	163	147	178	114	123	109	157	110	151	127
2010-11	167	173	191	138	303	240	171	185	168	164	129	179	128	182	121	154	143
2011-12	175	172	210	145	196	227	231	210	193	169	142	150	131	171	141	163	158
2012-13	206	205	233	212	214	273	266	190	214	184	147	164	134	182	152	172	158
2013-14	232	218	228	170	234	270	197	190	237	178	147	185	142	187	153	164	161
2014-15	234	216	258	156	178	310	223	190	194	171	145	169	145	202	156	178	153
2015-16	239	228	347	182	180	505	256	190	169	183	150	165	146	238	159	176	140
2016-17	257	245	325	203	242	397	262	226	210	218	156	175	150	235	155	172	150
Last month of (Base: 2011-12=100)																	
2012-13	119	123	115	141	100	124	121	103	116	112	100	109	106	107	116	105	102
2013-14	133	128	115	113	107	125	99	107	128	109	107	120	112	108	118	108	104
2014-15	132	126	131	103	84	142	115	107	82	98	99	108	114	121	120	112	97
2015-16	135	134	167	121	86	226	129	106	58	110	100	105	112	153	121	109	84
2016-17	148	143	154	133	114	188	138	116	84	133	108	114	113	147	117	109	91
Average of months (Base: 2004-05=100)																	
2005-06	105	105	113	89	90	135	97	118	117	109	94	95	99	112	102	102	100
2006-07	110	125	149	104	97	136	110	118	127	107	102	98	97	115	104	119	105
2007-08	122	134	145	104	112	122	140	122	126	91	116	101	99	111	106	138	119
2008-09	141	148	156	153	141	138	144	151	142	107	122	103	103	117	107	139	137
2009-10	158	166	191	174	139	160	148	156	136	162	114	111	107	146	108	149	124
2010-11	167	171	197	148	199	211	165	165	157	161	121	142	115	165	117	151	136
2011-12	172	168	202	151	225	223	200	191	184	168	136	155	132	176	133	157	150

Contd....

Table 5.2. Index Numbers of Wholesale Prices – Selected Commodities and Commodity Groups (Contd....)

	Rice	Wheat	Pulses	Tea	Raw cotton	Raw jute	Ground-nut seed	Coal	Mineral oils	Sugar, khandasari & gur	Edible oils	Cotton yarn	Cotton fabric	Jute, hemp & mesta textiles	Fertilizers	Cement	Iron, steel & ferro alloys ^a
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Weight-Base: (2004-05=100)	1.79	1.12	0.72	0.11	0.70	0.06	0.40	2.09	9.36	2.09	3.04	1.38	1.23	0.26	2.66	1.39	6.88
Weight-Base: (2011-12=100)	1.43	1.03	0.64	0.12	0.66	0.05	0.27	2.14	7.95	1.16	2.64	1.34	0.95	0.32	1.48	1.64	6.55
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
2012-13	194	194	241	199	206	242	247	209	202	186	148	157	134	178	149	169	160
2013-14	226	212	228	196	237	262	219	191	226	183	147	175	139	184	152	167	158
2014-15	241	212	241	179	206	288	210	190	220	183	145	179	144	193	155	170	158
2015-16	237	219	337	183	190	404	246	190	179	167	149	166	146	219	158	174	142
2016-17	252	242	406	210	224	448	265	199	194	208	156	172	148	238	157	175	143
Average of months (Base: 2011-12=100)																	
2012-13	113	115	120	132	95	110	121	102	111	112	106	105	103	103	114	108	105
2013-14	129	125	115	131	109	121	108	105	122	109	104	117	110	106	117	106	102
2014-15	137	123	122	118	96	133	107	107	109	108	102	115	115	113	119	111	102
2015-16	135	128	164	121	90	182	128	107	74	99	99	107	113	137	121	110	87
2016-17	144	142	193	140	107	208	138	109	73	125	107	110	114	151	119	111	86
2015-16																	
April	133	125	134	115	90	141	120	107	81	99	99	108	113	120	121	110	97
May	134	124	144	119	93	142	127	107	88	98	99	109	112	120	121	108	95
June	134	122	155	117	92	160	136	107	90	94	100	110	113	123	121	108	93
July	133	125	157	120	92	162	133	107	85	90	100	109	114	129	121	110	91
August	134	126	162	118	91	160	135	106	76	92	98	109	114	132	122	111	87
September	135	126	167	116	91	167	136	106	72	94	98	107	114	135	122	112	88
October	136	129	178	119	87	181	122	106	73	96	99	106	113	141	122	112	86
November	136	130	180	123	86	196	122	106	73	97	99	105	113	144	121	112	84
December	135	132	179	126	89	205	126	106	71	100	98	104	113	148	121	110	81
January	136	134	175	130	90	217	123	106	63	105	97	103	111	149	122	109	81
February	135	134	169	129	88	222	125	106	56	108	98	106	113	149	122	108	82
March	135	134	167	121	86	226	129	106	58	110	100	105	112	153	121	109	84
2016-17																	
April	136	133	180	141	90	229	139	106	62	117	103	105	113	156	121	109	85
May	139	135	189	141	94	232	143	106	67	118	105	107	114	155	121	110	85

Contd....

Table 5.2. Index Numbers of Wholesale Prices – Selected Commodities and Commodity Groups														(Contd.....)			
	Rice	Wheat	Pulses	Tea	Raw cotton	Raw jute	Ground-nut seed	Coal	Mineral oils	Sugar, khandasari & gur	Edible oils	Cotton yarn	Cotton fabric	Jute, hemp & mesta textiles	Fertilizers	Cement	Iron, steel & ferro alloys ^a
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Weight-Base: (2004-05=100)	1.79	1.12	0.72	0.11	0.70	0.06	0.40	2.09	9.36	2.09	3.04	1.38	1.23	0.26	2.66	1.39	6.88
Weight-Base: (2011-12=100)	1.43	1.03	0.64	0.12	0.66	0.05	0.27	2.14	7.95	1.16	2.64	1.34	0.95	0.32	1.48	1.64	6.55
June	142	137	198	146	105	251	146	107	73	119	104	108	113	155	121	112	84
July	144	138	212	142	116	243	150	107	72	122	104	110	113	158	120	112	82
August	145	139	204	137	116	197	146	107	66	123	106	113	114	155	119	111	81
September	145	140	199	141	111	194	140	107	69	124	108	112	117	150	118	113	83
October	145	141	211	141	106	194	132	107	71	126	108	110	114	148	118	113	86
November	145	148	215	142	102	197	126	107	75	127	108	110	115	147	118	111	87
December	144	152	205	143	104	190	132	107	77	126	110	110	115	144	117	110	87
January	144	151	183	140	111	190	134	114	82	130	111	111	114	145	117	109	88
February	146	149	164	134	114	191	132	116	84	133	110	112	113	146	117	109	88
March	148	143	154	133	114	188	138	116	84	133	108	114	113	147	117	109	91

Source: Office of the Economic Adviser, Ministry of Commerce & Industry

Notes:

a : composite index of Iron & semis, steel long, steel flat, stainless steel & alloys and ferro alloys for base 2004-05 and inputs into steel making, metallic iron, mild steel-semi finished steel, mild steel-long products, mild steel-flat products, alloy steel other than stainless steel-shapes and stainless steel-semi finished for base 2011-12

Table 5.3. All India Consumer Price Index Numbers

Table 5.3. All India Consumer Price Index Numbers								
Industrial Workers (CPI-IW)			New Series (CPI-NS)			Agricultural Labourers (CPI-AL)	Rural Labourers (CPI-RL)	
Base	(1982=100 & 2001=100)		(2010=100 & 2012=100)			(1986-87=100)	(1986-87=100)	
Description	Food	Non-Food	General	Rural	Urban	Combined	General	General
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Average of Months								
1995-96	337	280	313	...	...	...	237	238 ^b
1996-97	369	307	342	...	...	...	256	256
1997-98	388	336	366	...	...	...	264	266
1998-99	445	372	414	...	...	...	293	294
1999-00	446	404	428	...	...	...	306	307
2000-01	453	433	444	...	...	...	305	307
2001-02	466	460	463	...	...	...	309	311
2002-03	477	488	482	...	...	...	319	321
2003-04	495	507	500	...	...	...	331	333
2004-05	506	538	520	...	...	...	340	342
2005-06	527 ^a	563 ^a	542 ^a	...	...	...	353	355
2006-07	126	124	125	...	...	...	380	382
2007-08	136	130	133	...	...	...	409	409
2008-09	153	138	145	...	...	...	450	451
2009-10	176	151	163	...	...	...	513	513
2010-11	194	168	180	...	...	...	564	564
2011-12	206	185	195	113.1	110.4	111.9	611	611
2012-13	230	202	215	124.5	121.8	123.3	672	673
2013-14	259	216	236	112.6	111.8	112.2	750	751
2014-15	276	230	251	119.5	118.1	118.9	800	802
2015-16	293	241	265	126.1	123.0	124.7	835	839
2016-17	305	251	276	132.4	127.9	130.3	870	875
Last Month of								
1995-96	339	292	319	...	...	...	237	238
1996-97	373	322	351	...	...	...	262	262
1997-98	401	352	380	...	...	...	272	273
1998-99	431	391	414	...	...	...	296	296
1999-00	446	418	434	...	...	...	306	307
2000-01	446	444	445	...	...	...	300	302
2001-02	462	476	468	...	...	...	309	311
2002-03	479	498	487	...	...	...	324	326
2003-04	494	517	504	...	...	...	332	334
2004-05	502	555	525	...	...	...	340	342
2005-06	115 ^a	122 ^a	119 ^a	...	...	...	358	360
2006-07	129	125	127	...	...	...	392	393
2007-08	141	134	137	...	...	...	423	423
2008-09	156	141	148	...	...	...	463	464
2009-10	181	161	170	...	...	...	536	536
2010-11	196	176	185	106.9	103.9	105.6	585	584
2011-12	212	192	201	116.2	114.6	115.5	625	626
2012-13	240	210	224	128.3	126.5	127.5	704	705
2013-14	258	223	239	114.6	113.7	114.2	763	765

Contd....

Table 5.3. All India Consumer Price Index Numbers*(Contd....)*

Base	Industrial Workers (CPI-IW)			New Series (CPI-NS)			Agricultural Labourers (CPI-AL)	Rural Labourers (CPI-RL)
	(1982=100 & 2001=100)			(2010=100 & 2012=100)			(1986-87=100)	(1986-87=100)
	Description	Food	Non-Food	General	Rural	Urban	Combined	General
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2014-15	276	235	254	121.1	119.1	120.2	803	807
2015-16	293	247	268	128.0	123.8	126.0	843	848
2016-17	298	255	275	132.8	128.7	130.9	866	872
2015-16								
April	278	237	256	121.5	119.7	120.7	805	809
May	283	237	258	122.4	120.7	121.6	811	816
June	288	238	261	124.1	121.7	123.0	820	824
July	289	241	263	124.7	122.4	123.6	822	827
August	292	240	264	126.1	123.2	124.8	832	836
September	296	240	266	127.0	123.5	125.4	839	843
October	301	242	269	127.7	124.2	126.1	849	853
November	302	243	270	128.3	124.6	126.6	853	857
December	299	243	269	127.9	124.0	126.1	853	857
January	297	245	269	128.1	124.2	126.3	849	854
February	292	246	267	127.9	123.8	126.0	843	849
March	293	247	268	128.0	123.8	126.0	843	848
2016-17								
April	299	247	271	129.0	125.3	127.3	848	854
May	307	248	275	130.3	126.6	128.6	860	866
June	312	247	277	131.9	128.1	130.1	869	874
July	316	249	280	133.0	129.0	131.1	877	881
August	310	251	278	133.5	128.4	131.1	876	881
September	308	250	277	133.4	128.0	130.9	873	877
October	310	251	278	133.8	128.6	131.4	876	881
November	307	251	277	133.6	128.5	131.2	878	883
December	301	253	275	132.8	127.6	130.4	876	881
January	298	253	274	132.4	127.8	130.3	870	876
February	297	254	274	132.6	128.2	130.6	869	874
March	298	255	275	132.8	128.7	130.9	866	872

Sources:

1. Labour Bureau for consumer price indices for Industrial Workers (IW), Agricultural Labourers (AL) and Rural Labourers (RL)
2. CSO for consumer price indices- new series (CPI-NS)

Notes:

- a : The current series of CPI for Industrial Workers with 2001 base was introduced w.e.f. January, 2006 and the figures from 2005-06 (last month) are based on new base. The earlier series on base 1982=100 was simultaneously discontinued. The conversion factor from the current to the old series is 4.63 in case of the General Index, and 4.58 for Food Index
- b : Average index from November, 1995 to March 1996
1. Weights of CPI-IW for food & non-food with base 1982=100 are 57% & 43% respectively and with base 2001=100 are 46.20% & 53.80% respectively
 2. New Series (Rural, Urban & Combined) with base 2010=100 was introduced w.e.f. January 2011. The CPI-UNME has since been totally discontinued
 3. CPI- New Series figures for 2013-14, 2014-15 and 2015-16 is based on new base 2012=100

**Table 5.4. Index Numbers of Wholesale Prices – Relative Prices of
Manufactured and Agricultural Products**

Year/Months	General Index of Wholesale Price	Price Index of Manufactured Products	Price Index of Agricultural Products ^a	Manufactured price Index as percent of Agricultural Price Index
Weight (Base: 2004-05)	100.00	64.97	18.59	(col.3/Col.4)*100
Weight (Base: 2011-12)	100.00	64.23	19.37	
(1)	(2)	(3)	(4)	(5)
(Base : 2004-05 = 100)				
2005-06	104.5	102.4	103.4	99.1
2006-07	111.4	108.2	112.5	96.3
2007-08	116.6	113.4	121.5	93.4
2008-09	126.0	120.4	133.5	90.2
2009-10	130.8	123.1	151.0	81.5
2010-11	143.3	130.1	176.7	73.6
2011-12	156.1	139.5	190.4	73.3
2012-13	167.6	147.1	209.6	70.2
2013-14	177.6	151.5	233.0	65.0
2014-15	181.2	155.1	243.9	63.6
2015-16	176.7	153.4	252.3	60.8
2016-17	183.2	157.4	265.0	59.4
(Base : 2011-12 = 100)				
2012-13	106.9	105.3	111.4	94.5
2013-14	112.5	108.5	123.2	88.1
2014-15	113.9	111.2	128.0	86.9
2015-16	109.7	109.2	131.3	83.1
2016-17	111.6	110.7	136.5	81.1
2015-16				
April	110.2	110.1	126.8	86.9
May	111.4	110.5	128.6	86.0
June	111.8	110.3	130.1	84.8
July	111.1	109.9	130.0	84.5
August	110.0	109.2	132.1	82.6
September	109.9	109.2	132.5	82.4
October	110.1	109.4	134.1	81.6
November	109.9	108.8	134.9	80.7
December	109.4	108.4	134.2	80.7
January	108.0	108.0	133.0	81.2
February	107.1	108.3	130.1	83.3
March	107.7	108.8	130.0	83.7
2016-17				
April	109.0	109.2	134.3	81.3
May	110.4	109.8	136.6	80.4
June	111.7	110.0	139.8	78.7
July	111.8	110.3	140.7	78.4
August	111.2	110.2	138.9	79.3
September	111.4	110.4	137.9	80.1
October	111.5	110.8	137.2	80.7
November	111.9	111.0	136.8	81.1
December	111.7	111.1	133.7	83.1
January	112.6	111.6	133.5	83.6
February	113.0	111.8	133.9	83.5
March	113.2	112.3	134.3	83.6

Source: Office of the Economic Adviser, Ministry of Commerce & Industry

Notes:

a : Composite Index of the sub-groups - (Food Articles and Non-food Articles)

Table 5.5. Minimum Support Price/Procurement Price for Crops

Commodities	(Crop Year Basis) (Rs./quintal)															
	1999-00	2002-03 ^b	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
Paddy (Common)	490	550	560	570	580 ^f	645 ^h	850 ^k	950 ^k	1000	1080	1250	1310	1360	1410	1470	
Paddy (Grade 'A')	520	580	590	600	610 ^e	675 ^b	880 ^k	980 ^k	1030	1110	1280	1345	1400	1450	1510	
Wheat	580	630	640	650 ^f	750 ^b	1000	1080	1100	1120	1285	1350	1400	1450	1525	1625	
Jowar (Hybrid)	415	490	515	525	540	600	840	840	880	980	1500	1500	1530	1570	1625	
Jowar (Malandi)	...	...	...	...	555	620	860	860	900	1000	1520	1520	1550	1590	1650
Bajra	415	495	515	525	540	600	840	840	880	980	1175	1250	1250	1275	1330	
Ragi	415	490	515	525	540	600	915	915	965	1050	1500	1500	1550	1650	1725	
Maize	415	490	525	540	540	620	840	840	880	980	1175	1310	1310	1325	1365	
Barley	430	505	540	550	565	650	680	750	780	980	980	1100	1150	1225	1325	
Gram	1015	1225	1425	1435	1445	1600	1730	1760	2100	2800	3000	3100	3175	3425 ^g	3800 ^h	
Masur	...	...	1525	1535	1545	1700	1870	1870	2250	2800	2900	2950	3075	3325 ^g	3800 ^h
Arhar	1105	1325	1390	1400	1410	1550 ^d	2000	2300	3000 ⁱ	3200 ⁱ	3850	4300	4350	4425 ^g	4625 ^g	
Moong	1105	1335	1410	1520	1520	1700 ^d	2520	2760	3170 ⁱ	3500 ⁱ	4400	4500	4600	4650 ^g	4800 ^h	
Urad	1105	1335	1410	1520	1520	1700 ^d	2520	2520	2900 ⁱ	3300 ⁱ	4300	4300	4350	4425 ^g	4575 ^g	
Sugarcane ^a	56.10	69.50	74.50	79.50	80.25	81.18	81.18	129.84	139.12	145.00 ^m	170.0	210.0	220.0	230.0	255.0	
Cotton F-414/H-777	1575	1695	1760	1760	1770 ^e	1800 ^e	2500 ⁱ	2500 ⁱ	2500 ⁱ	2800 ⁱ	3600	3700	3750	3800	3860	
Cotton H-4 750	1775	1895	1960	1980	1990 ^f	2030 ^f	3000 ^j	3000 ^j	3000 ^j	3300 ^j	3900	4000	4050	4100	4160	
Groundnut	1155	1375	1500	1520	1520	1550	2100	2100	2300	2700	3700	4000	4000	4030	4120 ⁱ	
Jute(TD-5)	750	850	890	910	1000	1055	1250	1375	1575	1675	2200	2300	2400	3200 ⁿ	3500	
Rapeseed/ mustard	1100	1340	1700	1715	1715	1800	1830	1830	1850	2500	3000	3050	3100	3350	3600 ⁱ	
Sunflower	1155	1210	1340	1500	1500	1510	2215	2215	2350	2800	3700	3700	3750	3300	3700	
Soyabean (Black)	755	805	900	900	900	910	1350	1350	1400	1650	2200	2500	2500	...	2875	
Soyabean (Yellow)	845	895	1000	1010	1020	1050	1390	1390	1440	1690	2240	2560	2560	2600 ^o	2675 ⁱ	
Safflower	1100	1305	1550	1565	1565	1650	1650	1680	1800	2500	2800	3000	3050	3300	3600 ⁱ	

Contd....

Table 5.5. Minimum Support Price/Procurement Price for Crops

Commodities	1999-00	2002-03 ^b	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Toria	1065	1305	1665	1680	1680	1735	1735	1735	1780	2425	2970	3020	3020	3290	3560
Copra (milling)	3100	3300	3500	3570	3590	3620	3660	4450	4450	4525	5100	5250	5250	5950	6500
Copra balls	3325	3550	3750	3820	3840	3870	3910	4700	4700	4775	5350	5500	5500	6240	6785
Sesamum	1205	1455	1500	1550	1560	1580	2750	2850	2900	3400	4200	4500	4600	4700	4800 ^f
Niger seed	915	1120	1180	1200	1220	1240	2405	2405	2450	2900	3500	3600	3600	3650	3725

Source: Department of Agriculture, Cooperation and Farmers Welfare

Notes:

a : Statutory Minimum Price (SMP) upto 2008-09. Fair and Remunerative Price (FRP) from 2009-10 onwards

b : Including Special onetime drought relief (SDR) price announced for 2002-03

c : An additional incentive bonus of Rs. 40 per quintal was payable on procurement between January 10, 2006 to March 31, 2007

d : A bonus of Rs. 40 per quintal was payable over and above the MSP

e : Medium staple

f : Long staple

g : An incentive bonus of Rs. 50 per quintal is payable on wheat over the Minimum Support Price (MSP)

h : An additional incentive bonus of Rs. 100 per quintal was payable over the MSP

i : Staple length (mm) of 24.5-25.5 and micronaire value of 4.3-5.1

j : Staple length (mm) of 29.5-30.5 and micronaire value of 3.5-4.3

k : An additional incentive bonus of Rs. 50 per quintal was payable over the MSP

l : Additional incentive at the rate of Rs. 500 per quintal of tur, urad and moong sold to procurement agencies

m : At 9.5 percent recovery, subject to a premium of Rs.1.53 for every 0.1 percent increase in the recovery above 9.5 percent

n : Bonus of Rs. 75 per quintal is payable over and above the MSP

o : Bonus of Rs. 200 per quintal is payable over and above the MSP

p : Single MSP has been fixed irrespective of the variety

q : Bonus of Rs. 200 per quintal is payable over and above the MSP

r : Bonus of Rs. 150 per quintal is payable over and above the MSP

s : Bonus of Rs. 425 per quintal is payable over and above the MSP

t : Bonus of Rs. 100 per quintal is payable over and above the MSP

u : MSP of TDN₃ (Equivalent to TDs of old grading) grade of raw jute for 2016-17 season.

Table 6.1 A. Foreign Exchange Reserves

(₹ crore)

End of Fiscal	Reserves						Transactions with IMF			
	Gold		RTP	SDRs		Foreign Currency Assets	Total	Drawals	Repurchases ^g	Outstanding repurchase obligations
	Tonnes	₹ crore	₹ crore	SDRs in million	₹ crore	₹ crore	₹ crore (3+4+6+7)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1950-51	220	118	...	...	...	911	1029	...	...	48
1951-52	220	118	...	...	...	747	865	...	...	48
1952-53	220	118	...	...	...	763	881	...	...	48
1953-54	220	118	...	...	...	792	910	...	17	30
1954-55	220	118	...	...	...	774	892	...	17	13
1955-56	220	118	...	...	...	785	903	...	7	6
1956-57	220	118	...	...	...	563	681	61	6	61
1957-58	220	118	...	...	...	303	421	35	...	95
1958-59	220	118	...	...	...	261	379	...	...	95
1959-60	220	118	...	...	...	245	363	...	24	71
1960-61	220	118	...	...	...	186	304	...	11	61
1961-62	220	118	...	...	...	180	298	119	61	119
1962-63	220	118	...	...	...	177	295	12	...	131
1963-64	220	118	...	...	...	188	306	...	24	107
1964-65	250	134	...	...	...	116	250	48	48	107
1965-66	216	116	...	...	...	182	298	65	36	137
1966-67	216	183	...	...	...	296	479	89	43	313
1967-68	216	183	...	...	...	356	539	68	43	338
1968-69	216	183	...	...	...	391	574	...	59	279
1969-70	217	183	...	123	92	546	821	...	125	154
1970-71	216	183	...	149	112	438	733	...	154	...
1971-72	216	183	...	248	194	480	857	...	...	...
1972-73	216	183	...	247	226	479	888	...	...	...
1973-74	216	183	...	245	230	581	994	62	...	59
1974-75	216	183	...	235	229	611	1023	485	...	557
1975-76	216	183	...	203	211	1492	1886	207	...	804
1976-77	223	188	...	187	192	2863	3243	...	303	492
1977-78	229	193	...	162	170	4500	4863	...	249	210
1978-79	260	220	...	365	381	5220	5821	...	207	...
1979-80	266	225	...	529	545	5164	5934	...	55 ^e	...
1980-81	267	226	...	491	497	4822	5545	274 ^a	5 ^f	268
1981-82	267	226	...	425	444	3355	4025	637 ^b	...	901
1982-83	267	226	...	270	291	4265	4782	1893 ^b	...	2867
1983-84	267	226	...	216	248	5498	5972	1414 ^b	72 ^h	4444
1984-85	291	246	...	147	181	6817	7244	219 ^b	156 ⁱ	4888
1985-86	325	274	...	115	161	7384	7819	...	253 ^j	5285
1986-87	325	274	...	139	232	7645	8151	...	672 ^k	5548
1987-88	325	274	...	70	125	7287	7686	...	1209 ^l	4732
1988-89	325	274	...	80	161	6605	7040	...	1547 ^m	3696

Contd....

Table 6.1 A. Foreign Exchange Reserves

(Contd....)

(₹ crore)

End of Fiscal	Reserves						Transactions with IMF			
	Gold		RTP	SDRs		Foreign Currency Assets	Total	Drawals	Repurchases ^e	Outstanding repurchase obligations
	Tonnes	₹ crore	₹ crore	SDRs in million	₹ crore	₹ crore	₹ crore (3+4+6+7)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1989-90	333	281	...	82	184	5787	6252	3334 ^c	1460 ^a	2572
1990-91	333	6828	...	76	200	4388	11416	3205 ^d	1156 ^o	5132
1991-92	351	9039	...	66	233	14578	23850	4231	1127 ^p	8934
1992-93	354	10549	...	13	55	20140	30744	1007	868 ^q	14986
1993-94	367	12794	...	77	339	47287	60420	...	420 ^r	15812
1994-95	396	13752	...	5	23	66006	79781	...	3585 ^s	13545
1995-96	398	15658	...	56	280	58446	74384	...	5749 ^t	8152
1996-97	398	14557	...	1	7	80368	94932	...	3461 ^u	4714
1997-98	396	13394	...	1	4	102507	115905	...	2286 ^v	2624
1998-99	357	12559	...	6	34	125412	138005	...	1652 ^w	1220
1999-2000	358	12973	...	3	16	152924	165913	...	...	...
2000-01	358	12711	...	2	11	184482	197204	...	...	...
2001-02	358	14868	...	8	50	249118	264036	...	...	...
2002-03	358	16785	3190	3	19	341476	361470	...	...	...
2003-04	358	18216	5688	2	10	466215	490129	...	2598.2	...
2004-05	358	19686	6289	3	20	593121	619116	...	414.9	...
2005-06	358	25674	3374	2	12	647327	676387	3024.6	220.5	...
2006-07	358	29573	2044	1	8	836597	868222	1360.3	...	...
2007-08	358	40124	1744	11	74	1196023	1237965	301.5	...	...
2008-09	358	48793	5000	1	6	1230066	1283865	371.1	2940.1	...
2009-10	558	81188	6231	3297	22596	1149650	1259665	...	10090.4	...
2010-11	558	102572	13158	2882	20401	1224883	1361013	161.3	1594.0	...
2011-12	558	138250	14511	2885	22866	1330511	1506139	...	1392.1	...
2012-13	558	139737	12513	2887	23538	1412631	1588418	...	...	...
2013-14	558	129616	11019	2888	26826	1660914	1828375	...	...	...
2014-15	558	119160	8085	2889	24944	1985458	2137647	...	...	...
2015-16	558	133429	16290	1066	9960	2219061	2378740	...	...	...
2016-17	558	128828	15047	1066	9379	2244939	2398193	...	...	...

Source: Reserve Bank of India

Notes:

SDRs: Special Drawing Rights

RTP : Reserve Tranche Position in IMF

--- : Nil or Negligible.

a : Excludes ₹ 544.53 crore drawn under Trust Fund.

b : Drawals under Extended Fund Facility (EFF).

c : Drawals of ₹ 1883.6 crore under Compensatory and Contingency Financing Facility and ₹ 1450.2 crore under First Credit Tranche of Stand-by Arrangement.

d : Drawals of ₹ 2217.2 crore under Compensatory and Contingency Financing Facility and ₹ 987.5 crore under First Credit Tranche of Stand-by Arrangement.

e : Includes voluntary repurchases of Rupees (₹ 199 crore) and sales of Rupees (₹ 35.2 crore) by IMF under its General Resources Account

f : Sales of Rupees by IMF.

Contd....

(Contd....)

- g : Additionally, SDR 59.9 million in May 1979, SDR 7.3 million in July 1980 and SDR 34.5 million in March 1982 were used for voluntary repurchases of Rupees.
- h : SDR 66.50 million were used for repurchases of drawals under Compensatory Financing Facility.
- i : SDR 33.25 million and ₹ 117.85 crore in foreign currencies were used for repurchases of drawals under CFF.
- j : SDR 66.5 million and SD ₹ 131.25 million were used for repurchases of drawals under CFF and EFF, respectively.
- k : SDR 431.25 million were used for repurchases of drawals under EFF.
- l : SDR 704.17 million were used for repurchases of drawals under EFF.
- m : SDR 804.18 million were used for repurchases of drawals under EFF.
- n : SDR 681.25 million were used for repurchases of drawals under EFF.
- o : SDR 468.75 million were used for repurchases of drawals under EFF.
- p : SDR 337.49 million were used for repurchases of drawals under EFF.
- q : SDR 237.49 million were used for repurchases of drawals under EFF.
- r : SDR 95.84 million were used for repurchases of drawals under EFF.
- s : SDR 812.77 million were used for repurchases of drawals under EFF.
- t : SDR 1130.48 million were used for repurchases of drawals under EFF.
- u : SDR 678.38 million were used for repurchases of drawals under EFF.
- v : SDR 449.29 million were used for repurchases of drawals under EFF.
- w : SDR 212.46 million were used for repurchases of drawals under EFF.
1. Figures after 1965-66 are not comparable with those of the earlier years owing to devaluation of the Rupee in June 1966.
 2. Also figures for July 1991 onwards are not comparable with those of earlier periods due to the downward adjustment of the Rupee effected on July 1, 1991 and July 3, 1991.
 3. Drawals, Repurchase and outstanding repurchase obligations are calculated at the ruling rates of exchange.
 4. While reserves pertain to end period, repurchases are for the relevant periods.
 5. Gold is valued at ₹ 53.58 per 10 grams up to May 1966 and at ₹ 84.39 per 10 grams up to September 1990 and closer to international market price w.e.f. October 17, 1990.
 6. Foreign exchange includes (a) foreign assets of the Reserve Bank of India and (b) Government balances held abroad up to 1955-56.
 7. i) FCA excludes US\$ 250.00 million invested in foreign currency denominated bonds issued by IIFC (UK) since March 20, 2009, excludes US\$ 380.00 million since September 16, 2011, US\$ 550 million since February 27, 2012, US\$ 673 million since 30th March 2012, US\$ 790 million since July 5, 2012, US\$ 950 million since March 04, 2013, US\$ 1,181 million since March 06, 2014, US\$ 1,568 million since September 15, 2014, and US\$ 2,100 million since March 26, 2015 (as also its equivalent value in Indian Rupee).
 - ii.) SDRs 530.73 million since March 24, 2014 (Transferred by Government of India to RBI), SDR 530.80 million since June 2014, SDR 530.92 million since September 2014, SDR 1104.74 million since January 2015, SDR 1104.96 million since June 2015. SDRs 1105.24 million since December 2015 (as also its equivalent value in Indian Rupee).
 - iii.) US\$ 100 million under SAARC swap arrangement with Royal Monetary Authority of Bhutan during the period from March 2013 to June 2013, US\$ 400 million under SAARC swap arrangement with Central Bank of Sri Lanka during period April to October 2015 and US\$ 1100 million with Central Bank of Sri Lanka since September 2015 (as also its equivalent value in Indian Rupee).
 8. FCA excludes US \$ 250.00 million invested in foreign currency denominated bonds issued by IIFC (UK) since March 20, 2009, excludes US \$ 380.00 million since September 16, 2011, excludes US\$ 550 million since February 27, 2012, excludes US \$ 673 million since 30th March 2012 and US \$ 790 million since July 5, 2012 as also its equivalent value in Indian rupee in respective months.
 9. Totals may not tally due to rounding off.

Table 6.1 B. Foreign Exchange Reserves

(US\$ million)

End of Fiscal	Reserves					Transactions with IMF		
	Gold	RTP	SDRs	Foreign Currency Assets	Total (2+3+4+5)	Drawals	Repurchases	Outstanding repurchase obligations
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	247	...	...	1914	2161	...	...	100
1951-52	247	...	...	1568	1815	...	...	100
1952-53	247	...	...	1603	1850	...	...	100
1953-54	247	...	...	1664	1911	...	36	64
1954-55	247	...	...	1626	1873	...	36	28
1955-56	247	...	...	1648	1895	...	15	13
1956-57	247	...	...	1184	1431	126	12	128
1957-58	247	...	...	637	884	72	...	200
1958-59	247	...	...	548	795	...	...	200
1959-60	247	...	...	515	762	...	50	150
1960-61	247	...	...	390	637	...	23	128
1961-62	247	...	...	377	624	249	127	250
1962-63	247	...	...	372	619	25	...	275
1963-64	247	...	...	395	642	...	50	225
1964-65	281	...	...	243	524	99	100	225
1965-66	243	...	...	383	626	137	75	288
1966-67	243	...	...	395	638	126	57	418
1967-68	243	...	...	475	718	89	58	450
1968-69	243	...	...	526	769	...	78	372
1969-70	243	...	123	728	1094	...	167	205
1970-71	243	...	148	584	975	...	205	...
1971-72	264	...	269	661	1194	...	...	...
1972-73	293	...	297	629	1219	...	...	...
1973-74	293	...	296	736	1325	79	...	75
1974-75	304	...	293	782	1379	608	...	715
1975-76	281	...	234	1657	2172	239	...	896
1976-77	290	...	217	3240	3747	...	336	559
1977-78	319	...	200	5305	5824	...	333	249
1978-79	377	...	470	6421	7268	...	256	...
1979-80	375	...	662	6324	7361	...	145	...
1980-81	370	...	603	5850	6823	342	16	327
1981-82	335	...	473	3582	4390	692	40	964
1982-83	324	...	291	4281	4896	1968	...	2876
1983-84	320	...	230	5099	5649	1376	70	4150
1984-85	325	...	145	5482	5952	201	134	3932
1985-86	417	...	131	5972	6520	...	209	4290
1986-87	471	...	179	5924	6574	...	521	4291
1987-88	508	...	97	5618	6223	...	930	3653
1988-89	473	...	103	4226	4802	...	1070	2365
1989-90	487	...	107	3368	3962	...	873	1493
1990-91	3496	...	102	2236	5834	1858	644	2623
1991-92	3499	...	90	5631	9220	1240	460	3451
1992-93	3380	...	18	6434	9832	1623	335	4799
1993-94	4078	...	108	15068	19254	325	134	5040

Contd....

Table 6.1 B. Foreign Exchange Reserves*(Contd....)*

(US\$ million)

End of Fiscal	Reserves					Transactions with IMF		
	Gold	RTP	SDRs	Foreign Currency Assets	Total (2+3+4+5)	Drawals	Repurchases	Outstanding repurchase obligations
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994-95	4370	...	7	20809	25186	...	1146	4300
1995-96	4561	...	82	17044	21687	...	1710	2374
1996-97	4054	...	2	22367	26423	...	977	1313
1997-98	3391	...	1	25975	29367	...	615	664
1998-99	2960	...	8	29522	32490	...	102	287
1999-2000	2974	...	4	35058	38036	...	...	...
2000-01	2725	...	2	39554	42281	...	...	...
2001-02	3047	...	10	51049	54106	...	...	...
2002-03	3534	672	4	71890	76100	...	...	...
2003-04	4198	1311	2	107448	112959	...	561.3	...
2004-05	4500	1438	5	135571	141514	...	93.5	...
2005-06	5755	756	3	145108	151622	670.0	50.7	...
2006-07	6784	469	2	191924	199179	302.7	...	...
2007-08	10039	436	18	299230	309723	74.2	...	...
2008-09	9577	981	1	241426	251985	86.3	611.9	...
2009-10	17986	1380	5006	254685	279057	...	461.3	...
2010-11	22972	2947	4569	274330	304818	36.2	353.2	...
2011-12	27023	2836	4469	260069	294397	...	275.1	...
2012-13	25692	2301	4328	259726	292046	...	...	...
2013-14	21567	1834	4464	276359	304223	...	...	...
2014-15	19378	1139	4185	295947	320649	...	...	...
2015-16	20115	2456	1502	336104	360176	...	...	...
2016-17	19869	2321	1446	346319	369955	...	...	...

Source: Reserve Bank of India

Notes:

SDRs: Special Drawing Rights RTP: Reserve Tranche Position in IMF ----: Nil or Negligible

- For compiling figures in US dollars, gold is valued at SDR 35 per troy ounce as in the International Financial Statistics of the IMF upto October 16, 1990. Thereafter gold has been valued at international market price.
- Conversion of foreign currency assets and SDR in US dollars is done at exchange rates of the IMF.
- Transactions with IMF are converted at respective SDR/\$ rate.
- While reserves pertain to end period, repurchases are for the relevant periods.
- FCA excludes US\$ 250.00 million invested in foreign currency denominated bonds issued by IIFC (UK) since March 20, 2009, excludes US\$ 380.00 million since September 16, 2011, US\$ 550 million since February 27, 2012, US\$ 673 million since 30th March 2012, US\$ 790 million since July 5, 2012, US\$ 950 million since March 04, 2013, US\$ 1,181 million since March 06, 2014, US\$ 1,568 million since September 15, 2014, and US\$ 2,100 million since March 26, 2015 (as also its equivalent value in Indian Rupee).
 - SDRs 530.73 million since March 24, 2014 (Transferred by Government of India to RBI), SDR 530.80 million since June 2014, SDR 530.92 million since September 2014, SDR 1104.74 million since January 2015, SDR 1104.96 million since June 2015. SDRs 1105.24 million since December 2015 (as also its equivalent value in Indian Rupee).
 - US\$ 100 million under SAARC swap arrangement with Royal Monetary Authority of Bhutan during the period from March 2013 to June 2013, US\$ 400 million under SAARC swap arrangement with Central Bank of Sri Lanka during period April to October 2015 and US\$ 1100 million with Central Bank of Sri Lanka since September 2015 (as also its equivalent value in Indian Rupee).
- Includes Rs. 31,463 crore (US\$ 6,699 million) reflecting the purchase of 200 metric tonnes of gold from IMF on November 3, 2009. by the IMF done on August 28, 2009 and September 9, 2009, respectively.
- Includes SDRs 3,082.5 million allocated under general allocation and SDRs 214.6 million allocated under special allocation
- Totals may not tally due to rounding off.

Table 6.2. Balance of Payments as per IMF Balance of Payments Manual 5

Items	2000-01		2010-11		2011-12		2012-13	
	₹ crore	US\$ million	₹ crore	US\$ million	₹ crore	US\$ million	₹ crore	US\$ million
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Imports (c.i.f.)	264589	57912	1746135	383481	2394647	499533	2732146	502237
2 Exports (f.o.b.)	207852	45452	1165665	256159	1482517	309774	1667690	306581
3 Trade Balance (2-1)	-56737	-12460	-580470	-127322	-912129	-189759	-1064456	-195656
4 Invisibles								
a) Receipts	147778	32267	867228	190488	1053480	219229	1218893	224044
b) Payments	102639	22473	506411	111218	517323	107625	634047	116551
(of which: Interest & Service Payments on Loans and Credits)	21948	4801	27660	6073	41046	8527	59546	10944
c) Net	45139	9794	360817	79269	536157	111604	584846	107493
5 Current Account Balance	-11598	-2666	-219654	-48053	-375973	-78155	-479610	-88163
6 Capital Account								
I Foreign Investment	26744	5862	193482	42127	188738	39231	254653	46711
i) Foreign Direct Investment								
a) Inward FDI	18404	4031	132358	29029	154961	32952	146954	26953
b) Outward FDI	-3480	-759	-78257	-17195	-51794	-10892	-38768	-7134
c) Net	14924	3272	54101	11834	103167	22061	108186	19819
ii) Portfolio Investment (net)	11820	2590	139381	30293	85571	17170	146467	26891
II Loans (net)	24459	5264	132714	29135	89748	19307	169073	31124
i) External Assistance								
a) Inflow	13521	2941	35872	7882	27355	5646	25747	4735
b) Out flow	11519	2531	13393	2941	16051	3350	20421	3752
c) Net	2002	410	22479	4941	11305	2296	5326	982
ii) Commercial Borrowings ^a								
a) Inflow	95750	20865	459540	100899	649101	135345	817606	150351
b) Out flow	73293	16011	349304	76705	570658	118333	653858	120209
c) Net	22457	4854	110236	24194	78443	17011	163747	30142
III) Banking								
a) Receipts	44448	9744	419273	92323	427827	89904	455407	83727
b) Payments	53592	11705	397253	87361	356829	73678	365140	67157
c) Net	-9144	-1961	22020	4962	70998	16226	90268	16570
IV) Rupee Debt Service (net)	-2760	-617	-310	-68	-381	-79	-313	-58
V) Other Capital								
a) Receipts	12948	2856	45175	9995	64143	13296	97073	17861
b) Payments	11637	2564	101914	22411	94216	20224	125020	22908
c) Net	1311	292	-56739	-12416	-30073	-6929	-27946	-5047
VI) Errors & omissions (net)	-1369	-305	-12062	-2636	-11560	-2432	14578	2689
7 Total Capital (I to VI of 6)	39241	8535	279105	61103	307470	65324	500313	91989
8 Overall Balance (5 + 7)	27643	5868	59451	13050	-68503	-12831	20702	3826
9 Monetary Movement								
a) IMF Transactions								
i) Purchases								
ii) Repurchases	115	26						
iii) Net	-115	-26						
b) Increase (-)/decrease (+) in Reserves	-27258	-5842	-59451	-13050	68503	12831	-20702	-3826
10 Total Reserve movement (9a(iii)+9b) [(-) Increase/ (+) decrease]	-27643	-5868	-59451	-13050	68503	12831	-20702	-3826

Contd....

Table 6.2. Balance of Payments as per IMF Balance of Payment Manual 5 (Contd....)

Items	2013-14		2014-15		2015-16 (PR)		2016-17 (P)	
	₹ crore	US\$ million	₹ crore	US\$ million	₹ crore	US\$ million	₹ crore	US\$ million
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1 Imports (c.i.f.)	2815918	466216	2820072	461484	2592820	396444	2633395	392580
2 Exports (E.o.b.)	1931074	318607	1934210	316545	1743289	266365	1878943	280138
3 Trade Balance (2-1)	-884845	-147609	-885862	-144940	-849531	-130079	-754452	-112442
4 Invisibles								
a) Receipts	1413843	233569	1478048	241645	1538693	235044	1616361	240978
b) Payments	716134	118256	755499	123564	832924	127116	964714	143831
(of which: Interest & Service Payments on Loans and Credits)	67747	11176	77376	12650	88044	13443	67444	13351
c) Net	697709	115313	722549	118081	705769	107928	651646	97147
5 Current Account Balance	-187136	-32296	-163313	-26859	-143762	-22151	-102805	-15296
6 Capital Account								
I Foreign Investment	159650	26386	449072	73456	208579	31891	289394	43224
i) Foreign Direct Investment (FDI)								
a) Inward FDI	186830	30763	215893	35283	294258	44907	283292	42215
b) Outward FDI	-56860	-9199	-24675	-4031	-58476	-8886	-44379	-6603
c) Net	129969	21564	191219	31251	235782	36021	238913	35612
ii) Portfolio Investment (net)	29680	4822	257853	42205	-27203	-4130	50482	7612
II) Loans (net)	45901	7765	19733	3184	-29767	-4634	16038	2379
i) External Assistance								
a) Inflow	28239	4659	35408	5780	40244	6123	43561	6495
b) Out flow	22043	3627	24787	4054	30229	4619	30056	4482
c) Net	6197	1032	10622	1725	10015	1505	13505	2013
ii) Commercial Borrowings ^a								
a) Inflow	785202	130177	718760	117575	748159	114200	764967	114037
b) Out flow	745498	123444	709648	116116	787941	120339	762434	113672
c) Net	39704	6733	9112	1459	-39781	-6139	2533	366
III) Banking								
a) Receipts	654482	108049	550976	90094	579805	88884	561610	83669
b) Payments	502818	82601	478893	78476	514547	78254	672787	100285
c) Net	151664	25449	72083	11618	65257	10630	-111177	-16616
IV) Rupee Debt Service	-304	-52	-489	-81	-476	-73	-665	-99
V) Other Capital								
a) Receipts	133801	22171	176562	28914	160653	24419	241024	35937
b) Payments	200892	32932	169411	27806	137909	21103	190043	28343
c) Net	-67091	-10761	7151	1109	22744	3315	50981	7594
VI) Errors & Omissions	-6629	-983	-6312	-1021	-6746	-1073	2468	364
7 Total Capital (I to VI of 6)	283190	47804	541238	88265	259592	40055	247039	36846
8 Overall Balance (5 + 7)	96054	15508	377925	61406	115830	17905	144234	21550
9 Monetary Movement								
a) IMF Transactions								
i) Purchases								
ii) Repurchases								
iii) Net								
b) Increase (-)/decrease (+) in Reserves	-96054	-15508	-377925	-61406	-115830	-17905	-144234	-21550
10 Total Reserve movement (9a(iii)+9b) [(+) Increase/ (-) decrease]	-96054	-15508	-377925	-61406	-115830	-17905	-144234	-21550

Source: Reserve Bank of India

Notes:

P: Preliminary, PR : Partially Revised

- Grants received are covered under item 4(a).
- Estimated interest accrued and credited to NRI deposits during the year has been treated as notional outflow under invisible payments and added as reinvestment in NRI deposits under banking capital.
- In accordance with the provision of IMF's Balance of Payments Manual (5th Edition), gold purchased from the Government of India by the RBI has been excluded from the BOP statistics. Data for the earlier years has, therefore, been amended by making suitable adjustments in "Other Capital-Receipts and Foreign Exchange Reserves". Similarly, item "SDR Allocation" has been deleted from the table.
- With effect from 1996-97, private transfer receipts include redemption in rupees of both principal and interest under Non-Resident External (Rupee) Account [NRE(R)A] and Non-Resident Non-Repatriable Rupee Deposit [NR(NR)RD] schemes. This marks an improvement in data reporting.
- Totals may not tally due to rounding off.

Table 6.3 A. Balance of Payments as per IMF Balance of Payments Manual 6

Items	₹ crore)											
	2013-14			2014-15			2015-16 (PR)			2016-17 (P)		
	Credit (2)	Debit (3)	Net (4)	Credit (5)	Debit (6)	Net (7)	Credit (8)	Debit (9)	Net (10)	Credit (11)	Debit (12)	Net (13)
1 Current Account (1.A+1.B+1.C)	3342089	3528995	-186906	3412151	3575039	-162888	3281796	3425146	-143350	3495211	3597569	-102358
1.A Goods and Services (1.A.a+1.A.b)	2850324	3292300	-441976	2901402	3318948	-417546	2753734	3147437	-393703	2973118	3275080	-301962
1.A.a Goods	1931074	2815918	-884845	1934210	2820072	-885862	1743289	2592820	-849531	1878943	2633395	-754452
1.A.b Services (1.A.b.1 to 1.A.b.13)	919250	476381	442869	967192	498877	468316	1010446	554617	455828	1094175	641685	452490
1.A.b.1 Manufacturing services on physical inputs owned by others	945	170	775	663	177	485	1200	302	898	768	256	512
1.A.b.2 Maintenance and repair services n.i.e.	1287	1694	-408	1062	1385	-323	995	2119	-1124	1221	2372	-1151
1.A.b.3 Transport	105261	89480	15781	106865	98925	7940	91660	98618	-6958	106312	94773	11539
1.A.b.4 Travel	108807	71418	37389	124542	93535	31008	139542	96756	42786	155929	110154	45775
1.A.b.5 Construction	8091	7462	630	9850	7052	2798	10256	6268	3987	14383	5911	8473
1.A.b.6 Insurance and pension services	12849	6760	6089	13461	6835	6626	13113	7530	5583	14795	10033	4761
1.A.b.7 Financial services	40158	34604	5554	34583	21772	12811	32271	20487	11784	34193	39262	-5069
1.A.b.8 Charges for the use of intellectual property n.i.e.	3567	24020	-20453	3226	29468	-26243	3191	31952	-28761	3807	38368	-34561
1.A.b.9 Telecommunications, computer, and information services	436220	23815	412404	460702	25043	435659	501263	26732	474531	512084	32457	479627
1.A.b.10 Other business services	172250	164550	7699	173793	169173	4620	189693	203860	-14167	220981	216332	4648
1.A.b.11 Personal, cultural, and recreational services	7986	5066	2919	7282	8802	-1520	8658	7913	746	9338	14731	-5394
1.A.b.12 Government goods and services n.i.e.	2947	5888	-2941	3321	5871	-2550	3788	5677	-1890	3946	4021	-75
1.A.b.13 Others n.i.e.	18883	41452	-22569	27842	30838	-2996	14816	46401	-31585	16418	73015	-56597
1.B Primary Income	68877	208761	-139884	81994	229423	-147430	96324	256104	-159779	109268	285598	-176330
1.C Secondary Income	422888	27935	394953	428756	26667	402088	431737	21605	410132	412825	36892	375933
2 Capital Account (2.1+2.2)	10019	6399	3620	2789	2257	532	1987	1719	268	2910	1909	1001
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	610	570	40	1495	812	683	336	242	94	680	416	264
2.2 Capital transfers	9409	5829	3580	1294	1445	-151	1651	1477	174	2230	1493	737
3 Financial Account (3.1 to 3.5)	3152932	2963018	189914	3365248	3196580	168668	3339775	3189946	149829	3699036	3600147	98889
3.1 Direct Investment (3.1A+3.1B)	263894	133925	129969	317087	125869	191219	392422	156640	235782	474811	235898	238913
3.1.A Direct Investment in India	218595	31765	186830	276400	60506	215893	364146	69888	294258	404057	120765	283292

Contd....

Table 6.3 A. Balance of Payments as per IMF Balance of Payments Manual 6*(Contd.....)*

Items	2013-14						2014-15			2015-16 (PR)			2016-17 (P)					
	Credit		Debit		Net		Credit		Debit		Net		Credit		Debit		Net	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
3.1.B Direct Investment by India	45299	102159	-56860	40688	65363	-24675	28276	86752	-58476	70753	115133	-44379						
3.2 Portfolio Investment	1226673	1197104	29568	1561229	1311285	249945	1412345	1441933	-29588	1607507	1557026	50482						
3.2.A Portfolio Investment in India	1221704	1190713	30991	1556857	1307004	249853	1406792	1432998	-26207	1592617	1541095	51522						
3.2.B Portfolio Investment by India	4968	6391	-1423	4372	4281	91	5553	8935	-3381	14890	15931	-1040						
3.3 Financial derivatives (other than reserves) and employee stock options	58438	45777	12661	92447	102493	-10046	95295	90417	4878	155252	89346	65906						
3.4 Other investment	1537539	1423769	113769	1394485	1279009	115476	1434150	1379563	54587	1453092	1565270	-112177						
3.4.1 Other equity (ADRs/GDRs)	112		112	7909		7909	2385		2385	0	0	0						
3.4.2 Currency and deposits	536189	295199	240990	397597	300743	96855	392397	289262	103136	321269	403019	-81750						
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	329292	340006	-10713	359172	363765	-4593	386224	444261	-58037	435424	492278	-56854						
3.4.4 Insurance, pension, and standardized guarantee schemes	3559	3968	-409	2239	1771	468	2674	7972	-5298	2976	4941	-1965						
3.4.5 Trade credit and advances	602442	635155	-32712	548374	548820	-446	589587	599194	-9607	613446	569981	43465						
3.4.6 Other accounts receivable/payable—other	65944	149443	-83498	79194	63910	15283	60883	38874	22009	79978	95051	-15073						
3.4.7 Special drawing rights																		
3.5 Reserve assets	66389	162443	-96054	0	377925	-377925	5563	121393	-115830	8373	152607	-144234						
4 Total assets/liabilities	3152932	2963018	189914	3365248	3196580	168668	3337775	3189946	149829	3699036	3600147	98889						
5 Net errors and omissions	4961	11589	-6628	6725	13037	-6312	2796	9542	-6746	8205	5737	2468						

Source: Reserve Bank of India

Notes:

P: Preliminary, PR: Partially Revised

1. Totals may not tally due to rounding off.

Table 6.3 B. Balance of Payments as per Balance of Payments Manual 6

Items	(US\$ million)											
	2013-14 (P)			2014-15 (P)			2015-16 (PR)			2016-17 (P)		
	Credit	Debit	Net	Credit	Debit	Net	Credit	Debit	Net	Credit	Debit	Net
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Current Account (1.A+1.B+1.C)	551719	583976	-32257	558173	584962	-26789	501381	523469	-22088	521102	536331	-15229
1.A Goods and Services (1.A.a+1.A.b)	470420	544964	-74543	474652	543063	-68411	420676	481079	-60402	443261	488249	-44987
1.A.a Goods	318607	466216	-147609	316545	461484	-144940	266365	396444	-130079	280138	392580	-112442
1.A.b Services (1.A.b.1 to 1.A.b.13)	151813	78747	73066	158107	81578	76529	154311	84635	69676	163123	95668	67455
1.A.b.1 Manufacturing services on physical inputs owned by others	154	28	125	109	29	79	183	45	138	115	38	76
1.A.b.2 Maintenance and repair services n.i.e.	214	282	-69	173	226	-53	152	324	-171	182	354	-172
1.A.b.3 Transport	17380	14792	2588	17485	16177	1308	14004	15080	-1076	15851	14132	1719
1.A.b.4 Travel	17922	11810	6112	20334	15306	5028	21268	14792	6476	23244	16427	6817
1.A.b.5 Construction	1339	1236	103	1613	1153	460	1562	955	607	2144	881	1263
1.A.b.6 Insurance and pension services	2121	1116	1005	2202	1119	1084	2002	1151	852	2206	1496	710
1.A.b.7 Financial services	6650	5814	835	5661	3580	2081	4944	3135	1809	5099	5852	-754
1.A.b.8 Charges for the use of intellectual property n.i.e.	585	3980	-3395	529	4820	-4291	489	4891	-4402	568	5720	-5152
1.A.b.9 Telecommunications, computer, and information services	72054	3928	68126	75334	4094	71240	76563	4076	72487	76345	4839	71506
1.A.b.10 Other business services	28482	27189	1293	28422	27644	778	28994	31095	-2101	32946	32254	692
1.A.b.11 Personal, cultural, and recreational services	1323	831	493	1192	1440	-248	1325	1221	104	1392	2197	-805
1.A.b.12 Government goods and services n.i.e.	488	979	-490	543	961	-418	579	869	-291	588	600	-11
1.A.b.13 Others n.i.e.	3102	6762	-3660	4510	5030	-520	2245	7000	-4755	2444	10879	-8435
1.B Primary Income	11352	34380	-23028	13397	37537	-24140	14703	39078	-24375	16291	42582	-26291
1.C Secondary Income	69948	4633	65315	70123	4362	65762	66002	3312	62690	61550	5500	56050
2 Capital Account (2.1+2.2)	1718	1060	659	456	370	85	304	263	41	434	285	150
2.1 Gross acquisitions (DR)/disposals (CR) of non-produced nonfinancial assets	99	93	6	244	134	110	51	37	13	101	62	40
2.2 Capital transfers	1619	967	652	211	236	-25	253	226	27	333	223	110
3 Financial Account (3.1 to 3.5)	521478	488897	32581	550481	522757	27725	510639	487519	23120	551482	536767	14715
3.1 Direct Investment (3.1A+3.1B)	43582	22018	21564	51796	20544	31251	59878	23857	36021	70784	35172	35612
3.1.A Direct Investment in India	36047	5284	30763	45147	9864	35283	55559	10652	44907	60220	18005	42215

Contd....

Table 6.3 B. Balance of Payments as per Balance of Payments Manual 6

(Contd.....)

Items	2013-14 (P)						2014-15 (P)						2015-16 (PR)						2016-17 (P)						
	Credit		Debit		Net		Credit		Debit		Net		Credit		Debit		Net		Credit		Debit		Net		
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
3.1.B Direct Investment by India	7535	16734	-9199	6649	10680	-4031	4320	13205	-8886	10564	17167	-6603													
3.2 Portfolio Investment	203164	198362	4802	255490	214556	40934	216181	220685	-4503	239738	232127	7612													
3.2.A Portfolio Investment in India	202312	197304	5009	254777	213854	40923	215334	219349	-4016	237514	229748	7766													
3.2.B Portfolio Investment by India	851	1058	-207	713	702	11	848	1335	-487	2224	2378	-154													
3.3 Financial derivatives (other than reserves) and employee stock options	9607	7601	2006	15184	16748	-1563	14522	13891	631	23148	13327	9822													
3.4 Other investment	254424	234707	19717	228011	209502	18509	219202	210326	8876	216570	233350	-16780													
3.4.1 Other equity (ADRs/GDRs)	20	-	20	1271	-	1271	373	-	373	0	0	0													
3.4.2 Currency and deposits	88244	48858	39386	64995	49205	15789	60024	44216	15808	47928	60009	-12081													
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	54524	55653	-1129	58725	59601	-876	59140	67343	-8203	64821	73444	-8623													
3.4.4 Insurance, pension, and standardized guarantee schemes	575	648	-74	364	288	76	407	1194	-787	443	737	-294													
3.4.5 Trade credit and advances	100117	105161	-5044	89729	89840	-111	90043	91653	-1610	91453	84986	6467													
3.4.6 Other accounts receivable/payable—other	10944	24387	-13443	12928	10568	2361	9215	5920	3294	11925	14175	-2250													
3.4.7 Special drawing rights																									
3.5 Reserve assets	10701	26209	-15508		61406	-61406	856	18761	-17905	1242	22792	-21550													
4 Total assets/liabilities	521478	488897	32581	550481	522757	27725	510639	487519	23120	551482	536767	14715													
5 Net errors and omissions		881	-983	1089	2110	-1021	420	1493	-1073	1221	857	364													

Source: Reserve Bank of India

Notes:

P: Preliminary, PR: Partially Revised

1. Totals may not tally due to rounding off

Table 6.4. Exchange Rate of Rupee vis-a-vis Selected Currencies of the World

(Contd.....)

Year /Months	(Rupees per unit of foreign currency)													
	US dollar	Pound sterling	Euro ^a	Yen	Canadian dollar	Turkish lira	Indonesian rupiah	Brazilian real	Mexican peso	Korean won	Pakistan rupee	Thailand baht	SDR	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
2013-14	60.502	96.306	81.175	0.604	57.437	30.100	0.006	26.907	4.679	0.056	0.587	1.924	92.260	
2014-15	61.144	98.573	77.521	0.558	53.780	27.223	0.005	24.840	4.457	0.058	0.609	1.882	90.796	
2015-16	65.468	98.726	72.289	0.546	49.945	23.060	0.005	18.378	3.944	0.057	0.632	1.872	91.345	
2016-17	67.072	87.690	73.609	0.620	51.113	21.067	0.005	20.382	3.489	0.058	0.641	1.908	92.616	
2016-17	(Market Rate)^c													
April	66.470	95.272	75.409	0.607	51.854	23.463	0.005	18.806	3.808	0.058	0.636	1.897	93.672	
May	66.907	97.248	75.692	0.615	51.721	22.632	0.005	18.896	3.676	0.057	0.640	1.886	94.392	
June	67.297	95.553	75.573	0.639	52.223	23.050	0.005	19.607	3.591	0.058	0.644	1.907	94.734	
July	67.208	88.520	74.359	0.645	51.456	22.617	0.005	20.593	3.623	0.059	0.642	1.921	93.422	
August	66.940	87.798	75.004	0.661	51.514	22.621	0.005	20.881	3.627	0.060	0.640	1.925	93.672	
September	66.738	87.715	74.826	0.655	50.911	22.465	0.005	20.482	3.468	0.060	0.639	1.922	93.363	
October	66.748	82.518	73.607	0.644	50.370	21.664	0.005	20.896	3.521	0.059	0.638	1.903	92.169	
November	67.626	83.994	73.104	0.626	50.349	20.451	0.005	20.148	3.339	0.058	0.646	1.912	92.323	
December	67.900	84.735	71.598	0.585	50.941	19.396	0.005	20.283	3.310	0.057	0.649	1.898	91.483	
January	68.080	83.862	72.326	0.592	51.636	18.184	0.005	21.297	3.183	0.058	0.650	1.921	92.000	
February	67.075	83.817	71.465	0.593	51.153	18.316	0.005	21.623	3.309	0.059	0.641	1.917	90.939	
March	65.877	81.245	70.342	0.583	49.228	17.943	0.005	21.076	3.419	0.058	0.629	1.890	89.219	

Source: Reserve Bank of India

Notes:

a : The Euro came into existence on January 1, 1999.

b : Peso revalued in January 1993, 1000 old Peso = 1 New Peso.

c : Indicative rates announced by Foreign Exchange Dealers Association of India (FEDAI).

d : 100 Turkish Lira

e : Turkish Lira has been replaced by New Lira w.e.f. 1.1.2005.

1. Annual/monthly averages. During March 1992 to February 1993, a dual exchange rate system was prevalent, in which the official rate was fixed by the RBI and the market rate was determined in the Inter-Bank market for the US dollar.

2. The data for 2001-02 in respect of Deutsche Mark, French Franc and Italian Lira pertain to 11 months only as Germany, France and Italy accepted the Euro as their national currency w.e.f. March 1, 2002.

3. Figures of US dollar, Pound sterling, Euro and Japanese yen from May 2012 onwards are RBI's reference rates.

Table 6.5. Trends in Nominal and Real Effective Exchange Rate of Rupee

(Tarde Based Weights)				
Year/month (Average)	Nominal effective exchange rate (NEER) 6-currency Index	Real effective exchange rate (REER) 6-Currency Index	Nominal effective exchange rate (NEER) 36-currency Index	Real effective exchange rate (REER) 36-Currency Index
(1)	(2)	(3)	(4)	(5)
Base Year: 1993-94=100				
1994-95	96.86	105.71	99.21	104.59
1995-96	88.45	101.14	91.65	98.42
1996-97	86.73	100.97	89.08	96.64
1997-98	87.80	104.24	92.17	100.95
1998-99	77.37	95.99	88.76	92.84
1999-00	77.03	97.52	90.90	95.75
2000-01	77.30	102.65	92.11	100.04
2001-02	75.89	102.49	91.52	100.87
2002-03	71.09	97.43	89.22	98.19
2003-04	69.75	98.85	87.15	99.50
2004-05	69.26	101.35	87.28	100.05
Base Year: 2004-05=100				
2005-06	103.04	104.45	102.24	102.38
2006-07	98.09	103.82	97.63	100.76
2007-08	104.62	113.44	104.75	109.20
2008-09	90.42	103.94	93.34	99.65
2009-10	87.07	110.73	90.94	103.88
2010-11	91.83	124.50	93.54	112.68
2011-12	84.44	121.17	87.38	110.27
2012-13	75.59	117.15	78.32	105.57
2013-14	67.76	112.80	72.32	103.27
2014-15	68.60	119.92	74.08	108.94
2015-16	67.52	122.71	74.76	112.07
2016-17 (P)	67.17	125.93	74.66	114.50
2016-17 (P)				
April	66.12	122.11	73.38	111.23
May	65.81	123.11	73.37	112.11
June	65.70	123.36	73.26	112.91
July	66.53	125.30	73.96	114.17
August	66.39	125.36	73.93	114.15
September	66.65	125.68	74.31	114.40
October	67.34	127.13	74.85	115.50
November	67.36	127.17	75.02	115.79
December	68.09	127.87	75.61	116.01
January	67.73	126.05	75.23	114.69
February	68.49	127.93	75.83	115.50
March	69.81	130.87	77.21	117.56

Source: Reserve Bank of India

Notes:

P: Provisional

1. REER figures for the period 1994-95 to 2004-05 are based on Wholesale Price Index (WPI).

2. REER figures for the period 2005-06 to 2014-15 are based on Consumer Price Index (CPI).

Table 7.1 A. Exports, Imports and Trade Balance

Year	Exports (including re-exports) (₹ crore)	Imports (₹ crore)	Trade Balance (₹ crore)	Rate of Change	
				Export	Import
				(per cent)	
(1)	(2)	(3)	(4)	(5)	(6)
1949-50	485	617	-132	na	na
1950-51	606	608	-2	24.9	-1.5
1951-52	716	890	-174	18.2	46.4
1952-53	578	702	-124	-19.3	-21.1
1953-54	531	610	-79	-8.1	-13.1
1954-55	593	700	-107	11.7	14.8
1955-56	609	774	-165	2.7	10.6
1956-57	605	841	-236	-0.7	8.7
1957-58	561	1035	-474	-7.3	23.1
1958-59	581	906	-325	3.6	-12.5
1959-60	640	961	-321	10.2	6.1
1960-61	642	1122	-480	0.3	16.8
1961-62	660	1090	-430	2.8	-2.9
1962-63	685	1131	-446	3.8	3.8
1963-64	793	1223	-430	15.8	8.1
1964-65	816	1349	-533	2.9	10.3
1965-66	810	1409	-599	-0.7	4.4
1966-67	1157	2078	-921	42.8	47.5
1967-68	1199	2008	-809	3.6	-3.4
1968-69	1358	1909	-551	13.3	-4.9
1969-70	1413	1582	-169	4.1	-17.1
1970-71	1535	1634	-99	8.6	3.3
1971-72	1608	1825	-217	4.8	11.7
1972-73	1971	1867	104	22.6	2.3
1973-74	2523	2955	-432	28.0	58.3
1974-75	3329	4519	-1190	31.9	52.9
1975-76	4036	5265	-1229	21.2	16.5
1976-77	5142	5074	68	27.4	-3.6
1977-78	5408	6020	-612	5.2	18.6
1978-79	5726	6811	-1085	5.9	13.1
1979-80	6418	9143	-2725	12.1	34.2
1980-81	6711	12549	-5838	4.6	37.3
1981-82	7806	13608	-5802	16.3	8.4
1982-83	8803	14293	-5490	12.8	5.0
1983-84	9771	15831	-6060	11.0	10.8
1984-85	11744	17134	-5390	20.2	8.2
1985-86	10895	19658	-8763	-7.2	14.7
1986-87	12452	20096	-7644	14.3	2.2
1987-88	15674	22244	-6570	25.9	10.7
1988-89	20232	28235	-8003	29.1	26.9
1989-90	27658	35328	-7670	36.7	25.1
1990-91	32553	43198	-10645	17.7	22.3
1991-92	44041	47851	-3810	35.3	10.8
1992-93	53688	63375	-9687	21.9	32.4
1993-94	69751	73101	-3350	29.9	15.3

Contd....

Table 7.1 A. Exports, Imports and Trade Balance (Contd....)					
Year	Exports (including re-exports) (₹ crore)	Imports (₹ crore)	Trade Balance (₹ crore)	Rate of Change	
				Export	Import
				(per cent)	
(1)	(2)	(3)	(4)	(5)	(6)
1994-95	82674	89971	-7297	18.5	23.1
1995-96	106353	122678	-16325	28.6	36.4
1996-97	118817	138920	-20103	11.7	13.2
1997-98	130100	154176	-24076	9.5	11.0
1998-99	139752	178332	-38580	7.4	15.7
1999-00	159095	215529	-56434	13.8	20.9
2000-01	201356	228307	-26950	26.6	5.9
2001-02	209018	245200	-36182	3.8	7.4
2002-03	254913	296360	-41446	22.0	20.9
2003-04	293367	359108	-65741	15.1	21.2
2004-05	375340	501065	-125725	27.9	39.5
2005-06	456418	660409	-203991	21.6	31.8
2006-07	571779	881515	-309736	25.3	33.5
2007-08	655864	1012312	-356448	14.7	14.8
2008-09	840755	1374436	-533680	28.2	35.8
2009-10	845534	1363736	-518202	0.6	-0.8
2010-11	1136964	1683467	-546503	34.5	23.4
2011-12	1465959	2345463	-879504	28.9	39.3
2012-13	1634318	2669162	-1034844	11.5	13.8
2013-14	1905011	2715434	-810423	16.6	1.7
2014-15	1896445	2737087	-840642	-0.4	0.8
2015-16	1716378	2490298	-773920	-9.5	-9.0
2016-17 (P)	1852340	2577422	-725082	7.9	3.5

Source : Directorate General of Commercial Intelligence & Statistics (DGCI&S), Kolkata

Notes:

P: Provisional

- For the years 1956-57, 1957-58, 1958-59 and 1959-60, the data are as per the Fourteenth Report of the Estimates Committee(1971-72) of the erstwhile Ministry of Foreign Trade.

Table 7.1 B. Exports, Imports and Trade Balance

Year	Exports (including re- exports) (US \$ million)	Imports (US \$ million)	Trade Balance (US \$ million)	Rate of Change	
				Export	Import
				(per cent)	
(1)	(2)	(3)	(4)	(5)	(6)
1949-50	1016	1292	-276	na	na
1950-51	1269	1273	-4	24.9	-1.5
1951-52	1490	1852	-362	17.4	45.5
1952-53	1212	1472	-260	-18.7	-20.5
1953-54	1114	1279	-165	-8.1	-13.1
1954-55	1233	1456	-223	10.7	13.8
1955-56	1275	1620	-345	3.4	11.3
1956-57	1259	1750	-491	-1.3	8.0
1957-58	1171	2160	-989	-7.0	23.4
1958-59	1219	1901	-682	4.1	-12.0
1959-60	1343	2016	-673	10.2	6.0
1960-61	1346	2353	-1007	0.2	16.7
1961-62	1381	2281	-900	2.6	-3.1
1962-63	1437	2372	-935	4.1	4.0
1963-64	1659	2558	-899	15.4	7.8
1964-65	1701	2813	-1112	2.5	10.0
1965-66	1693	2944	-1251	-0.5	4.7
1966-67	1628	2923	-1295	-3.8	-0.7
1967-68	1586	2656	-1070	-2.6	-9.1
1968-69	1788	2513	-725	12.7	-5.4
1969-70	1866	2089	-223	4.4	-16.9
1970-71	2031	2162	-131	8.8	3.5
1971-72	2153	2443	-290	6.0	13.0
1972-73	2550	2415	135	18.4	-1.1
1973-74	3209	3759	-550	25.8	55.7
1974-75	4174	5666	-1492	30.1	50.7
1975-76	4665	6084	-1419	11.8	7.4
1976-77	5753	5677	76	23.3	-6.7
1977-78	6316	7031	-715	9.8	23.9
1978-79	6978	8300	-1322	10.5	18.0
1979-80	7947	11321	-3374	13.9	36.4
1980-81	8486	15869	-7383	6.8	40.2
1981-82	8704	15174	-6470	2.6	-4.4
1982-83	9107	14787	-5680	4.6	-2.6
1983-84	9449	15311	-5862	3.8	3.5
1984-85	9878	14412	-4534	4.5	-5.9
1985-86	8904	16067	-7163	-9.9	11.5
1986-87	9745	15727	-5982	9.4	-2.1
1987-88	12089	17156	-5067	24.1	9.1
1988-89	13970	19497	-5527	15.6	13.6
1989-90	16612	21219	-4607	18.9	8.8
1990-91	18143	24075	-5932	9.2	13.5
1991-92	17865	19411	-1546	-1.5	-19.4
1992-93	18537	21882	-3345	3.8	12.7
1993-94	22238	23306	-1068	20.0	6.5

Contd....

Table 7.1 B. Exports, Imports and Trade Balance (Contd....)					
Year	Exports (including re-exports) (US \$ million)	Imports (US \$ million)	Trade Balance (US \$ million)	Rate of Change	
				Export	Import
(1)	(2)	(3)	(4)	(per cent)	
(5)	(6)				
1994-95	26330	28654	-2324	18.4	22.9
1995-96	31797	36678	-4881	20.8	28.0
1996-97	33470	39133	-5663	5.3	6.7
1997-98	35006	41484	-6478	4.6	6.0
1998-99	33218	42389	-9171	-5.1	2.2
1999-2000	36715	49738	-13023	10.5	17.3
2000-01	44076	49975	-5899	20.0	0.5
2001-02	43827	51413	-7587	-0.6	2.9
2002-03	52719	61412	-8693	20.3	19.4
2003-04	63843	78149	-14307	21.1	27.3
2004-05	83536	111517	-27981	30.8	42.7
2005-06	103091	149166	-46075	23.4	33.8
2006-07	126414	185735	-59321	22.6	24.5
2007-08	163132	251654	-88522	29.0	35.5
2008-09	185295	303696	-118401	13.6	20.7
2009-10	178751	288373	-109621	-3.5	-5.0
2010-11	251136	369769	-118633	40.5	28.2
2011-12	305964	489319	-183356	21.8	32.3
2012-13	300401	490737	-190336	-1.8	0.3
2013-14	314405	450200	-135794	4.7	-8.3
2014-15	310338	448033	-137695	-1.3	-0.5
2015-16	262290	381007	-118717	-15.5	-15.0
2016-17 (P)	276280	384319	-108039	5.3	0.9

Source : DGCI&S, Kolkata

Notes:

P: Provisional

1. For the years 1956-57, 1957-58, 1958-59 and 1959-60, the data are as per the Fourteenth Report of the Estimates Committee (1971-72) of the erstwhile Ministry of Foreign Trade.

Table 7.2 A. Principal ImportsQuantity : Thousand tonnes
Value : ₹ crore & US\$ million

	1960-61			1970-71			1980-81		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I. Food and live animals chiefly for food (excl. cashew raw)	...	214	449	...	242	321	...	380	481
of which:									
I.1 Cereals and cereal preparations	3747.7	181	380	3343.2	213	282	400.8	100	127
II. Raw materials and intermediate manufactures	...	527	1105	...	889	1176	...	9760	12341
II.1 Cashewnuts (unprocessed)	na	...	...	169.4	29	39	25	9	11
II.2 Crude rubber (including synthetic and reclaimed)	36.2	11	23	7.8	4	5	26.2	32	40
II.3 Fibres of which:	...	101	212	...	127	168	...	164	208
II.3.1 Synthetic and regenerated fibres (man-made fibres)	0.2	...	...	15.8	9	12	68.8	97	122
II.3.2 Raw wool	1.9	1	2	19	15	20	18.8	43	55
II.3.3 Raw cotton	237.1	82	172	139.1	99	131	na	...	...
II.3.4 Raw jute	100.4	8	17	0.7	...	0	8	1	1
II.4 Petroleum, oil and lubricants	800	69	145	12767	136	180	23537	5264	6656
II.5 Animal and vegetable oils and fats of which:	...	5	10	...	39	51	...	709	896
II.5.1 Edible oils	31.1	4	8	84.7	23	31	1633.3	677	857
II.6 Fertilizers and chemical products of which:	...	88	185	...	217	286	...	1490	1884
II.6.1 Fertilizers and fertilizer mfg	307	13	27	2392.7	86	113	5560.2	818	1034
II.6.2 Chemical elements and compounds	...	39	82	...	68	90	...	358	453
II.6.3 Dyeing, tanning and colouring material	...	1	2	...	9	12	...	21	26
II.6.4 Medicinal and pharmaceutical products	...	10	21	...	24	32	...	85	107
II.6.5 Plastic material, regenerated cellulose and artificial resins	...	9	19	...	8	11	...	121	154
II.7 Pulp and waste paper	80.3	7	15	71.7	12	16	36.9	18	23
II.8 Paper, paper board and manufactures thereof	55.6	12	25	159	25	33	371.4	187	236
II.9 Non-metallic mineral manufactures of which:	...	6	13	...	33	44	...	555	702
II.9.1 Pearls, precious and semiprecious stones, unworked or worked	...	1	2	...	25	33	...	417	527
II.10 Iron and steel	1325.2	123	258	683.4	147	194	2031.1	852	1078
II.11 Non-ferrous metals	...	47	99	...	119	158	...	477	604
III. Capital goods^a	...	356	747	...	404	534	...	1910	2416
III.1 Manufactures of metals	...	23	48	...	9	12	...	90	113
III.2 Non-electrical machinery apparatus and appliances including machine tools b	...	203	426	...	258	341	...	1089	1377
III.3 Electrical machinery, apparatus and appliancesb	...	57	120	...	70	93	...	260	328
III.4 Transport equipment	...	72	151	...	67	88	...	472	597
Total Imports	...	1122	2353	...	1634	2162	...	12549	15869

Contd....

Table 7.2 A. Principal Imports

(Contd....)

Quantity : Thousand tonnes
Value : ₹ crore & US\$ million

(1)	1990-91			2000-01			2010-11		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
I. Food and live animals chiefly for food (excl. cashew raw) of which:	...	...	...	...	...	...	...	...	...
I.1 Cereals and cereal preparations	308.3	182	102	69.9	90	20	251.5	545	119
II. Raw materials and intermediate manufactures	...	...	...	...	...	...	...	...	...
II.1 Cashewnuts (unprocessed)	82.6	134	75	249.7	962	211	501.0	2650	578
II.2 Crude rubber (including synthetic and reclaimed)	105.1	226	126	119.1	695	152	587.7	8074	1771
II.3 Fibres of which:	...	...	...	...	...	...	...	...	...
II.3.1 Synthetic and regenerated fibres (man-made fibres)	21.2	56	31	42.6	275	60	81.5	957	210
II.3.2 Raw wool	29.4	182	102	53.7	458	100	94.4	1435	315
II.3.3 Raw cotton	0.2	1	0	212.3	1185	259	56.5	624	137
II.3.4 Raw jute	32.1	20	11	67.3	84	18	83.1	302	67
II.4 Petroleum, oil and lubricants	29359	10816	6028	...	71497	15650	...	482282	105964
II.5 Animal and vegetable oils and fats of which:	...	...	...	...	...	...	...	...	...
II.5.1 Edible oils	525.8	326	182	4267.9	6093	1334	6677.6	29860	6551
II.6 Fertilizers and chemical products of which:	...	...	...	...	...	...	...	...	...
II.6.1 Fertilizers and fertilizer mfg	7560.3	1766	984	7423.4	3034	664	20658.9	31533	6885
II.6.2 Chemical elements and compounds	...	2289	1276	...	1542	338	...	13278	2914
II.6.3 Dyeing, tanning and colouring material	...	168	94	...	874	191	...	5368	1178
II.6.4 Medicinal and pharmaceutical products	...	468	261	...	1723	377	...	11114	2436
II.6.5 Plastic material, regenerated cellulose and artificial resins	...	1095	610	...	2551	558	...	31304	6874
II.7 Pulp and waste paper	678.2	458	255	1050.9	1290	282	2634.5	5208	1145
II.8 Paper, paper board and manufactures thereof	286.4	456	254	585.6	2005	439	2145.0	9614	2111
II.9 Non-metallic mineral manufactures of which:	...	...	...	...	797	174	...	...	...
II.9.1 Pearls, precious and semiprecious stones, unworked or worked	...	3738	2083	...	22101	4838	...	157596	34620
II.10 Iron and steel	1920.5	2113	1178	1613.6	3569	781	9843.9	47275	10376
II.11 Non-ferrous metals	...	1102	614	...	2462	539	...	212153	46677
III. Capital goods^a	...	10466	5833	...	25281	5534	...	231712	50907
III.1 Manufactures of metals	...	302	168	...	1786	391	...	15167	3332
III.2 Non-electrical machinery ^b apparatus and appliances including machine tools	...	4240	2363	...	16915	3703	...	118928	26111
III.3 Electrical machinery, apparatus and appliances ^b	...	1702	949	...	2227	487	...	17510	3845
III.4 Transport equipment	...	1670	931	...	4353	953	...	52112	11467
Total Imports	...	43198	24075	...	228307	51413	...	1683467	369769

Contd....

Table 7.2 A. Principal Imports*(Contd....)*Quantity : Thousand tonnes
Value : ₹ crore & US\$ million

	2014-15			2015-16			2016-17 (P)		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
(1)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
I. Food and live animals chiefly for food (excl. cashew raw)	...	...	...	...	...	...	...	...	...
of which:									
I.1 Cereals and cereal preparations	120	718	117	786	1798	276	6129	9594	1430
II. Raw materials and intermediate manufactures	...	...	...	...	...	...	...	...	...
II.1 Cashewnuts (unprocessed)	933	6600	1087	962	8701	1339	774	9027	1347
II.2 Crude rubber (including synthetic and reclaimed)	916	11691	1916	928	9878	1513	885	10030	1496
II.3 Fibres of which:	...	...	...	...	...	...	...	...	...
II.3.1 Synthetic and regenerated fibres (man-made fibres)	...	2484	407	...	2630	403	...	2454	366
II.3.2 Raw wool	97	2126	349	98	2016	308	87	1894	282
II.3.3 Raw cotton	289	3102	509	232	2566	394	499	6338	947
II.3.4 Raw jute	44	140	23	88	363	56	139	704	105
II.4 Petroleum, oil and lubricants	...	842874	138326	...	540505	82944	...	582762	86896
II.5 Animal and vegetable oils and fats of which:									
II.5.1 Edible oils	12732	64890	10621	15644	68677	10492	14010	73048	10894
II.6 Fertilizers and chemical products of which:									
II.6.1 Fertilizers and fertilizer mfr	26649	45295	7399	28593	52502	8072	23615	33726	5027
II.6.2 Chemical elements and compounds*	...	145919	23899	...	142063	21738	...	147350	21973
II.6.3 Dyeing, tanning and colouring material	...	14937	2448	...	14699	2248	...	15308	2283
II.6.4 Medicinal and pharmaceutical products	...	33211	5433	...	35575	5440	...	33504	4995
II.6.5 Plastic material, regenerated cellulose and artificial resins	...	73718	12070	...	77070	11795	...	80229	11964
II.7 Pulp and waste paper	...	5781	944	...	6265	956	...	6537	975
II.8 Paper, paper board and manufactures thereof	...	15681	2567	...	15758	2408	...	17458	2602
II.9 Non-metallic mineral manufactures of which:									
II.9.1 Pearls, precious and semiprecious stones, unworked or worked	...	137968	22598	...	131366	20070	...	159464	23809
II.10 Iron and steel	16874	75516	12342	20920	73558	11252	13911	55278	8239
II.11 Non-ferrous metals	...	304062	49676	...	295510	45239	...	262961	39226
III. Capital goods^a	...	348632	56930	...	353160	53879	...	379106	56494
III.1 Manufactures of metals**	...	27652	4516	...	28631	4372	...	28028	4178
III.2 Non-electrical machinery ^b apparatus and appliances including machine tools	...	110772	18106	...	100814	15396	...	100374	14962
III.3 Electrical machinery, apparatus and appliances ^b	...	75475	12330	...	86183	13122	...	84157	12548
III.4 Transport equipment	...	112521	18345	...	119489	18228	...	152606	22728
Total Imports	...	2737087	448033	...	2490298	381007	...	2577422	384319

Source : DGCI&S, Kolkata

Notes:

... : Not available. P : Provisional

a : From the year 1987-88 onwards, capital goods include project goods.

b : From the year 1991-92 onwards, Items III.2 & III.3 exclude electronic goods.

* : II.6.2 Chemical elements and compounds includes Organic & Inorganic Chemicals, Chemical material & Products

** : Items belonging to Manufactures of Metals (Except few ITCHS) already considered under other Groups of Table 4A.

Table 7.2 B. Share and Percentage Change of Major Imports

Commodity Group	Percentage share			Percentage change ^a		
	2014-15	2015-16	2016-17 (P)	2014-15	2015-16	2016-17(P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Food and allied products^b	3.9	5.1	5.6	19.9	9.3	12.0
<i>of which</i>						
1. Cereals ^c	0.0	0.1	0.4	28.8	135.5	418.2
2. Pulses	0.6	1.0	1.1	31.5	40.1	8.8
3. Cashew Nuts	0.2	0.4	0.4	40.5	23.2	0.5
4. Edible Oils	2.4	2.8	2.8	13.1	-1.2	3.8
II. Fuel	34.8	25.4	26.7	-13.8	-38.1	6.2
5. Coal ^d	4.0	3.6	4.1	8.5	-23.2	15.2
6. POL	30.9	21.8	22.6	-16.0	-40.0	4.8
III. Fertilizers^e	1.7	2.1	1.3	18.1	9.1	-37.7
IV. Paper board manufactures & newsprint	0.7	0.8	0.9	1.0	3.5	7.4
V. Capital goods^f	11.7	13.0	13.6	-1.4	-5.5	5.7
<i>of which</i>						
7. Machinery except elec & machine tool	4.0	4.0	3.9	2.8	-15.0	-2.8
8. Electrical machinery	2.8	3.4	3.3	5.2	6.4	-4.4
9. Transport equipment	4.1	4.8	5.9	-4.9	-0.6	24.7
10. Project goods	0.8	0.7	0.5	-20.2	-24.0	-24.7
VI. Others	34.0	38.1	37.0	11.2	-4.6	-2.0
<i>of which</i>						
11. Chemicals ^g	5.9	6.3	6.3	6.5	-9.0	1.1
12. Pearls precious semi precious stones	5.0	5.3	6.2	-5.8	-11.2	18.6
13. Iron & steel ^h	2.8	3.0	2.1	35.5	-8.8	-26.8
14. Non-ferrous metals ⁱ	2.4	2.6	2.6	21.0	-9.5	1.5
15. Gold & Silver	8.7	9.3	7.6	17.1	-8.8	-17.3
16. Professional instruments, optical goods, etc.	0.8	1.0	1.0	0.1	0.4	6.5
17. Electronic Goods	8.4	10.7	11.2	12.9	9.1	4.7
Total Imports	100.0	100.0	100.0	-0.5	-15.0	0.9

Source: DGCI&S, Kolkata

Notes:

P : Provisional

a : In terms of US dollar

b : Including Tea, Sugar, Milk and Cream, Spices, Fruits & Nuts.

c : Including cereals preparations.

d : Including coke and briquettes.

e : Including fertilizers crude and fertilizers manufactured.

f : Including Manufactures of metals.

g : Including organic chemical, inorganic chemical, chemical materials & products and dyeing, tanning & colouring material.

h : Including primary steel and pig iron based items.

i : Excluding gold and silver

Table 7.3 A. Principal ExportsQuantity : Thousand tonnes
Value : ₹ crore & US\$ million

	1960-61			1970-71			1980-81		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I. Agricultural and allied products: of which	...	284	596	...	487	644	...	2057	2601
I. 1 Coffee	19.7	7	15	32.2	25	33	87.3	214	271
I. 2 Tea and mate	199.2	124	260	199.1	148	196	229.2	426	538
I. 3 Oil cakes	433.8	14	29	878.5	55	73	886	125	158
I. 4 Tobacco	47.5	16	34	49.8	33	43	91.3	141	178
I. 5 Cashew kernels	43.6	19	40	60.6	57	76	32.3	140	177
I. 6 Spices	47.2	17	36	46.9	39	51	84.2	11	14
I. 7 Sugar and molasses	99.6	30	60	473	29	39	97	40	50
I. 8 Raw cotton	32.6	12	25	32.1	14	19	131.6	165	209
I. 9 Rice	...	...	...	32.8	5	7	726.7	224	283
I. 10 Fish and fish preparations	19.9	5	10	32.6	31	40	69.4	217	274
I. 11 Meat and meat preparations	...	1	2	...	3	4	...	56	70
I. 12 Fruits, vegetables and pulses (excl. cashew kernels, processed fruits & juices)	...	6	13	...	12	16	...	80	101
I. 13 Miscellaneous processed foods (incl. processed fruits and juices)	...	1	2	...	4	6	...	36	45
II. Ores and minerals (excl. coal) of which	...	52	109	...	164	217	...	414	523
II.1 Mica	28.4	...	...	26.7	16	21	16.7	18	22
II.2 Iron ore (million tonne)	3.2	17	36	21.2	117	155	22.4	303	384
III. Manufactured goods of which	...	291	610	...	772	1021	...	3747	4738
III. 1 Textile fabrics & manufactures (excl. carpets hand-made) of which	...	73	153	...	145	192	...	933	1179
III.1.1 Cotton yarn, fabrics, made-ups etc.	...	65	136	...	142	188	...	408	516
III.1.2 Readymade garments of all textile materials	...	1	2	...	29	39	...	550	696
III. 2 Coir yarn and manufactures	...	6	13	...	13	17	...	17	22
III. 3 Jute manufactures incl. twist & yarn	790.0	135	283	560.0	190	252	660.0	330	417
III. 4 Leather & leather manufactures incl. leather footwear, leather travel goods & leather garments	...	28	59	...	80	106	...	390	493
III. 5 Handicrafts (incl. carpets hand-made ^c of which:	...	11	23	...	73	96	...	952	1204
III. 5.1 Gems and jewellery	...	1	2	...	45	59	...	618	782
III. 6 Chemicals and allied products ^a	...	7	15	...	29	39	...	225	284
III. 7 Machinery, transport & metal manufactures including iron and steel ^b	...	22	46	...	198	261	...	827	1045
IV. Mineral fuels and lubricants (incl. coal)^d	...	7	15	...	13	17	...	28	35
Total Exports	...	642	1346	...	1535	2031	...	6711	8486

Contd....

Table 7.3 A. Principal Exports

(Contd....)

Quantity : Thousand tonnes
Value : ₹ crore & US\$ million

(1)	1990-91			2000-01			2010-11		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
I. Agricultural and allied products:	...	6317	3521	...	28582	6256	...	111393	24448
of which									
I. 1 Coffee	86.5	252	141	184.9	1185	259	232.6	3010	662
I. 2 Tea and mate	199.1	1070	596	202.4	1976	433	238.3	3354	736
I. 3 Oil cakes	2447.8	609	339	2417.8	2045	448	6936.9	11070	2438
I. 4 Tobacco	87.1	263	147	108.3	871	191	215.9	3985	875
I. 5 Cashew kernels	55.5	447	249	83.8	1883	412	12156.5	2853	627
I. 6 Spices	103.3	239	133	244.9	1619	354	762.7	8043	1768
I. 7 Sugar and molasses	191.0	38	21	769.0	511	112	2086.3	5633	1246
I. 8 Raw cotton	374.4	846	471	30.2	224	49	1885.8	13160	2910
I. 9 Rice	505.0	462	257	1534.4	2943	644	2471.4	11586	2545
I. 10 Fish and fish preparations	158.9	960	535	502.6	6367	1394	825.3	11917	2623
I. 11 Meat and meat preparations	...	140	78	...	1470	322	...	8960	1971
I. 12 Fruits, vegetables and pulses (excl. cashew kernels, processed fruits & juices)	...	216	120	...	1609	352	...	6350	1397
I. 13 Miscellaneous processed foods (incl. processed fruits and juices)	...	213	119	...	1094	239	...	3669	806
II. Ores and minerals (excl. coal)	...	1497	834	...	4139	906	...	39098	8581
of which									
II.1 Mica	42.0	35	19	63.2	64	14	125.8	189	42
II.2 Iron ore (million tonne)	32.5	1049	585	20161.4	1634	358	46.9	21416	4715
III. Manufactured goods	...	23736	13229	...	160723	35181	...	789433	173263
of which									
III. 1 Textile fabrics & manufactures (excl. carpets hand-made)	...	6832	3807	...	...	...	...	...	...
of which									
III.1.1 Cotton yarn, fabrics, made-ups etc.	...	2100	1170	...	16030	3509	...	13160	2910
III.1.2 Readymade garments of all textile materials	...	4012	2236	...	25478	5577	...	52861	11614
III. 2 Coir yarn and manufactures	...	48	27	...	221	48	...	726	159
III. 3 Jute manufactures incl. twist & yarn	220.0	298	166	...	932	204	...	2092	459
III. 4 Leather & leather manufactures incl. leather footwear, leather travel goods & leather garments	...	2600	1449	...	8914	1951	...	17818	3909
III. 5 Handicrafts (incl. carpets hand-made) ^c	...	6167	3437	...	5097	1116	...	5877	1293
of which									
III. 5.1 Gems and jewellery	...	5247	2924	...	33734	7384	...	184420	40509
III. 6 Chemicals and allied products ^a	...	2111	1176	...	22851	5002	...	131544	28905
III. 7 Machinery, transport & metal manufactures including iron and steel ^b	...	3872	2158	...	31870	6976	...	226805	49815
IV. Mineral fuels and lubricants (incl. coal)^d	...	948	528	...	8822	1931	...	192639	42280
Total Exports	...	32553	18143	...	201356	44076	...	1136964	251136

Contd....

Table 7.3 A. Principal Exports*(Contd....)*Quantity : Thousand tonnes
Value : ₹ crore & US\$ million

	2014-15			2015-16			2016-17 (P)		
	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million	Qty	₹ Cr	\$ million
(1)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
I. Agricultural and allied products: of which		240639	39356		216369	33049	...	228001	33994
I. 1 Coffee	463.6	4973	813	255.7	5125	783	289.7	5669	845
I. 2 Tea and mate	234.4	4171	682	245.7	4719	721	244.4	4926	734
I. 3 Oil cakes	3904.6	8129	1329	2056.3	3600	550	2616.1	5378	802
I. 4 Tobacco	251.2	5869	960	249.1	6452	986	240.9	6451	962
I. 5 Cashew kernels	145.3	5622	919	114.7	5086	777	104.0	5347	797
I. 6 Spices	939.0	14848	2428	831.7	16630	2540	1019.3	19442	2899
I. 7 Sugar and molasses	2202.8	5522	903	4663.0	10481	1601	2939.1	8993	1341
I. 8 Raw cotton	1142.5	11643	1904	1347.0	12821	1958	1002.7	10982	1637
I. 9 Rice	12001.0	48028	7855	10510.3	38202	5835	10821.2	38750	5778
I. 10 Fish and fish preparations	1231.8	33688	5510	978.0	31219	4769	1190.5	39707	5920
I. 11 Meat and meat preparations	...	30128	4927	...	27528	4205	...	27198	4055
I. 12 Fruits, vegetables and pulses (excl. cashew kernels, processed fruits & juices)	...	9045	1479	...	11084	1693	...	13854	2066
I. 13 Miscellaneous processed foods (incl. processed fruits and juices)	...	13037	2132	...	14100	2154	...	12449	1856
II. Ores and minerals (excl. coal) of which	...	28684	4691	...	26634	4068	...	35947	5360
II.1 Mica	140.4	342	56	135.01	344	53	135.3	376	56
II.2 Iron ore (million tonne)	7.3	3143	514	5.4	1263	193	30.4	10175	1517
III. Manufactured goods of which	...	1266137	207076	...	1251146	191107	...	1363232	203255
III. 1 Textile fabrics & manufactures (excl. carpets hand-made) of which	...	42456	6944	...	40314	6158	...	32253	...
III.1.1 Cotton yarn, fabrics, made-ups etc.	...	57832	9458	...	58073	8870	...	57544	8580
III.1.2 Readymade garments of all textile materials	...	102943	16836	...	111019	16958	...	117067	17454
III. 2 Coir yarn and manufactures	...	1725	282	...	1717	262	...	1986	296
III. 3 Jute manufactures incl. twist & yarn	...	1934	316	...	2049	313	...	2088	311
III. 4 Leather & leather manufactures incl. leather footwear, leather travel goods & leather garments	...	37853	6191	...	36326	5549	...	35731	5327
III. 5 Handicrafts (incl. carpets hand-made) ^c of which	...	16728	2736	...	20145	3077	...	22892	3413
III. 5.1 Gems and jewellery	...	252208	41248	...	257416	39319	...	291984	43534
III. 6 Chemicals and allied products ^a	...	228282	37335	...	244779	37389	...	308529	46001
III. 7 Machinery, transport & metal manufactures including iron and steel ^b	...	433863	70958	...	384385	58713	...	436542	65087
IV. Mineral fuels and lubricants (incl. coal)^d	...	351090	57421	...	203735	31120	...	216280	32247
Total Exports	...	1896445	310352	...	1716378	262290	...	1852340	276280

Source: DGCI&S, Kolkata

Notes:

... : Not available

P : Provisional

a : Chemicals and allied products figures relate to "Basic Chemicals" and "Plastic Linoleum products"

b : Also includes electronic goods and computer software

c : Gems and Jewellery excluded from Handicrafts and reported as individual item since 1997-98

d : During 1990-91 and 2000-01 Crude oil exports amount to Nil

Table 7.3 B. Share and Percentage Change of Major Exports

Commodity Group	Percentage share			Percentage change ^a		
	2014-15	2015-16	2016-17(P)	2014-15	2015-16	2016-17 (P)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Agriculture & allied	12.7	12.6	12.3	-8.8	-16.0	2.9
of which						
1 Tea	0.2	0.3	0.3	-15.3	5.7	1.9
2 Coffee	0.3	0.3	0.3	2.5	-3.7	8.0
3 Cereals	3.1	2.4	2.2	-9.2	-34.4	-3.2
4 Unmanufactured Tobacco	0.2	0.3	0.2	-13.9	-1.9	-4.7
5 Spices	0.8	1.0	1.0	-3.0	4.6	14.1
6 Cashewnuts	0.3	0.3	0.3	8.4	-15.5	2.6
7 Oil Meals	0.4	0.2	0.3	-52.9	-58.6	45.8
8 Fruits & Vegetables & Pulses	0.5	0.6	0.7	-17.0	14.5	6.4
9 Marine Products	1.8	1.8	2.1	8.8	-13.4	24.2
10 Raw Cotton	0.6	0.7	0.6	-48.4	2.8	-16.4
II. Ores and Minerals	1.5	1.6	1.9	-18.6	-13.3	31.7
of which						
11 Iron Ore	0.2	0.1	0.5	-67.2	-62.5	686.3
12 Processed minerals	0.3	0.3	0.3	3.1	-15.5	2.8
13 Other ores & minerals	0.7	0.8	0.7	-2.9	-9.5	1.3
III. Manufactured goods	66.7	72.9	73.6	3.7	-7.7	6.4
of which						
14 Leather & Manufactures	1.3	1.3	1.2	5.6	-13.1	-6.2
15 Leather footwear	0.7	0.8	0.8	11.9	-5.7	-0.6
16 Gems & Jewellery	13.3	15.0	15.8	-0.3	-4.7	10.7
17 Drugs, Pharmaceuticals & fine chemicals	1.1	1.4	1.2	-1.2	0.9	-5.4
18 Dyes/intmdts. & Coaltar chemicals	0.8	0.8	0.8	9.4	-13.2	3.0
19 Manufactures of metals	5.4	5.2	5.0	21.0	-19.1	2.0
20 Machinery & instruments	5.9	6.7	6.8	12.6	-4.1	5.8
21 Transport equipments	7.9	7.5	7.7	21.8	-20.2	8.2
22 Primary & semi-finished Iron & Steel	2.8	2.1	3.2	-6.3	-37.0	59.5
23 Electronic Goods	1.8	2.0	2.0	-22.1	-5.6	1.6
24 Cotton yarn, fabrics, made-ups etc.	3.0	3.4	3.1	-2.5	-6.2	-3.3
25 Readymade Garments	5.4	6.5	6.3	12.3	0.7	2.9
26 Handicrafts	0.4	0.6	0.7	-8.7	19.0	17.6
IV. Crude & Petroleum Products (incl. Coal)	18.5	11.9	11.7	-11.4	-45.8	3.6
V. Other & unclassified items	0.5	1.1	0.5	7.5	74.5	-53.1
Total Exports	100.0	100.0	100.0	-1.3	-15.5	5.3

Source: DGCI&S, Kolkata

Notes:

P : Provisional

a : In terms of US dollar

Table 7.4 A. Direction of Imports : Imports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(Per cent)
1) Europe	71010	424266	73920	451909	451909	4.1	16.5	64633	422624	60236	403972	-6.8	15.7	15.7
1.1 Eu Countries (27)	49951	301284	49208	300771	300771	-1.5	11.0	43898	287133	41147	275993	-6.3	10.8	10.8
1) Germany	12932	78210	12788	78181	78181	-1.1	2.9	12088	79098	11484	77036	-5.0	3.0	3.0
2) Belgium	10752	64672	10806	65939	65939	0.5	2.4	8256	54001	6658	44617	-19.4	1.7	1.7
3) U K	6045	36043	5018	30733	30733	-17.0	1.1	5193	33936	3704	24845	-28.7	1.0	1.0
4) France	3692	22331	4416	27030	27030	19.6	1.0	3730	24420	4609	30920	23.6	1.2	1.2
5) Italy	4157	25141	4232	25862	25862	1.8	0.9	4072	26645	3860	25888	-5.2	1.0	1.0
6) Netherland	3139	18921	2803	17095	17095	-10.7	0.6	1860	12168	1897	12740	2.0	0.5	0.5
7) Spain	1843	11172	2005	12281	12281	8.8	0.4	1646	10756	1969	13226	19.6	0.5	0.5
8) Sweden	1679	10158	1748	10702	10702	4.1	0.4	1485	9693	1162	7796	-21.7	0.3	0.3
9) Finland	1054	6422	917	5600	5600	-13.0	0.2	1002	6550	976	6552	-2.6	0.3	0.3
10) Austria	829	5018	816	4982	4982	-1.6	0.2	827	5422	909	6087	9.9	0.2	0.2
11) Poland	623	3780	636	3891	3891	2.1	0.1	570	3731	682	4581	19.8	0.2	0.2
12) Ireland	558	3379	533	3260	3260	-4.5	0.1	552	3613	504	3383	-8.5	0.1	0.1
13) Czech Republic	518	3140	518	3166	3166	0.0	0.1	508	3319	547	3672	7.8	0.1	0.1
14) Denmark	445	2692	458	2801	2801	2.9	0.1	429	2812	482	3232	12.4	0.1	0.1
15) Romania	376	2268	296	1812	1812	-21.1	0.1	309	2024	320	2143	3.3	0.1	0.1
16) Hungary	220	1334	240	1466	1466	8.6	0.1	243	1586	219	1466	-9.9	0.1	0.1
17) Portugal	340	2075	145	885	885	-57.3	0.0	103	671	141	946	37.7	0.0	0.0
18) Slovak Rep	53	322	137	846	846	157.9	0.0	65	423	69	464	7.1	0.0	0.0
19) Greece	109	659	128	779	779	16.7	0.0	111	722	122	820	10.0	0.0	0.0
20) Estonia	115	710	118	720	720	2.4	0.0	142	913	102	687	-27.8	0.0	0.0
21) Lithuania	54	323	112	678	678	108.4	0.0	214	1404	271	1820	26.5	0.1	0.1
22) Slovenia	118	714	105	639	639	-11.5	0.0	89	579	102	682	14.8	0.0	0.0
23) Bulgaria	94	568	104	634	634	10.7	0.0	94	616	182	1220	94.4	0.0	0.0
24) Luxembourg	46	277	42	256	256	-9.4	0.0	176	1143	46	310	-73.8	0.0	0.0
25) Latvia	104	622	36	220	220	-65.1	0.0	62	399	40	266	-35.6	0.0	0.0
26) Malta	34	210	28	174	174	-17.5	0.0	26	174	22	150	-15.4	0.0	0.0
27) Cyprus	20	122	23	140	140	12.4	0.0	48	314	67	445	38.2	0.0	0.0

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(Per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.2 European Free Trade Association (EFTA)	20063	116922	23140	141551	15.3	5.2	19890	129967	17825	119503	-10.4	4.7		
1) Switzerland	19311	112338	22133	135367	14.6	4.9	19299	126074	17255	115663	-10.6	4.5		
2) Norway	745	4540	1001	6148	34.4	0.2	585	3858	565	3803	-3.5	0.1		
3) Iceland	7	41	5	29	-29.3	0.0	4	27	5	32	10.1	0.0		
4) Liechtenstein	0	3	1	7	148.9	0.0	1	8	1	6	-27.1	0.0		
1.3 Other European Countries	996	6060	1572	9587	57.8	0.4	845	5524	1264	8475	49.6	0.3		
1) Turkey	760	4594	1464	8937	92.5	0.3	777	5080	1208	8101	55.5	0.3		
2) Albania	199	1244	51	301	-74.5	0.0	17	114	7	44	-62.2	0.0		
3) Croatia	10	58	29	174	194.8	0.0	36	236	22	147	-39.4	0.0		
4) Union Of Serbia & Montenegro	6	33	15	93	172.6	0.0	3	19			-100.0	0.0		
5) Macedonia	20	121	9	56	-54.6	0.0	7	46	24	162	240.8	0.0		
6) Bosnia-Hrzgovin	2	10	4	26	156.6	0.0	4	29	3	22	-24.5	0.0		
2) Africa	36627	221340	38635	235792	5.5	8.6	31667	206498	28826	193327	-9.0	7.5		
2.1 Southern African Customs Union (SACU)	6598	39081	7567	46262	14.7	1.7	6547	42692	7235	48515	10.5	1.9		
1) South Africa	6075	35858	6497	39741	6.9	1.5	5948	38785	5814	38980	-2.3	1.5		
2) Botswana	383	2361	1013	6168	164.5	0.2	542	3539	1307	8766	141.1	0.3		
3) Namibia	13	78	34	209	164.8	0.0	10	68	50	338	382.8	0.0		
4) Swaziland	125	770	22	136	-82.3	0.0	41	268	39	264	-3.9	0.0		
5) Lesotho	3	14	1	8	-45.0	0.0	5	32	25	167	404.3	0.0		
2.2 Other South African Countries	6541	39962	5259	32059	-19.6	1.2	3630	23656	3947	26466	8.8	1.0		
1) Angola	5992	36651	4618	28118	-22.9	1.0	2767	17984	2596	17406	-6.2	0.7		
2) Mozambique	293	1781	326	1998	11.2	0.1	363	2375	546	3662	50.5	0.1		
3) Zambia	243	1454	283	1740	16.5	0.1	475	3134	744	4991	56.5	0.2		
4) Zimbabwe	13	76	33	202	161.6	0.0	24	162	60	406	147.3	0.0		
2.3 West Africa	17237	104580	20035	122203	16.2	4.5	16741	109124	13025	87368	-22.2	3.4		
1) Nigeria	14098	85767	13683	83433	-2.9	3.1	9949	64923	7659	51375	-23.0	2.0		
2) Ghana	371	2250	1258	7741	239.4	0.3	2981	19405	1939	13015	-35.0	0.5		
3) Gabon	868	5077	793	4811	-8.7	0.2	106	691	69	466	-34.2	0.0		
4) Equat Guinea	302	1869	749	4581	148.3	0.2	457	3012	798	5353	74.5	0.2		
5) Cameroon	268	1624	745	4542	177.8	0.2	558	3619	359	2411	-35.6	0.1		

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries*(Contd.....)*

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)
6) Guinea	194	1116	730	4449	275.4	0.2	370	2405	279	1874	-24.6	0.1		
7) Cote D' Ivoire	298	1791	532	3216	78.3	0.1	572	3697	456	3056	-20.4	0.1		
8) Congo P Rep	90	539	366	2231	308.3	0.1	202	1305	157	1049	-22.4	0.0		
9) Benin	168	1001	222	1343	32.5	0.0	276	1778	207	1391	-24.8	0.1		
10) Senegal	154	954	208	1270	35.5	0.0	264	1727	316	2118	19.7	0.1		
11) Togo	156	949	196	1198	25.1	0.0	225	1454	138	929	-38.5	0.0		
12) Guinea Bissau	110	678	158	967	44.4	0.0	198	1294	216	1443	8.8	0.1		
13) Burkina Faso	17	101	152	937	816.3	0.0	238	1550	256	1715	7.7	0.1		
14) Mali	71	426	79	476	10.8	0.0	243	1606	99	662	-59.1	0.0		
15) Liberia	27	156	58	359	114.7	0.0	32	205	8	51	-76.2	0.0		
16) Mauritania	7	44	43	265	489.9	0.0	19	122	11	73	-41.0	0.0		
17) Gambia	29	182	36	220	23.6	0.0	31	204	43	290	37.8	0.0		
18) Sierra Leone	6	34	24	144	324.3	0.0	17	108	12	82	-26.1	0.0		
19) Cape Verde Is	3	19	3	18	-6.6	0.0	3	18	2	13	-31.4	0.0		
20) Niger	1	3	1	3	1.9	0.0	0	2	0	0	-90.6	0.0		
21) St Helena	0	1	0	1	0.0	0.0	0	0	0	0	0	0.0		
22) Sao Tome	0	0	0	0	0	0.0	0	0	0	0	0	0.0		
2.4 Central Africa	108	647	266	1630	145.7	0.1	531	3438	369	2475	-30.5	0.1		
1) Congo D. Rep.	47	277	126	770	167.4	0.0	98	624	86	576	-12.1	0.0		
2) Chad	11	68	63	390	457.5	0.0	321	2077	169	1138	-47.2	0.0		
3) Uganda	33	200	38	230	13.7	0.0	46	300	69	462	51.4	0.0		
4) Malawi	15	94	37	228	142.8	0.0	64	422	41	278	-35.7	0.0		
5) Rwanda	0	2	1	7	384.0	0.0	1	9	1	8	-12.6	0.0		
6) C. Afri Rep	1	5	1	4	-30.8	0.0	1	5	0	3	-54.2	0.0		
7) Burundi	0	1	0	2	61.1	0.0	0	1	2	11	1,354.5	0.0		
2.5 East Africa	1034	6160	1442	8837	39.5	0.3	1327	8724	1319	8854	-0.6	0.3		
1) Tanzania Rep	724	4298	1089	6680	50.3	0.2	925	6086	948	6370	2.6	0.2		
2) Kenya	127	763	117	717	-7.3	0.0	128	837	104	699	-18.2	0.0		
3) Madagascar	53	317	95	585	80.3	0.0	142	933	120	802	-15.5	0.0		

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries

Regions / Countries	2013-14		2014-15		2015-16		2016-17(P)		Change (10) over (8) (Per cent)	Share (Per cent)		
	(2)	(3)	(4)	(5)	(8)	(9)	(10)	(11)				
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Change (4) over (2) (Per cent)		Change (5) over (3) (Per cent)		Change (7) over (5) (Per cent)		Change (9) over (7) (Per cent)		Change (11) over (9) (Per cent)		Change (13) over (11) (Per cent)	
4) Ethiopia	28	170	44	272	55.8	0.0	61	399	67	449	10.0	0.0
5) Somalia	46	279	38	231	-17.5	0.0	16	101	18	119	13.6	0.0
6) Reunion	23	137	23	138	-0.8	0.0	19	123	14	93	-26.0	0.0
7) Mauritius	21	125	21	129	1.9	0.0	20	133	18	123	-9.8	0.0
8) Comoros	7	41	11	70	71.5	0.0	15	100	26	173	69.9	0.0
9) Djibouti	4	24	1	9	-64.6	0.0	1	8	3	19	129.3	0.0
10) Seychelles	1	6	1	7	18.2	0.0	1	4	1	6	38.8	0.0
2.6 North Africa	5109	30910	4066	24801	-20.4	0.9	2893	18864	2930	19650	1.3	0.8
1) Egypt A Rp	2389	14391	1742	10645	-27.1	0.4	1221	7922	1161	7794	-4.9	0.3
2) Morocco	879	5388	936	5725	6.5	0.2	1078	7051	796	5343	-26.1	0.2
3) Sudan	436	2697	570	3440	30.5	0.1	149	964	245	1639	64.5	0.1
4) Algeria	861	5232	552	3380	-35.9	0.1	299	1972	605	4055	102.1	0.2
5) Tunisia	92	557	196	1191	114.3	0.0	136	899	115	769	-15.9	0.0
6) Libya	452	2645	70	419	-84.5	0.0	9	56	7	50	-15.9	0.0
3) America	57454	347400	55909	341700	-2.7	12.5	45990	300963	46372	311093	0.8	12.1
3.1 North America	29326	176996	28957	177103	-1.3	6.5	28299	185376	29117	195332	2.9	7.6
1) U S A	22505	135613	21815	133421	-3.1	4.9	21781	142678	22104	148241	1.5	5.8
2) Canada	3148	19030	3749	22966	19.1	0.8	4234	27793	4069	27314	-3.9	1.1
3) Mexico	3672	22353	3393	20717	-7.6	0.8	2283	14905	2945	19776	29.0	0.8
3.2 Latin America	28128	170404	26952	164596	-4.2	6.0	17692	115587	17255	115762	-2.5	4.5
1) Venezuela	13940	84384	11730	71586	-15.9	2.6	5702	37150	5512	36964	-3.3	1.4
2) Brazil	3721	22547	5401	33037	45.1	1.2	4040	26392	4115	27653	1.8	1.1
3) Chile	2508	15230	3081	18806	22.8	0.7	1961	12759	1226	8229	-37.5	0.3
4) Colombia	4971	29996	2135	13070	-57.0	0.5	808	5266	594	3985	-26.5	0.2
5) Argentina	1338	8155	1992	12167	48.9	0.4	2472	16251	2501	16763	1.2	0.7
6) Ecuador	255	1588	1066	6415	317.2	0.2	564	3652	356	2384	-36.9	0.1
7) Peru	524	3172	590	3617	12.6	0.1	820	5407	1077	7227	31.3	0.3
8) Dominic Rep	13	76	291	1803	2,225.3	0.1	479	3146	675	4515	41.0	0.2
9) Suriname	13	79	211	1309	1,503.6	0.0	43	279	46	309	6.0	0.0

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries*(Contd.....)*

Regions / Countries	2013-14		2014-15		Change (4) over (2) (Per cent)		Share (Per cent)		2015-16		2016-17(P)		Change (10) over (8) (Per cent)		Share (Per cent)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)
10) Costa Rica	204	1236	155	942	942	-23.9	0.0	62	403	59	394	-5.4	0.0			
11) Paraguay	5	33	88	540	540	1,568.9	0.0	112	736	155	1042	38.3	0.0			
12) Trinidad	5	33	68	427	427	1,178.9	0.0	92	609	174	1164	88.8	0.0			
13) Panama Republic	42	251	30	186	186	-26.8	0.0	72	473	166	1114	128.5	0.0			
14) Honduras	23	137	25	155	155	12.0	0.0	16	104	22	149	39.3	0.0			
15) Uruguay	20	124	20	124	124	-0.3	0.0	18	116	13	90	-24.1	0.0			
16) Guatemala	13	78	17	104	104	30.5	0.0	13	81	22	146	73.3	0.0			
17) Netherlandantil	4	26	11	69	69	160.0	0.0	59	395	67	448	13.1	0.0			
18) Guyana	7	44	10	63	63	41.5	0.0	18	121	14	97	-21.6	0.0			
19) El Salvador	8	48	10	63	63	28.5	0.0	6	40	6	39	-6.6	0.0			
20) Bolivia	2	14	4	22	22	47.1	0.0	240	1580	174	1167	-27.8	0.0			
21) Falkland Is	2	10	3	16	16	65.0	0.0	2	11			-100.0	0.0			
22) Nicaragua	3	16	2	13	13	-17.4	0.0	4	25	3	18	-31.9	0.0			
23) Jamaica	1	6	2	11	11	97.8	0.0	2	10	1	8	-24.5	0.0			
24) Haiti	1	6	2	10	10	65.3	0.0	3	21	4	24	10.1	0.0			
25) Cuba	2	15	2	10	10	-34.6	0.0	1	9	1	9	-1.5	0.0			
26) Fr Guiana	2	15	1	9	9	-42.9	0.0	1	8	1	10	25.0	0.0			
27) Br Virgn Is	0	1	1	5	5	412.5	0.0	2	10	7	45	333.5	0.0			
28) Bahamas	494	3052	1	4	4	-99.9	0.0	77	511	259	1728	235.1	0.1			
29) Virgin Is Us	2	14	1	4	4	-73.5	0.0	1	7	5	30	319.4	0.0			
30) Antigua	0	0	0	3	3	1,125.0	0.0	0	0	0	0	-100.0	0.0			
31) St Kitt N A	0	0	0	2	2	1,750.0	0.0	0	1	0	0	-93.8	0.0			
32) Belize	2	9	0	1	1	-86.5	0.0	1	7	1	3	-48.5	0.0			
33) Barbados	0	1	0	1	1	54.5	0.0	0	1	0	1	5.9	0.0			
34) St Lucia	1	3	0	1	1	-72.0	0.0	0	3	0	2	-46.7	0.0			
35) Dominica	0	0	0	1	1	42.9	0.0	0	1	1	5	670.0	0.0			
36) Martinique	0	1	0	1	1	-25.0	0.0	0	0	0	0	0	0.0			
37) Bermuda	0	0	0	1	1	0.0	0.0	0	0	0	0	0	0.0			
38) Guadeloupe	0	2	0	0	0	-77.1	0.0	0	0	0	0	-100.0	0.0			

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries (Contd....)														
Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		2016-17(P)		Change (10) over (8) (Per cent)	Share (Per cent)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)		
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)
39) Turks C Is	0	1	0	0	-91.7	0.0	0	0	0	0	0	0	50.0	0.0
40) Montserrat	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0.0
41) Cayman Is	0	0	0	0	-100.0	0.0	0	0	0	0	0	0	0	0.0
42) St Vincent	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0.0
43) Grenada	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0	0.0
4) Asia	273198	1650452	263913	1612004	-3.4	58.9	222628	1455055	230300	1544520	3.4	60.2		
4.1 East Asia (Oceania)	10628	63822	11024	67445	3.7	2.5	9703	63430	11798	79181	21.6	3.1		
1) Australia	9823	58958	10247	62701	4.3	2.3	8899	58181	11124	74658	25.0	2.9		
2) New Zealand	615	3701	591	3608	-3.8	0.1	548	3585	504	3385	-7.9	0.1		
3) Papua N Gna	178	1084	157	961	-11.8	0.0	180	1161	108	726	-39.8	0.0		
4) Solomon Is	5	33	13	84	154.2	0.0	68	444	54	364	-20.3	0.0		
5) Nauru Rp	5	30	10	62	114.1	0.0	6	38	0	0	-99.3	0.0		
6) Fiji Is	2	11	2	11	-10.0	0.0	0	2	1	4	62.2	0.0		
7) Tuvalu	0	0	1	9	0	0.0	0	0	0	1	1,200.0	0.0		
8) Samoa	0	0	1	7	5,800.0	0.0	2	16	6	42	156.1	0.0		
9) Timor Leste	1	5	0	2	-62.7	0.0	0	0	0	1	466.7	0.0		
10) Kiribati Rep	0	0	0	0	0	0.0	0	0	0	0	0	0.0		
11) Vanuatu Rep	0	0	0	0	0	0.0	0	0	2	0	-100.0	0.0		
12) Tonga	0	0	0	0	-50.0	0.0	0	0	0	0	0	0.0		
4.2 ASEAN	41278	249595	44715	273405	8.3	10.0	39910	260744	40637	272530	1.8	10.6		
1) Indonesia	14748	89035	15005	91845	1.7	3.3	13132	85800	13431	90101	2.3	3.5		
2) Malaysia	9230	55902	11118	67919	20.5	2.5	9084	59373	8938	59912	-1.6	2.3		
3) Singapore	6762	41063	7124	43552	5.4	1.6	7308	47735	7095	47598	-2.9	1.9		
4) Thailand	5340	32380	5866	35862	9.8	1.3	5510	36011	5421	36350	-1.6	1.4		
5) Vietnam Soc Rep	2594	15568	3003	18398	15.8	0.7	2560	16763	3321	22263	29.7	0.9		
6) Myanmar	1396	8391	1232	7477	-11.8	0.3	984	6378	1066	7146	8.3	0.3		
7) Brunei	764	4575	841	5134	10.1	0.2	554	3610	628	4208	13.3	0.2		
8) Philippines	392	2372	423	2585	8.0	0.1	542	3532	495	3318	-8.8	0.1		
9) Lao PDR	39	229	85	523	116.4	0.0	180	1182	207	1391	15.2	0.1		

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries (Contd.....)

Regions / Countries	2013-14		2014-15		2015-16		2016-17(P)		Change (10) over (8) (Per cent)	Share (Per cent)			
	(2)	(3)	(4)	(5)	(8)	(9)	(10)	(11)					
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
10) Cambodia	13	77	18	110	41.2	0.0	54	360	242	-33.7	0.0		
4.3 West Asia- GCC	101799	614287	84433	514788	-17.1	18.8	55790	364147	55080	369347	-1.3	14.4	
1) Saudi Arab	36404	220515	28108	171221	-22.8	6.3	20321	132580	19957	133842	-1.8	5.2	
2) U Arab Emis	29020	174127	26140	159625	-9.9	5.8	19446	126981	21471	143973	10.4	5.6	
3) Qatar	15708	95005	14605	89064	-7.0	3.3	9022	58912	7632	51183	-15.4	2.0	
4) Kuwait	17154	103363	13382	81511	-22.0	3.0	4970	32379	4457	29863	-10.3	1.2	
5) Oman	2951	17828	1752	10648	-40.6	0.4	1675	10957	1272	8535	-24.0	0.3	
6) Bahrain Is	563	3449	446	2720	-20.8	0.1	357	2339	291	1951	-18.5	0.1	
4.4 Other West Asia	32646	197386	26997	164590	-17.3	6.0	20140	131170	25070	168143	24.5	6.6	
1) Iraq	18521	111638	14248	86779	-23.1	3.2	10838	70564	11702	78476	8.0	3.1	
2) Iran	10307	62798	8955	54588	-13.1	2.0	6279	40823	10507	70478	67.3	2.7	
3) Israel	2312	13888	2328	14229	0.7	0.5	2095	13713	1966	13182	-6.2	0.5	
4) Jordan	611	3637	858	5253	40.5	0.2	853	5580	828	5556	-2.9	0.2	
5) Yemen Republic	782	4727	541	3326	-30.9	0.1	7	44	5	32	-30.1	0.0	
6) Lebanon	37	224	40	242	6.7	0.0	28	180	30	203	9.4	0.0	
7) Syria	77	474	28	173	-63.0	0.0	41	266	32	216	-20.4	0.0	
4.5 North East Asia	84373	510353	93813	573828	11.2	20.9	94110	616105	95083	637666	1.0	24.8	
1) China P Rp	51035	309235	60413	369565	18.4	13.5	61707	404043	61311	411288	-0.6	16.0	
2) Korea Rp	12471	75283	13529	82720	8.5	3.0	13047	85363	12581	84376	-3.6	3.3	
3) Japan	9481	57212	10131	61990	6.9	2.3	9850	64493	9748	65372	-1.0	2.5	
4) Hong Kong	7322	44107	5572	34089	-23.9	1.2	6052	39636	8205	54912	35.6	2.1	
5) Taiwan	4041	24382	4029	24618	-0.3	0.9	3354	21921	3144	21081	-6.3	0.8	
6) Korea Dp Rp	12	68	132	805	957.1	0.0	88	567	85	570	-2.9	0.0	
7) Mongolia	9	51	4	26	-50.9	0.0	4	27	2	13	-51.9	0.0	
8) Macao	3	16	2	14	-13.2	0.0	8	54	8	53	-4.6	0.0	
4.6 South Asia	2473	15009	2931	17948	18.5	0.7	2975	19459	2631	17653	-11.6	0.7	
1) Sri Lanka	667	4064	756	4643	13.4	0.2	743	4854	596	3997	-19.8	0.2	
2) Nepal	530	3204	640	3916	20.8	0.1	471	3069	442	2965	-6.1	0.1	
3) Bangladesh	484	2903	621	3794	28.3	0.1	727	4767	701	4701	-3.6	0.2	

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Table 7.4 A. Direction of Imports : Imports by Regions and Countries (Contd.....)														
Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
4) Pakistan	427	2607	497	3041	16.5	0.1	441	2885	456	3056	3.3	0.1		
5) Afghanistan	209	1288	262	1613	25.5	0.1	308	2029	293	1967	-4.9	0.1		
6) Bhutan	152	919	150	915	-1.5	0.0	281	1827	135	905	-52.0	0.0		
7) Maldives	4	24	4	26	8.8	0.0	4	28	9	62	113.8	0.0		
5) CIS & Baltics	7723	46694	7665	46737	-0.8	1.7	7078	46269	9334	62544	31.9	2.4		
5.1 CARs Countries	703	4267	776	4723	10.3	0.2	457	2980	612	4085	34.0	0.2		
1) Kazakhstan	656	3978	702	4267	6.9	0.2	353	2295	439	2933	24.5	0.1		
2) Uzbekistan	32	192	56	345	77.3	0.0	45	298	47	312	2.8	0.0		
3) Turkmenistan	14	87	13	79	-7.4	0.0	47	310	21	143	-54.6	0.0		
4) Tajikistan	1	5	4	27	410.5	0.0	10	65	22	146	118.6	0.0		
5) Kyrgyzstan	1	4	1	5	20.3	0.0	2	12	84	550	4,564.8	0.0		
5.2 Other CIS Countries	7020	42427	6890	42014	-1.9	1.5	6621	43289	8722	58459	31.7	2.3		
1) Russia	3894	23570	4249	25924	9.1	0.9	4585	29986	5564	37257	21.3	1.5		
2) Ukraine	1805	10896	2239	13662	24.1	0.5	1751	11465	2481	16657	41.7	0.6		
3) Azerbaijan	1137	6857	199	1189	-82.5	0.0	77	487	462	3105	498.9	0.1		
4) Belarus	158	947	182	1114	15.5	0.0	165	1066	171	1143	3.4	0.0		
5) Georgia	24	144	18	112	-23.0	0.0	24	160	32	211	28.8	0.0		
6) Moldova	1	3	1	9	175.0	0.0	5	32	12	79	139.9	0.0		
7) Armenia	2	10	1	5	-51.8	0.0	14	93	1	7	-92.5	0.0		
6) Unspecified Region	4187	25282	7992	48944	90.9	1.8	9010	58889	7673	51364	-14.8	2.0		
Total Imports	450200	2715434	448033	2737087	-0.5	100.0	381007	2490298	384319	2577422	0.9	100.0		

Source: Department of Commerce based on DGCI&S data

Note:

P : Provisional.

Table 7.4 B. Direction of Exports : Exports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(US\$ million)	(₹ crore)
1) Europe	58326	353711	56304	344197	-3.5	18.1	50344	329678	18.1	50344	329678	18.1	53559	359072
1.1 EU Countries (27)	51635	313144	49358	301724	-4.4	15.9	44496	291392	15.9	44496	291392	15.9	47497	318428
1) U K	9822	59478	9354	57179	-4.8	3.0	8858	57962	3.0	8858	57962	3.0	8581	57521
2) Germany	7523	45561	7540	46077	0.2	2.4	7095	46468	2.4	7095	46468	2.4	7245	48581
3) Netherland	7998	48757	6327	38662	-20.9	2.0	4727	30957	2.0	4727	30957	2.0	5056	33922
4) Belgium	6377	38687	5520	33719	-13.4	1.8	5028	32959	1.8	5028	32959	1.8	5668	37990
5) Italy	5274	31892	5093	31124	-3.4	1.6	4218	27638	1.6	4218	27638	1.6	4948	33163
6) France	5109	30954	4957	30327	-3.0	1.6	4634	30328	1.6	4634	30328	1.6	5381	36054
7) Spain	2885	17494	3148	19252	9.1	1.0	3237	21215	1.0	3237	21215	1.0	3439	23061
8) Poland	996	6040	1051	6420	5.6	0.3	1025	6718	0.3	1025	6718	0.3	1204	8072
9) Ireland	414	2511	760	4673	83.3	0.2	526	3445	0.2	526	3445	0.2	487	3267
10) Sweden	733	4446	740	4526	1.0	0.2	684	4476	0.2	684	4476	0.2	711	4770
11) Denmark	762	4610	724	4426	-4.9	0.2	689	4515	0.2	689	4515	0.2	696	4664
12) Portugal	627	3809	636	3888	1.5	0.2	590	3866	0.2	590	3866	0.2	671	4500
13) Romania	286	1731	417	2554	45.5	0.1	256	1676	0.1	256	1676	0.1	258	1732
14) Czech Republic	387	2371	379	2308	-2.2	0.1	489	3181	0.1	489	3181	0.1	534	3585
15) Austria	336	2037	363	2218	7.9	0.1	340	2228	0.1	340	2228	0.1	385	2581
16) Greece	335	2025	361	2204	7.7	0.1	336	2204	0.1	336	2204	0.1	382	2554
17) Hungary	344	2080	349	2134	1.6	0.1	345	2258	0.1	345	2258	0.1	408	2733
18) Finland	416	2531	331	2020	-20.5	0.1	249	1629	0.1	249	1629	0.1	273	1830
19) Malta	168	1028	328	2018	95.1	0.1	325	2117	0.1	325	2117	0.1	138	925
20) Bulgaria	168	1018	266	1636	58.5	0.1	146	949	0.1	146	949	0.1	240	1609
21) Slovenia	212	1277	246	1503	15.8	0.1	265	1744	0.1	265	1744	0.1	252	1690
22) Slovak Rep	104	631	137	837	31.1	0.0	138	899	0.0	138	899	0.0	147	984
23) Lithuania	105	635	103	631	-1.6	0.0	88	579	0.0	88	579	0.0	96	645
24) Latvia	102	617	98	600	-3.9	0.0	80	519	0.0	80	519	0.0	116	778
25) Estonia	79	479	68	417	-14.0	0.0	64	417	0.0	64	417	0.0	98	656
26) Cyprus	62	375	51	313	-17.0	0.0	60	391	0.0	60	391	0.0	72	483
27) Luxembourg	12	70	10	59	-18.3	0.0	8	53	0.0	8	53	0.0	12	77

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Table 7.4 B. Direction of Exports : Exports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)
1.2 European Free Trade Association (EFTA)	2047	12250	1353	8271	-33.9	0.4	1538	10042	1243	8322	-19.2	0.4		
1) Switzerland	1797	10739	1069	6542	-40.5	0.3	977	6422	980	6559	0.3	0.4		
2) Norway	229	1389	263	1606	15.0	0.1	542	3493	245	1645	-54.7	0.1		
3) Iceland	20	120	20	122	0.2	0.0	19	122	17	112	-9.9	0.0		
4) Liechtenstein	0	2	0	1	-40.6	0.0	1	5	1	5	-11.0	0.0		
1.3 Other European Countries	4644	28317	5594	34201	20.4	1.8	4309	28245	4820	32323	11.8	1.7		
1) Turkey	4434	27042	5359	32761	20.9	1.7	4140	27136	4640	31122	12.1	1.7		
2) Croatia	139	842	176	1083	26.8	0.1	112	737	124	833	10.7	0.0		
3) Albania	19	115	19	119	3.7	0.0	24	158	27	178	10.7	0.0		
4) Bosnia-Hrzgovin	12	70	18	109	54.5	0.0	20	129	13	89	-33.0	0.0		
5) Macedonia	11	65	15	89	34.5	0.0	13	84	15	100	15.6	0.0		
6) Union Of Serbia & Montenegro	30	182	7	41	-77.9	0.0	0	1	0	1	20.0	0.0		
2) Africa	31226	189782	32842	200559	5.2	10.6	25027	163540	23127	155065	-7.6	8.4		
2.1 Southern African Customs Union (SACU)	5395	32757	5532	33777	2.5	1.8	3805	24820	3794	25438	-0.3	1.4		
1) South Africa	5074	30770	5302	32363	4.5	1.7	3589	23411	3554	23835	-1.0	1.3		
2) Namibia	212	1330	108	663	-49.2	0.0	74	484	89	599	21.3	0.0		
3) Botswana	54	332	44	271	-18.3	0.0	52	341	77	517	47.2	0.0		
4) Swaziland	23	137	40	246	75.1	0.0	60	387	40	265	-34.0	0.0		
5) Lesotho	31	189	38	234	23.3	0.0	30	196	33	223	10.5	0.0		
2.2 Other South African Countries	2329	14186	3214	19645	38.0	1.0	1968	12822	1483	9944	-24.7	0.5		
1) Mozambique	1257	7679	2071	12652	64.7	0.7	1242	8087	981	6579	-21.0	0.4		
2) Angola	536	3266	553	3378	3.1	0.2	223	1454	155	1042	-30.4	0.1		
3) Zambia	377	2283	367	2243	-2.8	0.1	298	1947	238	1592	-20.3	0.1		
4) Zimbabwe	158	958	224	1373	41.7	0.1	205	1333	109	732	-46.7	0.0		
2.3 West Africa	6993	42441	6980	42672	-0.2	2.2	6095	39911	5637	37789	-7.5	2.0		
1) Nigeria	2668	16181	2681	16376	0.5	0.9	2222	14523	1771	11874	-20.3	0.6		
2) Togo	444	2721	688	4204	55.1	0.2	532	3504	284	1904	-46.6	0.1		
3) Ghana	831	5045	680	4170	-18.2	0.2	624	4091	682	4574	9.4	0.2		
4) Senegal	426	2580	519	3173	21.6	0.2	546	3576	638	4271	16.8	0.2		

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Table 7.4 B. Direction of Exports : Exports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2) (Per cent)		Share (Percent)		2015-16		2016-17(P)		Change (10) over (8) (Per cent)		Share (Per cent)	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Percent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)
5) Benin	764	4636	498	3039	-34.8	0.2	427	2798	453	3037	6.1	0.2				
6) Cote D' Ivoire	299	1814	310	1897	3.6	0.1	397	2601	419	2817	5.6	0.2				
7) Guinea	203	1237	284	1735	39.5	0.1	279	1819	353	2367	26.8	0.1				
8) Congo P Rep	210	1275	253	1553	20.2	0.1	167	1089	133	893	-20.0	0.0				
9) Cameroon	260	1570	249	1526	-4.1	0.1	191	1246	150	1006	-21.5	0.1				
10) Liberia	254	1546	207	1265	-18.6	0.1	134	874	146	979	9.3	0.1				
11) Mali	109	659	134	820	23.3	0.0	108	708	108	725	0.1	0.0				
12) Burkina Faso	103	624	113	688	9.3	0.0	109	716	115	773	5.8	0.0				
13) Sierra Leone	101	601	80	493	-20.4	0.0	91	595	94	629	2.9	0.0				
14) Niger	86	525	78	478	-9.4	0.0	80	528	82	548	1.9	0.0				
15) Gambia	85	516	74	449	-13.6	0.0	60	391	63	422	5.9	0.0				
16) Mauritania	58	351	59	360	1.6	0.0	58	382	66	443	13.1	0.0				
17) Gabon	53	321	43	260	-18.8	0.0	37	242	44	292	18.2	0.0				
18) Equatl Guinea	17	105	15	92	-12.9	0.0	18	116	11	75	-35.9	0.0				
19) Guinea Bissau	19	117	10	60	-48.7	0.0	14	95	22	145	49.7	0.0				
20) Cape Verde Is	1	9	4	25	188.1	0.0	1	9	1	8	-12.6	0.0				
21) Sao Tome	1	6	1	9	59.8	0.0	1	6	1	6	-1.1	0.0				
22) St Helena	0	0	0	1	600.0	0.0	0	1	0	0	-87.5	0.0				
2.4 Central Africa	1092	6623	1251	7658	14.6	0.4	1252	8194	1048	7024	-16.3	0.4				
1) Uganda	531	3217	554	3390	4.4	0.2	570	3731	496	3325	-13.0	0.2				
2) Congo D. Rep.	181	1099	254	1559	40.1	0.1	318	2085	200	1341	-37.0	0.1				
3) Malawi	221	1343	214	1307	-3.2	0.1	176	1154	179	1198	1.5	0.1				
4) Rwanda	88	531	149	913	70.5	0.0	106	690	88	592	-16.7	0.0				
5) Chad	33	202	41	249	23.2	0.0	43	284	39	258	-11.3	0.0				
6) Burundi	31	186	31	193	2.2	0.0	29	190	36	241	24.0	0.0				
7) C. Afri Rep	8	46	8	47	0.4	0.0	9	61	10	70	13.1	0.0				
2.5 East Africa	9975	60827	10152	61958	1.8	3.3	7312	47772	6745	45237	-7.8	2.4				
1) Kenya	3882	23596	4118	25148	6.1	1.3	3026	19778	2199	14744	-27.3	0.8				
2) Tanzania Rep	3401	20907	2485	15133	-26.9	0.8	1655	10800	1786	11984	8.0	0.6				

Contd....

Table 7.4 B. Direction of Exports : Exports by Regions and Countries (Contd....)												
Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)
3) Mauritius	1000	6077	1910	11649	90.9	0.6	856	5572	883	5929	3.2	0.3
4) Ethiopia	817	4950	783	4792	-4.1	0.3	794	5198	776	5202	-2.3	0.3
5) Somalia	211	1287	353	2157	67.3	0.1	487	3190	506	3395	4.1	0.2
6) Djibouti	307	1844	238	1453	-22.5	0.1	205	1334	282	1888	37.7	0.1
7) Madagascar	239	1456	167	1021	-30.0	0.1	197	1284	215	1436	9.1	0.1
8) Reunion	52	318	49	298	-6.9	0.0	43	279	41	278	-2.9	0.0
9) Seychelles	53	309	33	199	-38.2	0.0	34	224	36	241	5.5	0.0
10) Comoros	14	82	18	108	29.6	0.0	17	112	21	139	22.2	0.0
2.6 North Africa	5442	32948	5712	34849	5.0	1.8	4595	30022	4421	29632	-3.8	1.6
1) Egypt A Rp	2562	15561	3026	18443	18.1	1.0	2338	15272	2072	13885	-11.4	0.7
2) Algeria	1070	6450	1064	6494	-0.5	0.3	788	5135	844	5658	7.1	0.3
3) Sudan	863	5213	882	5395	2.3	0.3	782	5110	751	5039	-4.0	0.3
4) Morocco	386	2330	326	1993	-15.4	0.1	342	2246	376	2523	10.0	0.1
5) Tunisia	274	1660	250	1526	-8.9	0.1	222	1459	256	1720	15.3	0.1
6) Libya	287	1734	164	999	-43.0	0.1	123	801	120	807	-1.7	0.0
7) Canary Is	0	0	0	0	0	0	0	0	0	0	0	0
3) America	54215	328173	59050	360849	8.9	19.0	52754	345069	55072	369236	4.4	19.9
3.1 North America	43423	262605	47522	290481	9.4	15.3	45223	295886	47815	320570	5.7	17.3
1) U S A	39158	236686	42464	259523	8.4	13.7	40340	263886	42332	283810	4.9	15.3
2) Mexico	2228	13572	2862	17528	28.5	0.9	2865	18794	3474	23291	21.2	1.3
3) Canada	2037	12346	2196	13431	7.8	0.7	2018	13207	2009	13468	-0.5	0.7
3.2 Latin America	10792	65568	11528	70368	6.8	3.7	7531	49183	7258	48666	-3.6	2.6
1) Brazil	5552	33871	5964	36340	7.4	1.9	2650	17261	2408	16150	-9.1	0.9
2) Colombia	1008	6115	1105	6762	9.7	0.4	888	5803	787	5279	-11.3	0.3
3) Peru	621	3766	820	5022	32.1	0.3	703	4596	699	4686	-0.6	0.3
4) Chile	664	4029	566	3461	-14.8	0.2	679	4451	676	4532	-0.5	0.2
5) Argentina	611	3708	460	2811	-24.7	0.1	537	3510	512	3434	-4.5	0.2
6) Panama Republic	211	1285	302	1851	43.0	0.1	201	1319	222	1489	10.2	0.1
7) Venezuela	197	1196	258	1580	31.0	0.1	131	852	62	416	-52.4	0.0

Contd....

Table 7.4 B. Direction of Exports : Exports by Regions and Countries

Regions / Countries	(Contd.....)												
	2013-14			2014-15			2015-16			2016-17(P)			Share (Per cent)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	
8) Guatemala	212	1289	229	1401	7.8	0.1	256	1676	243	1628	-5.1	0.1	
9) Ecuador	290	1761	225	1375	-22.5	0.1	153	1000	199	1334	29.8	0.1	
10) Uruguay	161	975	208	1270	29.4	0.1	153	995	189	1268	23.4	0.1	
11) Honduras	108	655	188	1150	73.8	0.1	155	1014	136	910	-12.4	0.0	
12) Trinidad	105	630	165	1011	57.9	0.1	93	607	85	567	-9.0	0.0	
13) Dominic Rep	126	765	141	863	12.1	0.0	175	1149	225	1512	28.7	0.1	
14) Bahamas	228	1302	124	733	-45.8	0.0	12	79	6	40	-50.4	0.0	
15) Paraguay	89	539	106	654	19.8	0.0	98	644	125	841	27.6	0.0	
16) Costa Rica	81	492	96	586	18.2	0.0	135	884	160	1073	18.8	0.1	
17) Haiti	59	358	85	524	44.3	0.0	62	406	72	482	15.4	0.0	
18) Bolivia	53	320	71	433	33.2	0.0	74	487	80	535	7.4	0.0	
19) Nicaragua	59	361	66	401	10.6	0.0	83	541	87	585	5.8	0.0	
20) El Salvador	65	394	61	376	-5.6	0.0	69	448	60	405	-11.7	0.0	
21) Fr Guiana	37	219	59	364	61.0	0.0	1	8	2	10	28.2	0.0	
22) Netherlandantil	69	416	41	250	-40.2	0.0	37	243	38	256	2.5	0.0	
23) Jamaica	36	219	38	232	4.4	0.0	40	263	43	291	8.0	0.0	
24) Cuba	36	215	37	228	5.0	0.0	54	353	42	280	-22.9	0.0	
25) Belize	22	134	24	150	9.0	0.0	15	95	15	103	5.9	0.0	
26) Guyana	24	147	24	149	0.9	0.0	22	143	20	135	-8.2	0.0	
27) Suriname	24	146	18	108	-27.1	0.0	13	84	11	71	-17.7	0.0	
28) Barbados	6	39	10	62	58.2	0.0	11	69	12	83	18.0	0.0	
29) Cayman Is	3	19	7	40	114.3	0.0	4	23	5	32	35.9	0.0	
30) Martinique	8	47	6	38	-19.9	0.0	4	29	4	28	-7.0	0.0	
31) Virgin Is Us	4	24	5	30	23.8	0.0	4	28	5	36	26.0	0.0	
32) Guadeloupe	7	39	4	25	-36.1	0.0	3	19	4	29	53.0	0.0	
33) Bermuda	3	16	3	17	5.4	0.0	3	17	4	28	62.5	0.0	
34) Dominica	2	15	3	16	5.0	0.0	1	10	2	16	62.6	0.0	
35) St Lucia	2	14	2	13	-6.6	0.0	3	18	4	29	62.2	0.0	
36) Antigua	2	13	2	13	-5.5	0.0	3	17	2	13	-23.0	0.0	

Contd....

(Contd....)

Table 7.4 B. Direction of Exports : Exports by Regions and Countries

Regions / Countries	2013-14		2014-15		Change (4) over (2) (Per cent)	Share (Percent)	2015-16		2016-17(P)		Change (10) over (8) (Per cent)	Share (Per cent)
	(2) (US\$ million)	(3) (₹ crore)	(4) (US\$ million)	(5) (₹ crore)			(7) (US\$ million)	(8) (₹ crore)	(9) (US\$ million)	(10) (₹ crore)			(11) (₹ crore)	(12)	(13)
37) Grenada	1	9	1	8	-8.2	0.0	2	12	3	20	61.5	0.0
38) St Kitt N A	1	7	1	8	2.5	0.0	2	14	3	21	40.9	0.0
39) St Vincent	2	11	1	5	-58.7	0.0	1	4	1	5	41.8	0.0
40) Br Virgn Is	0	2	1	4	69.2	0.0	1	6	0	3	-51.2	0.0
41) Montserrat	0	0	0	2	371.4	0.0	1	6	1	4	-35.4	0.0
42) Turks C Is	0	2	0	1	-63.4	0.0	0	1	1	5	387.5	0.0
43) Falkland Is	0	0	0	0	0	0	0	0	0	0	0	0
4) Asia	155426	942046	153812	939921	-1.0	49.6	127847	836696	137904	924567	7.9	49.9
4.1 East Asia (Oceania)	2683	16284	3221	19683	20.0	1.0	3667	23973	3378	22646	-7.9	1.2
1) Australia	2300	13958	2782	17001	20.9	0.9	3263	21332	2966	19880	-9.1	1.1
2) New Zealand	277	1680	322	1969	16.4	0.1	308	2015	311	2084	0.8	0.1
3) Papua N Gna	44	268	52	319	18.7	0.0	39	257	36	244	-7.9	0.0
4) Fiji Is	49	295	50	303	2.1	0.0	44	288	53	353	19.4	0.0
5) Solomon Is	2	12	5	32	153.4	0.0	3	18	2	16	-13.7	0.0
6) Timor Leste	2	13	3	20	47.9	0.0	3	22	2	16	-32.5	0.0
7) Samoa	4	26	2	15	-42.3	0.0	2	15	2	12	-20.3	0.0
8) Vanuatu Rep	3	17	2	11	-33.1	0.0	2	13	2	14	5.0	0.0
9) Kiribati Rep	1	6	1	6	6.4	0.0	1	6	0	3	-50.0	0.0
10) Tonga	1	6	1	6	-11.5	0.0	1	7	1	8	8.0	0.0
11) Tuvalu	0	0	0	0	-50.0	0.0	0	0	0	1	33.3	0.0
12) Nauru Rp	0	1	0	0	-88.2	0.0	0	0	3	17	25200.0	0.0
4.2 ASEAN	33134	200183	31813	194483	-4.0	10.3	25155	164748	31059	208265	23.5	11.2
1) Singapore	12511	74969	9810	59855	-21.6	3.2	7720	50532	9567	64132	23.9	3.5
2) Vietnam Soc Rep	5442	33253	6258	38319	15.0	2.0	5266	34590	6815	45702	29.4	2.5
3) Malaysia	4198	25414	5817	35615	38.6	1.9	3707	24160	5230	35084	41.1	1.9
4) Indonesia	4850	29340	4043	24674	-16.6	1.3	2820	18446	3500	23479	24.1	1.3
5) Thailand	3703	22431	3465	21209	-6.4	1.1	2988	19557	3174	21282	6.2	1.1
6) Philippines	1419	8610	1396	8531	-1.7	0.4	1374	9012	1487	9963	8.2	0.5
7) Myanmar	787	4806	773	4736	-1.7	0.2	1071	7082	1111	7457	3.8	0.4

Contd....

Table 7.4 B. Direction of Exports : Exports by Regions and Countries*(Contd.....)*

Regions / Countries	2013-14		2014-15		Change (4) over (2)		Share		2015-16		Change (10) over (8)		Share	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(Per cent)	(Per cent)	(US\$ million)	(₹ crore)
8) Cambodia	141	858	143	874	0.9	0.0	143	935	105	707	-26.4	0.0		
9) Lao Pdr Rp	50	305	67	413	34.9	0.0	38	246	26	172	-32.2	0.0		
10) Brunei	32	196	42	256	29.4	0.0	28	186	43	287	50.8	0.0		
4.3 West Asia- GCC	48221	291908	49297	301109	2.2	15.9	41679	272665	41885	280709	0.5	15.1		
1) U Arab Emrs	30520	184779	33028	201853	8.2	10.6	30290	198140	31258	209490	3.2	11.3		
2) Saudi Arab	12219	73864	11163	68037	-8.6	3.6	6394	41798	5140	34450	-19.6	1.9		
3) Oman	2812	17156	2379	14548	-15.4	0.8	2191	14408	2732	18287	24.7	1.0		
4) Kuwait	1061	6435	1199	7333	13.0	0.4	1248	8161	1494	10022	19.8	0.5		
5) Qatar	969	5911	1055	6443	8.9	0.3	902	5899	787	5280	-12.7	0.3		
6) Bahrain Is	639	3763	473	2897	-26.0	0.2	654	4259	474	3180	-27.5	0.2		
4.4 Other West Asia	13067	79241	11185	68287	-14.4	3.6	7883	51561	7877	52818	-0.1	2.8		
1) Iran	4972	30060	4175	25530	-16.0	1.3	2782	18177	2393	16046	-14.0	0.9		
2) Israel	3747	22757	3290	20071	-12.2	1.1	2821	18467	3065	20548	8.6	1.1		
3) Jordan	1596	9827	1431	8697	-10.3	0.5	500	3265	524	3514	4.8	0.2		
4) Yemen Republic	1307	7886	992	6045	-24.1	0.3	400	2635	446	2986	11.5	0.2		
5) Iraq	918	5525	829	5090	-9.7	0.3	1004	6550	1115	7483	11.1	0.4		
6) Lebanon	294	1776	280	1708	-4.7	0.1	240	1571	212	1420	-11.6	0.1		
7) Syria	234	1409	188	1145	-19.7	0.1	137	896	122	821	-10.6	0.0		
4.5 North East Asia	40816	248095	37816	231103	-7.4	12.2	30842	201885	34700	232664	12.5	12.5		
1) Hong Kong	12732	77241	13600	83119	6.8	4.4	12092	79307	14157	94852	17.1	5.1		
2) China P Rp	14867	90819	11957	73169	-19.6	3.9	9014	58953	10203	68461	13.2	3.7		
3) Japan	6814	41256	5386	32838	-21.0	1.7	4663	30435	3855	25849	-17.3	1.4		
4) Korea Rp	4209	25475	4604	28092	9.4	1.5	3524	23045	4239	28424	20.3	1.5		
5) Taiwan	1990	12061	2182	13355	9.6	0.7	1429	9347	2189	14700	53.2	0.8		
6) Korea Dp Rp	187	1143	77	468	-59.0	0.0	111	730	45	302	-59.4	0.0		
7) Mongolia	16	90	8	48	-49.0	0.0	8	55	10	66	16.0	0.0		
8) Macao	2	10	2	15	50.0	0.0	2	13	2	11	-18.3	0.0		
4.6 South Asia	17504	106335	20480	125256	17.0	6.6	18620	121864	19005	127464	2.1	6.9		
1) Sri Lanka	4534	27644	6704	41038	47.8	2.2	5310	34652	3921	26286	-26.1	1.4		

Contd....

Table 7.4 B. Direction of Exports : Exports by Regions and Countries (Contd....)																
Regions / Countries	2013-14		2014-15		Change (4) over (2) (Per cent)		Share (Percent)		2015-16		2016-17(P)		Change (10) over (8) (Per cent)		Share (Per cent)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)	(US\$ million)	(₹ crore)
2) Bangladesh	6167	37411	6451	39440	4.6	2.1	6035	39527	6695	44910	10.9	2.4				
3) Nepal	3592	21770	4559	27859	26.9	1.5	3930	25724	5361	35965	36.4	1.9				
4) Pakistan	2274	13833	1857	11353	-18.3	0.6	2171	14286	1832	12289	-15.6	0.7				
5) Afghanistan	474	2879	423	2581	-10.9	0.1	527	3436	507	3404	-3.6	0.2				
6) Bhutan	356	2155	334	2051	-6.1	0.1	469	3068	489	3281	4.4	0.2				
7) Maldives	106	643	152	933	43.7	0.0	179	1171	198	1329	10.8	0.1				
5) CIS & Baltics	3492	21149	3396	20763	-2.7	1.1	2392	15670	2794	18726	16.8	1.0				
5.1 CARS Countries	538	3256	605	3696	12.4	0.2	362	2368	339	2274	-6.4	0.1				
1) Kazakhstan	262	1580	251	1532	-4.1	0.1	152	994	121	811	-20.4	0.0				
2) Uzbekistan	114	692	170	1042	49.4	0.1	95	618	109	730	15.4	0.0				
3) Turkmenistan	74	448	92	563	24.9	0.0	69	447	58	388	-15.7	0.0				
4) Tajikistan	54	327	54	328	-1.0	0.0	22	145	20	136	-8.8	0.0				
5) Kyrgyzstan	35	208	38	231	9.3	0.0	25	164	31	208	23.8	0.0				
5.2 Other CIS Countries	2954	17893	2792	17066	-5.5	0.9	2029	13302	2454	16452	20.9	0.9				
1) Russia	2121	12829	2097	12824	-1.1	0.7	1588	10409	1933	12956	21.7	0.7				
2) Ukraine	481	2932	349	2129	-27.5	0.1	259	1697	311	2083	19.9	0.1				
3) Azerbaijan	124	747	110	676	-10.9	0.0	33	218	40	271	20.9	0.0				
4) Armenia	72	442	91	560	26.2	0.0	23	150	32	213	39.7	0.0				
5) Georgia	91	555	87	530	-5.1	0.0	83	542	92	613	10.8	0.0				
6) Belarus	53	325	48	294	-9.7	0.0	36	235	40	271	13.0	0.0				
7) Moldova	10	64	9	54	-16.0	0.0	8	51	7	45	-14.0	0.0				
6) Unspecified Region	11720	70151	4935	30061	-57.9	1.6	3927	25724	4091	27429	4.2	1.5				
Total Exports	314405	1905011	310338	1896348	-1.3	100.0	262290	1716378	276280	1852340	5.3	100.0				

Source: D/o Commerce based on DGCI&S data

Note:

P: Provisional

Table 7.5. India's Share in World Exports by Commodity Divisions and Groups

(US \$ million)

Div.	Code	Commodity	1980			1985		
Sl. No.	Group	Division/Group	World	India	India's share (%)	World	India	India's share (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
01		Meat and meat preparations	17832	67	0.4	15755	61	0.4
03		Fish, crustaceans and molluscs & preparations	12258	242	2.0	14335	337	2.4
04		Cereals and cereal preparations	41989	201	0.5	32643	211	0.6
	042	Rice	4355	160	3.7	2916	162	5.6
05		Vegetables and fruits	24018	259	1.1	23606	332	1.4
06		Sugar, sugar preparations and honey	16183	46	0.3	10113	0	0.0
07		Coffee, tea, cocoa, spices and manufactures	22121	879	4.0	20779	971	4.7
	071	Coffee and coffee substitutes	12979	271	2.1	11676	226	1.9
	074	Tea and mate	1631	452	27.7	1973	517	26.2
	075	Spices	1072	156	14.5	1188	229	19.3
08		Feeding stuff for animals	10322	164	1.6	8515	127	1.5
12		Tobacco and tobacco manufactures	3423	151	4.4	7822	140	1.8
	121	Unmanufactured tobacco and refuse	3423	151	4.4	3798	113	3.0
	122	Manufactured tobacco	...	...	...	4024	27	0.7
22		Oilseeds and oleaginous fruit	9487	30	0.3	7896	20	0.3
28		Metalliferous ores and metal scrap	30239	465	1.5	23137	557	2.4
	281	Iron ore and concentrates	6515	411	6.3	6154	478	7.8
51		Organic chemicals	31841	17	0.1	36923	25	0.1
52		Inorganic chemicals	15491	26	0.2	16318	22	0.1
53		Dyeing, tanning and colouring materials	7986	65	0.8	8024	62	0.8
54	541	Medicinal and pharmaceutical products	13918	109	0.8	15920	130	0.8
55		Essential oils and perfume materials	7647	86	1.1	8136	56	0.7
		soap, cleansing etc.						
58		Artificial resins, plastic materials, cellulose esters & ethers	27223	3	0.0	28456	5	0.0
59		Chemical materials and products n.e.s.	15960	8	0.0	16613	28	0.2
61		Leather, leather manufactures & dressed fur skins	5967	405	6.8	6444	534	8.3
	611	Leather	3415	342	10.0	4185	331	7.9
	612	Manufactures of leather or of composition leather	975	62	6.3	1233	202	16.4
	613	Fur skins, tanned or dressed etc.	1577	1	0.1	1026	0	0.0
65		Textile yarn, fabrics, made-up articles	48884	1145	2.3	48218	1037	2.1
	652	Woven cotton fabrics	6632	351	5.3	6804	327	4.8
	653	Woven fabrics of man made fibres	9325	44	0.5	9735	20	0.2
	654	Woven fabrics other than of cotton or man-made fibres	3188	204	6.4	3462	167	4.8
66	667	Pearls, precious and semi-precious stones	18563	579	3.1	12073	1165	9.6
67		Iron and steel	68231	87	0.1	61891	46	0.1
69		Manufactures of metals n.e.s.	36840	221	0.6	32884	125	0.4
71		Power-generating machinery & equipment	35722	88	0.2	38433	59	0.2
72		Machinery specialized for particular industries	58495	65	0.1	54707	97	0.2
73		Metal-working machinery	15671	32	0.2	12696	55	0.4
74		General industrial machinery & equipment & machine parts thereof	59443	67	0.1	53954	60	0.1
75		Office machinery and ADP equipment	24750	2	0.0	53604	30	0.1
76		Telecommunication and sound recording and reproducing apparatus and equipment	26799	11	0.0	47318	4	0.0
77		Electrical machinery, apparatus and appliances	60947	114	0.2	75739	121	0.2
78		Road vehicles (including air cushion vehicles)	127347	208	0.2	157446	126	0.1
79		Other transport equipment	41291	32	0.1	50709	27	0.1
84		Articles of apparel and clothing accessories	32365	590	1.8	38718	887	2.3
		Total Exports	1997686	8486	0.4	1930849	8904	0.5

Contd....

Table 7.5. India's Share in World Exports by Commodity Divisions and Groups (Contd....)

Table 7.5. India's Share in World Exports by Commodity Divisions and Groups (Contd....)								
(US \$ million)								
Div.	Code	Commodity	1990			2000		
Sl. No.	Group	Division/Group	World	India	India's share (%)	World	India	India's share (%)
(1)	(2)	(3)	(10)	(11)	(12)	(13)	(14)	(15)
01		Meat and meat preparations	34118	77	0.2	44690	324	0.7
03		Fish, crustaceans and molluscs & preparations	32847	521	1.6	50875	1391	2.7
04		Cereals and cereal preparations	45314	285	0.6	53575	783	1.5
	042	Rice	3995	254	6.4	6411	654	10.2
05		Vegetables and fruits	50225	400	0.8	68355	856	1.3
06		Sugar, sugar preparations and honey	14236	21	0.1	13866	118	0.9
07		Coffee, tea, cocoa, spices and manufactures	21131	842	4.0	27953	956	3.4
	071	Coffee and coffee substitutes	8659	148	1.7	11559	264	2.3
	074	Tea and mate	2650	585	22.1	3087	431	14.0
	075	Spices	1415	109	7.7	2541	261	10.3
08		Feeding stuff for animals	15603	336	2.2	20295	469	2.3
12		Tobacco and tobacco manufactures	17860	145	0.8	21628	147	0.7
	121	Unmanufactured tobacco and refuse	5187	107	2.1	5525	147	2.7
	122	Manufactured tobacco	12674	39	0.3	16103	0	0.0
22		Oilseeds and oleaginous fruit	10477	83	0.8	14388	244	1.7
28		Metalliferous ores and metal scrap	35734	753	2.1	49515	510	1.0
	281	Iron ore and concentrates	7653	578	7.6	9229	363	3.9
51		Organic chemicals	70721	232	0.3	134109	1491	1.1
52		Inorganic chemicals	26079	59	0.2	33117	99	0.3
53		Dyeing, tanning and colouring materials	19952	233	1.2	34105	481	1.4
54	541	Medicinal and pharmaceutical products	37753	453	1.2	107482	1255	1.2
55		Essential oils and perfume materials soap, cleansing etc.	21027	240	1.1	44279	216	0.5
58		Artificial resins, plastic materials, cellulose esters & ethers	65712	29	0.0	123353	174	0.1
59		Chemical materials and products n.e.s.	33418	76	0.2	63411	437	0.7
61		Leather, leather manufactures & dressed fur skins	13226	832	6.3	24440	808	3.3
	611	Leather	9295	447	4.8	16551	388	2.3
	612	Manufactures of leather or of composition leather	2868	385	13.4	6831	421	6.2
	613	Fur skins, tanned or dressed etc.	1063	0	0.0	1058	0	0.0
65		Textile yarn, fabrics, made-up articles	105147	2180	2.1	167528	6000	3.6
	652	Woven cotton fabrics	15559	571	3.7	22387	1103	4.9
	653	Woven fabrics of man made fibres	22021	156	0.7	32151	506	1.6
	654	Woven fabrics other than of cotton or man-made fibres	8466	195	2.3	9432	370	3.9
66	667	Pearls, precious and semi-precious stones	27577	2710	9.8	54105	6477	12.0
67		Iron and steel	106342	283	0.3	146147	1481	1.0
69		Manufactures of metals n.e.s.	66088	341	0.5	125259	1167	0.9
71		Power-generating machinery & equipment	81675	126	0.2	158329	218	0.1
72		Machinery specialized for particular industries	118617	236	0.2	167582	346	0.2
73		Metal-working machinery	31051	58	0.2	41413	117	0.3
74		General industrial machinery & equipment & machine parts thereof	130836	132	0.1	225981	78	0.0
75		Office machinery and ADP equipment	126743	112	0.1	378980	0	0.0
76		Telecommunication and sound recording and reproducing apparatus and equipment	100965	31	0.0	299356	0	0.0
77		Electrical machinery, apparatus and appliances	185364	241	0.1	640575	92	0.0
78		Road vehicles (including air cushion vehicles)	312550	344	0.1	549596	370	0.1
79		Other transport equipment	96250	15	0.0	157654	53	0.0
84		Articles of apparel and clothing accessories	94577	2211	2.3	201379	7093	3.5
Total Exports			3303563	18143	0.5	6254511	41543	0.7

Contd....

Table 7.5. India's Share in World Exports by Commodity Divisions and Groups (Contd....)

(US \$ million)

Div.	Code	Commodity	2005			2010		
Sl. No.	Group	Division/Group	World	India	India's share (%)	World	India	India's share (%)
(1)	(2)	(3)	(16)	(17)	(18)	(19)	(20)	(21)
01		Meat and meat preparations	73937	620	0.8	112000	1821	1.6
03		Fish, crustaceans and molluscs & preparations	71559	1590	2.2	101800	2403	2.4
04		Cereals and cereal preparations	72416	1753	2.4	94300	3136	3.3
	042	Rice	9841	1411	14.3	20300	2296	11.3
05		Vegetables and fruits	114274	1586	1.4	180700	2338	1.3
06		Sugar, sugar preparations and honey	24042	196	0.8	45500	1096	2.4
07		Coffee, tea, cocoa, spices and manufactures	44914	1042	2.3	80700	2233	2.8
	071	Coffee and coffee substitutes	15729	363	2.3	29600	558	1.9
	074	Tea and mate	4159	393	9.4	7200	720	10.0
	075	Spices	2995	281	9.4	6000	927	15.4
08		Feeding stuff for animals	30390	1127	3.7	57600	2067	3.6
12		Tobacco and tobacco manufactures	24759	232	0.9	35100	879	2.5
	121	Unmanufactured tobacco and refuse	6875	0	0.0	10800	713	6.6
	122	Manufactured tobacco	17884	0	0.0	24300	165	0.7
22		Oilseeds and oleaginous fruit	22888	319	1.4	56400	911	1.6
28		Metalliferous ores and metal scrap	124604	4899	3.9	299000	8475	2.8
	281	Iron ore and concentrates	27673	3816	13.8	105200	6147	5.8
51		Organic chemicals	217584	4536	2.1	335000	7735	2.3
52		Inorganic chemicals	55240	0	0.0	92200	972	1.1
53		Dyeing, tanning and colouring materials	50885	846	1.7	66300	1604	2.4
54	541	Medicinal and pharmaceutical products	67107	564	0.8	134700	1357	1.0
55		Essential oils and perfume materials soap, cleansing etc.	82162	511	0.6	122900	1159	0.9
58		Artificial resins, plastic materials, cellulose esters & ethers	72911	0	0.0	108400	910	0.8
59		Chemical materials and products n.e.s.	106894	1153	1.1	174100	2136	1.2
61		Leather, leather manufactures & dressed fur skins	25347	773	3.1	28200	915	3.2
	611	Leather	20500	638	3.1	23500	785	3.3
	612	Manufactures of leather or of composition leather	3125	0	0.0	3100	130	4.2
	613	Fur skins, tanned or dressed etc.	1722	0.0	0.0	1600	0.0	0.0
65		Textile yarn, fabrics, made-up articles	213619	8462	4.0	259700	12833	4.9
	652	Woven cotton fabrics	28814	861	3.0	28600	1050	3.7
	653	Woven fabrics of man made fibres	32121	981	3.1	36200	1987	5.5
	654	Woven fabrics other than of cotton or man-made fibres	11076	495	4.5	9900	518	5.2
66	667	Pearls, precious and semi-precious stones	91907	11929	13.0	129500	22589	17.4
67		Iron and steel	312975	4959	1.6	416400	10612	2.5
69		Manufactures of metals n.e.s.	215402	2774	1.3	301800	4169	1.4
71		Power-generating machinery & equipment	252199	926	0.4	330700	2335	0.7
72		Machinery specialized for particular industries	264538	1125	0.4	364800	2230	0.6
73		Metal-working machinery	63925	268	0.4	69400	381	0.5
74		General industrial machinery & equipment & machine parts thereof	375374	1825	0.5	527900	3886	0.7
75		Office machinery and ADP equipment	488065	470	0.1	572700	619	0.1
76		Telecommunication and sound recording and reproducing apparatus and equipment	492806	0	0.0	626200	2408	0.4
77		Electrical machinery, apparatus and appliances	852088	2126	0.2	1240100	5522	0.4
78		Road vehicles (including air cushion vehicles)	896733	3088	0.3	1063500	8746	0.8
79		Other transport equipment	214311	1023	0.5	333500	5804	1.7
84		Articles of apparel and clothing accessories	286840	9212	3.2	372000	11229	3.0
		Total Exports	10355384	99618	1.0	15102605	226334	1.5

Contd....

Table 7.5. India's Share in World Exports by Commodity Divisions and Groups (Contd....)

		(US \$ million)						
Div.	Code	Commodity	2014			2015		
Sl. No.	Group	Division/Group	World	India	India's share (%)	World	India	India's share (%)
(1)	(2)	(3)	(22)	(23)	(24)	(25)	(26)	(27)
01		Meat and meat preparations	151600	5079	3.4	131866	4347	3.3
03		Fish, crustaceans and molluscs & preparations	138600	5500	4.0	126276	4778	3.8
04		Cereals and cereal preparations	130000	10598	8.2	118540	7380	6.2
	042	Rice	25900	7906	30.5	22803	6380	28.0
05		Vegetables and fruits	234100	3305	1.4	228540	3176	1.4
06		Sugar, sugar preparations and honey	50100	1386	2.8	44392	1529	3.4
07		Coffee, tea, cocoa, spices and manufactures	106700	3238	3.0	102459	3407	3.3
	071	Coffee and coffee substitutes	39600	843	2.1	37908	813	2.1
	074	Tea and mate	9200	694	7.5	8505	713	8.4
	075	Spices	9700	1575	16.2	9839	1701	17.3
08		Feeding stuff for animals	84800	2043	2.4	73947	1066	1.4
12		Tobacco and tobacco manufactures	45600	957	2.1	42623	935	2.2
	121	Unmanufactured tobacco and refuse	12000	688	5.7	11215	639	5.7
	122	Manufactured tobacco	33600	269	0.8	31408	296	0.9
22		Oilseeds and oleaginous fruit	84900	1837	2.2	72833	1408	1.9
28		Metalliferous ores and metal scrap	320600	2217	0.7	233287	1543	0.7
	281	Iron ore and concentrates	116900	874	0.7	67293	211	0.3
51		Organic chemicals	393000	10967	2.8	334703	10124	3.0
52		Inorganic chemicals	101300	908	0.9	90759	813	0.9
53		Dyeing, tanning and colouring materials	76800	2886	3.8	68143	2452	3.6
54	541	Medicinal and pharmaceutical products	189700	2243	1.2	186774	2339	1.3
55		Essential oils and perfume materials soap, cleansing etc.	160400	1905	1.2	149500	1833	1.2
58		Artificial resins, plastic materials, cellulose esters & ethers	135200	1272	0.9	123550	1223	1.0
59		Chemical materials and products n.e.s.	223600	3355	1.5	200119	3156	1.6
61		Leather, leather manufactures & dressed fur skins	34200	1603	4.7	29586	1312	4.4
	611	Leather	27300	1361	5.0	23077	1095	4.7
	612	Manufactures of leather or of composition leather	4500	243	5.4	4610	216	4.7
	613	Fur skins, tanned or dressed etc.	2400	0.2	0.0	1899	0.8	0.0
65		Textile yarn, fabrics, made-up articles	319400	18266	5.7	296948	17263	5.8
	652	Woven cotton fabrics	32100	1861	5.8	29641	1771	6.0
	653	Woven fabrics of man made fibres	47400	2152	4.5	44623	2091	4.7
	654	Woven fabrics other than of cotton or man-made fibres	10700	322	3.0	9659	301	3.1
66	667	Pearls, precious and semi-precious stones	166000	24402	14.7	138524	22395	16.2
67		Iron and steel	466700	11540	2.5	375863	8289	2.2
69		Manufactures of metals n.e.s.	401700	7953	2.0	372406	7113	1.9
71		Power-generating machinery & equipment	410700	3991	1.0	373049	3637	1.0
72		Machinery specialized for particular industries	428500	4233	1.0	379452	4101	1.1
73		Metal-working machinery	90500	512	0.6	78819	527	0.7
74		General industrial machinery & equipment & machine parts thereof	694500	6137	0.9	633886	6179	1.0
75		Office machinery and ADP equipment	603800	528	0.1	537520	590	0.1
76		Telecommunication and sound recording and reproducing apparatus and equipment	784700	2036	0.3	780740	1315	0.2
77		Electrical machinery, apparatus and appliances	1501200	6218	0.4	1453566	5975	0.4
78		Road vehicles (including air cushion vehicles)	1374200	13519	1.0	1299882	13079	1.0
79		Other transport equipment	375500	11405	3.0	376308	7923	2.1
84		Articles of apparel and clothing accessories	491700	17650	3.6	469054	18168	3.9
Total Exports			18653609	317544.6423	1.7	16272345	264381.0036	1.6

Source: Various issues of United Nations' International Trade Statistics Year Book, and for the years 2014 and 2015 data accessed on 02nd May 2017 from <http://comtrade.un.org/>

Table 7.6. Index Numbers of Foreign Trade

(Base : 1999-2000=100)

Year	Unit Value Index		Volume Index		Terms of Trade		
	Exports	Imports	Exports	Imports	Gross	Net	Income
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2000-01	102	109	125	99	79	94	117
2001-02	103	112	126	103	82	92	116
2002-03	106	128	150	109	73	83	124
2003-04	114	132	161	128	80	86	139
2004-05	131	157	179	150	84	83	149
2005-06	139	179	206	174	84	78	160
2006-07	158	206	227	191	84	77	174
2007-08	166	210	245	218	89	79	194
2008-09	194	239	267	262	98	81	217
2009-10	196	215	264	288	109	91	241
2010-11	223	243	304	311	102	92	279
2011-12	268	425	331	246	74	63	209
2012-13	284	459	357	261	73	62	221
2013-14	312	518	378	233	62	60	228
2014-15	300	518	397	235	59	58	230
2015-16	372	518	290	214	74	72	208

Source: DGCI&S, Kolkata

Notes:

1. Net terms of trade , i.e., the ratio of overall export unit value index to similar Import index .
2. Gross terms of trade , i.e., the ratio of overall import quantum Index to similar export index.
3. Income terms of trade = (NTT x QIE)/100.
4. QIE = Quantum Index of Exports.

Table 8.1 A. Overall External Assistance

(₹ crore)

Year	Loans	Grants	Total (2+3)
(1)	(2)	(3)	(4)
A. Authorization			
1985-86	5337.0	313.4	5650.4
1986-87	5730.0	429.5	6159.5
1987-88	8203.1	1062.2	9265.3
1988-89	12855.6	214.2	13069.8
1989-90	10105.8	720.2	10826.0
1990-91	7601.3	522.1	8123.4
1991-92	11805.8	901.8	12707.6
1992-93	13082.1	1011.7	14093.8
1993-94	11618.8	2415.1	14033.9
1994-95	12384.3	1075.8	13460.1
1995-96	10833.2	1330.0	12163.2
1996-97	14208.8	2932.6	17141.4
1997-98	14865.0	2101.0	16966.0
1998-99	8320.8	209.8	8530.6
1999-2000	17703.7	2615.3	20319.0
2000-01	16455.2	1963.5	18418.7
2001-02	21630.0	3465.0	25095.0
2002-03	19875.7	1296.1	21171.8
2003-04	14754.4	2350.7	17105.1
2004-05	22746.1	3071.1	25817.2
2005-06	17309.1	1628.8	18937.9
2006-07	28271.0	3518.9	31789.9
2007-08	28988.4	4294.4	33282.8
2008-09	28283.4	1242.5	29525.9
2009-10	48968.8	957.6	49926.4
2010-11	35895.1	1536.5	37431.6
2011-12	59035.3	1095.5	60130.8
2012-13	66891.6	1889.0	68780.6
2013-14	54372.6	140.2	54512.8
2014-15	48135.5	119.7	48255.2
2015-16	63847.0	3655.2	67502.2
2016-17#	55641.4	187.7	55829.1
B. Utilization			
1985-86	2493.1	442.9	2936.0
1986-87	3175.7	429.3	3605.0
1987-88	4574.4	477.5	5051.9
1988-89	4738.6	565.8	5304.4
1989-90	5137.8	664.7	5802.5
1990-91	6170.0	534.3	6704.3
1991-92	10695.9	919.1	11615.0
1992-93	10102.2	879.6	10981.8
1993-94	10895.4	885.6	11781.0
1994-95	9964.5	916.0	10880.5
1995-96	9958.6	1063.6	11022.2
1996-97	10892.9	1085.6	11978.5

Contd....

Table 8.1 A. Overall External Assistance*(Contd....)*

(₹ crore)

Year	Loans	Grants	Total (2+3)
(1)	(2)	(3)	(4)
1997-98	10823.4	921.3	11744.7
1998-99	12343.4	895.5	13238.9
1999-2000	13330.7	1073.9	14404.6
2000-01	13527.2	727.2	14254.4
2001-02	16111.7	1447.6	17559.3
2002-03	13898.3	1835.8	15734.1
2003-04	15271.0	2073.4	17344.4
2004-05	14660.9	2490.7	17151.6
2005-06	16097.8	2790.6	18888.4
2006-07	16890.6	2528.4	19419.0
2007-08	17177.7	2673.7	19851.4
2008-09	24089.9	2803.8	26893.7
2009-10	27617.8	3121.2	30739.0
2010-11	35116.1	2789.5	37905.6
2011-12	29349.4	2926.2	32275.6
2012-13	25494.1	2373.6	27867.7
2013-14	31772.4	3415.8	35187.5
2014-15	35257.3	1491.7	36749.0
2015-16	40146.2	2196.5	42342.7
2016-17#	47313.1	985.2	48298.3

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes :

: During the year 2016-17 figures are provisional

1. Figures of authorization have been arrived at by applying the average exchange rate of the rupee with individual donor currencies.
2. Figures of utilization are at current rates applicable on the date of transaction.
3. Figures of authorization and utilization include loans and grants on both Government and Non-Government accounts.
4. Totals may not tally due to rounding off.

Table 8.1 B. Overall External Assistance

				(US\$ million)
Year	Loans	Grants	Total (2+3)	
(1)	(2)	(3)	(4)	
A. Authorization				
1985-86	4362.1	256.2	4618.3	
1986-87	4484.2	336.1	4820.3	
1987-88	6326.7	819.2	7145.9	
1988-89	8877.0	147.9	9024.9	
1989-90	6069.9	432.6	6502.5	
1990-91	4236.4	291.0	4527.4	
1991-92	4766.0	364.1	5130.1	
1992-93	4275.7	330.7	4606.4	
1993-94	3717.5	772.7	4490.2	
1994-95	3958.2	343.8	4302.0	
1995-96	3249.8	399.0	3648.8	
1996-97	4000.4	825.6	4826.0	
1997-98	4006.8	566.3	4573.1	
1998-99	1979.2	49.9	2029.1	
1999-2000	4091.4	604.4	4695.8	
2000-01	3609.4	430.7	4040.1	
2001-02	4438.7	711.1	5149.8	
2002-03	4183.5	244.4	4427.9	
2003-04	3300.8	525.9	3826.7	
2004-05	5212.2	703.7	5915.9	
2005-06	3912.2	368.1	4280.4	
2006-07	6209.8	773.0	6982.8	
2007-08	7182.2	1064.0	8246.1	
2008-09	6183.2	271.6	6454.9	
2009-10	10318.0	201.8	10519.8	
2010-11	7881.0	337.4	8218.3	
2011-12	12343.4	229.1	12572.5	
2012-13	12301.0	347.4	12648.3	
2013-14	9003.7	23.2	9027.0	
2014-15	7881.8	19.6	7901.4	
2015-16	9763.0	559.0	10321.9	
2016-17#	8281.7	27.9	8309.6	
B. Utilization				
1985-86	2037.7	362.0	2399.7	
1986-87	2485.3	336.0	2821.3	
1987-88	3528.0	368.2	3896.2	
1988-89	3272.1	390.7	3662.8	
1989-90	3086.0	399.2	3485.2	
1990-91	3438.7	297.8	3736.5	
1991-92	4317.9	371.0	4688.9	
1992-93	3301.8	287.5	3589.3	
1993-94	3486.0	283.4	3769.4	
1994-95	3184.8	292.7	3477.5	
1995-96	2987.4	319.1	3306.4	
1996-97	3066.8	305.6	3372.4	

Contd....

Table 8.1 B. Overall External Assistance*(Contd....)*

(US\$ million)

Year	Loans	Grants	Total (2+3)
(1)	(2)	(3)	(4)
1997-98	2917.4	248.3	3165.7
1998-99	2936.0	213.0	3149.0
1999-00	3080.8	248.2	3329.0
2000-01	2967.2	159.5	3126.7
2001-02	3306.3	297.1	3603.4
2002-03	2946.6	386.6	3333.2
2003-04	3416.3	463.8	3880.1
2004-05	3359.5	570.7	3930.2
2005-06	3607.0	625.3	4232.3
2006-07	3918.0	586.5	4265.5
2007-08	4280.5	666.3	4946.8
2008-09	4769.3	555.1	5324.4
2009-10	6130.5	692.8	6823.3
2010-11	7866.5	624.9	8491.4
2011-12	6060.2	590.1	6650.3
2012-13	4715.1	439.0	5154.1
2013-14	5282.9	567.8	5850.7
2014-15	5634.2	238.4	5872.6
2015-16	6034.5	330.2	6364.7
2016-17#	7287.3	151.8	7439.1

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes:

: During the year 2016-17 figures are provisional

1. Figures in this table are converted from the preceding Table 8.1 A. based on the respective Rupee-US dollar rate.
2. Totals may not tally due to rounding off.

Table 8.2 A. Authorization of External Assistance by Source

								(₹ crore)
Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Consortium Members								
(a) Loans	11189.6	28729.7	46401.4	59893.3	35842.5	37464.7	52068.6	39597.3
(b) Grants	1912.3	1185.1	230.2	813.0	93.3	98.0	3.1	154.1
Total	13101.9	29914.8	46631.7	60706.3	35935.9	37562.7	52071.7	39751.4
Country-wise Distribution								
(i) Canada								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	20.5	...	...	...	...	...	...	...
Total	20.5	...	...	...	...	...	...	...
(ii) Denmark								
Grants	15.6	...	...	...	...	...	...	...
(iii) France								
Grants	9.3	...	823.1	769.8	1645.2	...	1444.0	957.3
(iv) Germany								
(a) Loans	187.7	1504.0	2960.7	3240.2	1215.7	5659.1	1783.4	9015.0
(b) Grants	5.7	12.0	...	38.5	...	21.3	...	...
Total	193.4	1516.0	2960.7	3278.7	1215.7	5680.4	1783.4	9015.0
(v) Italy								
Loans	42.6	...	...	...	...	...	...	...
(vi) Japan								
(a) Loans	784.1	2557.4	16186.2	23049.8	18818.6	6756.1	17337.0	10178.7
(b) Grants	2.2	41.9	...	...	90.3	...	...	...
Total	786.3	2599.3	16186.2	23049.8	18909.0	6756.1	17337.0	10178.7
(vii) Netherlands								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	6.7	...	...	...	...	...	...	...
Total	6.7	...	...	...	...	...	...	...
(viii) U.K.								
Grants	474.7	905.3	160.2	764.2	...	...	...	...
(ix) U.S.A.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	0.8	156.6	...	...	...	...	...	...
Total	0.8	156.6	...	...	...	...	...	...
(x) I.B.R.D.								
(a) Loans	6816.8	8237.1	15250.5	2619.5	2361.2	14657.3	17667.0	13819.6
(b) Grants	391.7	60.6	70.1	10.3	3.0	76.7	3.1	154.1
Total	7208.5	8297.7	15320.6	2629.8	2364.2	14733.9	17670.1	13973.7
(xi) I.D.A.								
(a) Loans	3358.4	16431.2	11180.9	7374.7	11801.8	10392.3	13837.1	5626.9
(b) Grants	985.1	8.7	...	...	...	...	...	...
Total	4343.5	16439.9	11180.9	7374.7	11801.8	10392.3	13837.1	5626.9
II. Russia Fed. & East European Countries								
Loans	...	...	...	22839.3	...	...	...	...
Country-wise Distribution								

Contd....

Table 8.2 A. Authorization of External Assistance by Source*(Contd....)*

(₹ crore)

Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(i) Russia Fed.				22839.3				
Loans	...	...	...	22839.3	...	...	...	...
III. Others								
(a) Loans	5265.6	7165.3	12633.9	6998.3	18530.1	10670.7	11778.4	16044.1
(b) Grants	51.2	351.5	865.2	1076.0	46.8	21.7	3652.1	33.6
Total	5316.8	7516.8	13499.1	8074.3	18576.9	10692.4	15430.5	16077.7
(i) European Economic Community								
Grants	...	4.3	...	559.9	...	...	...	...
(ii) IFAD (International Fund for Agricultural Development)								
(a) Loans	...	87.9	426.5	...	400.1	383.2	475.7	...
(b) Grants	...	...	...	...	...	...	...	...
Total	...	87.9	426.5	...	400.1	383.2	475.7	...
(iii) ADB								
(a) Loans	5265.6	7077.5	12207.4	6998.3	18130.0	10287.6	9858.7	16044.1
(b) Grants	...	...	...	...	...	11.0	13.1	33.59
Total	5265.6	7077.5	12207.4	6998.3	18130.0	10298.6	9871.8	16077.7
(iv) European Investment Bank								
(a) Loans	...	...	...	...	...	...	1444.0	...
(b) Grants	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	1444.0	...
(v) Other International Institutions^a								
Grants	51.2	347.2	865.2	516.2	46.8	10.7	3639.0	...
Grand Total	18418.7	37431.6	60130.7	68780.6	54512.8	48255.1	67502.2	55829.1
(a) Loans	16455.2	35895.1	59035.3	66891.6	54372.6	48135.5	63847.0	55641.4
(b) Grants	1963.5	1536.5	1095.4	1889.0	140.2	119.7	3655.2	187.7

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes:

: During the year 2016-17 figures are provisional

---- Nil or Negligible

a : Other International Institutions include UNDP, UNFPA, Global Fund, IDf(WB), UN-FAO and UPU (Universal Postal Union).

1. Figures of authorization of external assistance include agreements signed on Government and Non-Government accounts.

2. Totals may not tally due to rounding off.

Table 8.2 B. Authorization of External Assistance by Source

(US\$ million)								
Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Consortium Members								
(a) Loans	2454.4	6307.8	9701.8	11014.0	5935.3	6134.5	7961.9	5893.7
(b) Grants	419.5	260.2	48.2	149.5	15.5	16.0	0.5	22.9
Total	2873.9	6568.0	9750.0	11163.5	5950.7	6150.6	7962.4	5916.6
Country-wise Distribution								
(i) Canada								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	4.5	...	...	...	...	...	...	...
Total	4.5	...	...	...	...	...	...	...
(ii) Denmark								
Grants	3.4	...	...	...	...	...	...	...
(iii) France								
Grants	2.1	...	172.1	141.6	272.4	...	220.8	142.5
(iv) Germany								
(a) Loans	41.2	330.2	619.0	595.9	201.3	926.6	272.7	1341.8
(b) Grants	1.3	2.6	...	7.1	...	3.5	...	...
Total	42.4	332.8	619.0	602.9	201.3	930.1	272.7	1341.8
(v) Italy								
Loans	9.4	...	...	...	...	...	...	...
(vi) Japan								
(a) Loans	172.0	561.5	3384.3	4238.7	3116.2	1106.3	2651.0	1515.0
(b) Grants	0.5	9.2	...	...	15.0	...	...	...
Total	172.5	570.7	3384.3	4238.7	3131.2	1106.3	2651.0	1515.0
(vii) Netherlands								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	1.5	...	...	...	...	...	...	...
Total	1.5	...	...	...	...	...	...	...
(viii) U.K.								
Grants	104.1	198.8	33.5	140.5	...	...	...	...
(ix) U.S.A.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	0.2	34.4	...	...	...	...	...	...
Total	0.2	34.4	...	...	...	...	...	...
(x) I.B.R.D.								
(a) Loans	1495.3	1808.5	3188.7	481.7	391.0	2400.0	2701.5	2056.9
(b) Grants	85.9	13.3	14.7	1.9	0.5	12.6	0.5	22.9
Total	1581.2	1821.8	3203.3	483.6	391.5	2412.6	2702.0	2079.8
(xi) I.D.A.								
(a) Loans	736.7	3607.6	2337.7	1356.2	1954.3	1701.7	2115.9	837.5
(b) Grants	216.1	1.9	...	...	...	...	...	...
Total	952.8	3609.5	2337.7	1356.2	1954.3	1701.7	2115.9	837.5
II. Russia Fed. & East European Countries								
Loans	...	...	...	4200.0	...	...	...	...
Country-wise Distribution								

Contd....

Table 8.2 B. Authorization of External Assistance by Source*(Contd....)*

(US\$ million)

Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(i) Russia Fed.								
Loans	...	...	...	4200.0	...	...	...	...
III. Others								
(a) Loans	1155.0	1573.2	2641.6	1286.9	3068.5	1747.24	1801.1	2388.0
(b) Grants	11.2	77.1	180.9	197.9	7.8	3.6	558.4	5.0
Total	1166.2	1650.3	2822.5	1484.8	3076.2	1750.8	2359.5	2393.0
(i) European Economic Community								
Grants	...	0.9	...	103.0	...	...	...	...
(ii) IFAD (International Fund for Agricultural Development)								
(a) Loans	...	19.3	89.2	...	66.3	62.7	72.7	...
(b) Grants	...	...	...	...	...	...	...	...
Total	...	19.3	89.2	...	66.3	62.7	72.7	...
(iii) ADB								
(a) Loans	1155.0	1553.9	2552.4	1286.9	3002.2	1684.5	1507.5	2388.0
(b) Grants	...	...	...	...	...	1.8	2.0	5
Total	1155.0	1553.9	2552.4	1286.9	3002.2	1686.3	1509.5	2393.0
(iv) European Investment Bank								
(a) Loans							220.8	...
(b) Grants								
Total							220.8	...
(v) Other International Institutions^a								
Grants	11.2	76.2	180.9	94.9	7.8	1.8	556.4	...
Grand Total	4040.1	8218.4	12572.4	12648.3	9026.9	7901.4	10321.9	8309.6
(a) Loans	3609.4	7881.0	12343.4	12300.9	9003.7	7881.8	9763.0	8281.7
(b) Grants	430.7	337.4	229.1	347.4	23.2	19.6	558.9	27.9

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes:

: During the year 2016-17 figures are provisional ---- Nil or Negligible

a : Other International Institutions include UNDP, UNFPA, Global Fund, IDf(WB), UN-FAO and UPU (Universal Postal Union)

1. Figures in this table are converted from the preceding Table 8.2(A) based on the respective Rupee- US dollar rates.

2. Totals may not tally due to rounding off.

Table 8.3 A. Utilization of External Assistance by Source

								(₹ crore)
Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Consortium Members								
(a) Loans	11168.6	27065.8	22785.9	18390.8	25164.7	26630.2	31137.7	33648.1
(b) Grants	634.0	2018.5	1916.7	1560.1	1043.4	749.6	405.1	135.8
Total	11802.6	29084.3	24702.6	19950.9	26208.1	27379.8	31542.8	33784.0
Country-wise Distribution								
(i) Canada								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	2.9	...	...	...	...	...	...	...
Total	2.9	...	...	...	...	...	...	...
(ii) Denmark								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	49.5	...	...	...	...	...	...	...
Total	49.5	...	...	...	...	...	...	...
(iii) France								
(a) Loans	65.2	...	...	16.0	921.7	225.78	329.4	762.2
(b) Grants	...	...	...	...	...	...	...	-0.16
Total	65.2	...	...	16.0	921.7	225.78	329.4	762.0
(iv) Germany								
(a) Loans	318.9	1076.9	2043.1	1379.9	3122.0	1861.1	1888.1	2523.5
(b) Grants	67.8	276.2	99.4	62.1	65.6	56.0	80.1	34.7
Total	386.7	1353.1	2142.5	1442.0	3187.6	1917.1	1968.2	2558.2
(v) Japan								
(a) Loans	2714.0	6582.2	8474.8	7260.0	8750.5	8825.9	10341.5	12506.1
(b) Grants	15.8	1.5	43.5	...	4.4	0.0	29.1	36.0
Total	2729.8	6583.7	8518.3	7260.0	8754.9	8825.9	10370.5	12542.1
(vi) Netherlands								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	70.3	...	...	...	...	...	...	...
Total	70.3	...	...	...	...	...	...	...
(vii) U.K.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	307.3	1682.2	1689.4	1293.4	855.0	601.8	224.3	-0.3
Total	307.3	1682.2	1689.4	1293.4	855.0	601.8	224.3	-0.3
(viii) U.S.A.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	81.1	30.6	55.1	23.6	43.4	...	4.7	...
Total	81.1	30.6	55.1	23.6	43.4	...	4.7	...
(ix) I.B.R.D.								
(a) Loans	3222.4	14533.4	4861.9	4894.8	5631.6	7703.5	9137.3	8609.0
(b) Grants	24.5	24.1	27.2	180.6	73.8	85.9	67.0	65.5
Total	3246.9	14557.5	4889.0	5075.4	5705.3	7789.4	9204.3	8674.5
(x) I.D.A.								
(a) Loans	4848.1	4873.3	7406.1	4840.1	6738.9	8013.9	9441.4	9247.4
(b) Grants	14.8	3.9	2.2	0.5	1.2	6.0	0.0	0.0

Contd....

Table 8.3 A. Utilization of External Assistance by Source*(Contd....)*

(₹ crore)								
Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total	4862.9	4877.2	7408.2	4840.6	6740.1	8019.8	9441.4	9247.4
II. Russia Fed.& East European Countries								
Loans	130.1	220.5	35.9	26.4	8.2	16.9	3.7	1618.1
Country-wise Distribution								
(i) Russia Federation.								
Loans	130.1	220.5	35.9	26.4	8.2	16.9	3.7	1618.1
III. Others								
(a) Loans	2228.5	7829.8	6527.7	7076.9	6599.5	8610.3	9004.8	12046.9
(b) Grants	93.2	770.95	1009.45	813.52	2371.83	742.1	1791.44	849.4
Total	2321.7	8600.8	7537.1	7890.5	8971.3	9352.3	10796.2	12896.3
Country-wise Distribution								
(i) Other International Institutions^a								
Grants	50.0	501.7	795.9	710.2	1746.0	739.68	1503.8	770.95
(ii) European Economic Community								
Grants	36.3	269.0	208.1	104.0	622.4	...	287.6	70.4
(iii) Oil Producing & Exporting Countries								
Loans	41.5	1.0	15.5	20.8	7.9	54.5	26.3	18.7
(iv) Norway								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	6.9	...	...	...	...	...	...	...
Total	6.9	...	...	...	...	...	...	...
(v) IFAD (International Fund for Agricultural Development)								
(a) Loans	40.1	99.1	142.6	140.7	210.3	191.7	220.1	196.2
(b) Grants	...	0.3	5.5	-0.8	3.5	...	...	1.0
Total	40.1	99.4	148.1	140.0	213.8	191.7	220.1	197.2
(vi) ADB								
(a) Loans	2146.9	7729.8	6369.5	6915.4	6381.2	8364.0	8758.4	11101.3
(b) Grants	...	...	...	...	...	2.41	...	7
Total	2146.9	7729.8	6369.5	6915.4	6381.2	8366.4	8758.4	11108.3
(vii) European Investment Bank								
(a) Loans	...	...	...	...	...	...	...	730.7
(b) Grants	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	730.7
Grand Total	14254.4	37905.6	32275.6	27867.7	35187.6	36749.0	42342.7	48298.3
(a) Loans	13527.2	35116.2	29349.4	25494.1	31772.4	35257.3	40146.2	47313.1
(b) Grants	727.2	2789.5	2926.2	2373.7	3415.2	1491.7	2196.5	985.2

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes:

: During the year 2016-17 figures are provisional

---- Nil or Negligible

a Other International Institutions include UNICEF, UNDP, ILO, WHO, UNFPA, UNESCO, UPU, WFP, Global Fund, IDF (WB), UN-FAO and Ford Foundation.

- Utilization figures are exclusive of suppliers' credit and commercial borrowings.
- Utilization of assistance is on Government and Non-Govt. accounts.
- Totals may not tally due to rounding off.

Table 8.3 B. Utilization of External Assistance by Source

(US\$ million)								
Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Consortium Members								
(a) Loans	2449.8	6063.1	4682.1	3401.4	4184.2	4255.6	4680.4	5182.6
(b) Grants	139.1	452.2	383.6	288.5	173.5	119.8	60.9	21.0
Total	2588.9	6515.3	5065.7	3689.9	4357.7	4375.4	4741.3	5203.6
Country-wise Distribution								
(i) Canada								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	0.6	...	...	...	...	...	...	...
Total	0.6	...	...	...	...	...	...	...
(ii) Denmark								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	10.9	...	...	...	...	...	...	...
Total	10.9	...	...	...	...	...	...	...
(iii) France								
(a) Loans	14.3	...	...	3.0	153.3	36.08	49.5	117.4
(b) Grants	...	...	...	...	...	...	...	...
Total	14.3	...	...	3.0	153.3	36.08	49.5	117.4
(iv) Germany								
(a) Loans	70.0	241.2	411.0	255.2	519.1	297.4	283.8	388.7
(b) Grants	14.9	61.9	21.2	11.5	10.9	8.9	12.0	5.3
Total	84.9	303.1	432.2	266.7	530.0	306.4	295.8	394.0
(v) Japan								
(a) Loans	595.3	1474.5	1744.9	1342.7	1455.0	1410.4	1554.5	1926.2
(b) Grants	3.5	0.3	8.8	...	0.7	...	4.4	5.6
Total	598.8	1474.8	1753.7	1342.7	1455.7	1410.4	1558.8	1931.8
(vi) Netherlands								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	15.4	...	...	...	...	...	...	...
Total	15.4	...	...	...	...	...	...	...
(vii) U.K.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	67.4	376.8	335.1	239.2	142.2	96.2	33.7	0.0
Total	67.4	376.8	335.1	239.2	142.2	96.2	33.7	0.0
(viii) U.S.A.								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	17.8	6.8	12.3	4.4	7.2	...	0.7	...
Total	17.8	6.8	12.3	4.4	7.2	...	0.7	...
(ix) I.B.R.D.								
(a) Loans	706.8	3255.7	991.6	905.3	936.4	1231.1	1373.5	1326.0
(b) Grants	5.4	5.4	5.7	33.4	12.3	13.7	10.1	10.1
Total	712.2	3261.1	997.3	938.7	948.6	1244.8	1383.5	1336.1
(x) I.D.A.								
(a) Loans	1063.4	1091.7	1534.7	895.2	1120.5	1280.6	1419.2	1424.3
(b) Grants	3.2	0.9	0.5	0.1	0.2	1.0	0.0	0.0
Total	1066.6	1092.6	1535.1	895.3	1120.7	1281.6	1419.2	1424.3

Contd....

Table 8.3 B. Utilization of External Assistance by Source*(Contd....)*

(US\$ million)

Source and type of assistance	2000-01	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17#
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
II. Russia Fed.& East European Countries								
Loans	28.5	49.4	7.4	4.9	1.4	2.7	0.6	249.2
Country-wise Distribution								
(i) Russia Federation.								
Loans	28.5	49.4	7.4	4.9	1.4	2.7	0.6	249.2
III. Others								
(a) Loans	488.8	1754.0	1370.7	1308.9	1097.3	1376.0	1353.5	1855.5
(b) Grants	20.5	172.7	206.5	150.5	394.4	118.6	269.3	130.8
Total	509.3	1926.7	1577.2	1459.3	1491.7	1494.5	1622.8	1986.3
Country-wise Distribution								
(i) Other International Institutions ^a								
Grants	11.0	112.4	157.9	131.4	290.3	118.2	226.04	118.7
(ii) European Economic Community								
Grants	8.0	60.3	47.5	19.2	103.5	...	43.2	10.9
(iii) Oil Producing & Exporting Countries								
Loans	9.1	0.2	3.3	3.9	1.3	8.7	4.0	2.9
(iv) Norway								
(a) Loans	...	...	...	...	...	...	...	...
(b) Grants	1.5	...	...	...	...	...	...	...
Total	1.5	...	...	...	...	...	...	...
(v) IFAD (International Fund for Agricultural Development)								
(a) Loans	8.8	22.2	30.6	26.0	35.0	30.6	33.1	30.2
(b) Grants	...	0.1	1.2	-0.1	0.6	...	...	0.2
Total	8.8	22.3	31.8	25.9	35.6	30.6	33.1	30.4
(vi) ADB								
(a) Loans	470.9	1731.6	1336.8	1279.0	1061.0	1336.6	1316.5	1709.9
(b) Grants	...	...	...	...	...	0.4	...	1.08
Total	470.9	1731.6	1336.8	1279.0	1061.0	1337.0	1316.5	1710.9
(vii) European Investment Bank								
(a) Loans	...	...	...	...	...	...	...	112.6
(b) Grants	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	112.6
Grand Total	3126.7	8491.4	6650.3	5154.1	5850.7	5872.6	6364.6	7439.1
(a) Loans	2967.1	7866.5	6060.2	4715.1	5282.9	5634.2	6034.5	7287.3
(b) Grants	159.6	624.9	590.1	439.0	567.9	238.4	330.2	151.8

Source: Aid Accounts and Audit Division, Department of Economic Affairs, Ministry of Finance

Notes:

: During the year 2016-17 figures are provisional.

---- Nil or Negligible

a Other International Institutions include UNICEF, UNDP, ILO, WHO, UNFPA, UNESCO, UPU, WFP, Global Fund, IDF (WB), UN-FAO and Ford Foundation.

1. Figures in this table are converted from the preceding Table 8.3 A. based on the respective Rupee- US dollar rates.

2. Totals may not tally due to rounding off.

Table 8.4 A. India's External Debt Outstanding

Sl. No.	Components of External Debt	At End-March												(₹ crore)
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016PR	2017QE		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(13)	
I.	Multilateral	154053	157901	201425	193436	216672	257089	279310	321560	328148	359201	353807		
	A. Government Borrowing	141746	144627	181997	170722	190326	222579	235670	268491	269431	294122	288259		
	(i) Concessional	108448	107395	127771	116046	120653	138691	143130	163589	154581	166506	156726		
	a) IDA	107019	105947	126127	114552	119068	136816	141119	161165	152171	163772	154050		
	b) Others	1429	1448	1644	1494	1585	1875	2011	2424	2410	2734	2676		
	(ii) Non-concessional	33298	37232	54226	54676	69673	83888	92540	104902	114850	127616	131533		
	a) IBRD	21864	22631	29948	28874	39218	45328	48239	53433	57107	61553	60681		
	b) Others	11434	14601	24278	25802	30455	38560	44301	51469	57743	66063	70852		
	B. Non-Government Borrowing	12307	13274	19428	22714	26346	34510	43640	53069	58717	65079	65548		
	(i) Concessional	0	0	0	0	0	0	0	0	0	0	0		
	(ii) Non-concessional	12307	13274	19428	22714	26346	34510	43640	53069	58717	65079	65548		
	a) Public Sector	9315	10352	14298	14919	15802	19407	23414	28105	31385	35409	29485		
	i) IBRD	4550	4690	7105	8544	9193	11092	12749	14412	15674	17005	16625		
	ii) Others	4765	5662	7193	6375	6609	8315	10664	13693	15711	18404	12860		
	b) Financial Institutions	2414	2350	3721	5385	7511	10290	14370	18881	21859	24901	32163		
	i) IBRD	655	593	744	1343	1899	2707	2973	3820	3709	5984	7081		
	ii) Others	1759	1757	2977	4042	5612	7583	11397	15061	18150	18917	25082		
	c) Private Sector	578	572	1409	2410	3033	4813	5856	6083	5473	4769	3900		
	i) IBRD	0	0	0	0	0	0	0	0	0	0	0		
	ii) Others	578	572	1409	2410	3033	4813	5856	6083	5473	4769	3900		
II.	Bilateral	70034	78802	104997	101976	114904	137086	136329	148813	136060	149483	150483		
	A. Government borrowing	53810	59391	74662	71584	80406	91641	88007	96918	88452	102925	109742		
	(i) Concessional	53810	59391	74662	71584	80406	91641	88007	96918	88452	102925	109742		
	(ii) Non-concessional	0	0	0	0	0	0	0	0	0	0	0		
	B. Non-Government borrowing	16224	19411	30335	30392	34498	45445	48322	51895	47608	46558	40741		

Contd....

Table 8.4 A. India's External Debt Outstanding

(Contd....)

Sl. No.	Components of External Debt	At End-March											
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016PR	2017QE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
	1) Above 6 Months	52188	91502	118936	126391	157806	200454	321010	330500	334267	339674	364104	
	2) Upto 6 Months	61068	76038	84409	87876	103200	132748	151016	160771	176671	191132	196677	
	b) FII Investment in Govt. Treasury Bills and other instruments	1732	2603	10522	15153	24214	48066	29671	33686	7307	132	260	
	c) Investment in Treasury Bills by foreign central banks and other international institutions etc.	712	620	534	467	225	326	447	572	714	714	642	
	d) External Debt Liabilities of:												
	1) Central Bank	6931	12118	6255	6301	4704	18368	23787	25456	16186	21392	8769	
	2) Commercial banks	2185	4458	3892	3139	693	871	985	892	939	1197	1575	
		4746	7660	2363	3162	4011	17497	22802	24564	15247	20195	7194	
X.	Grand Total (VIII+IX)	751402	897290	1142125	1178638	1419407	1844167	2224734	2682214	2971542	3218875	3060537	

Source: Ministry of Finance (Department of Economic Affairs), Ministry of Defence, Reserve Bank of India, Securities & Exchange Board of India.

Notes:

PR: Partially Revised

QE: Quick Estimates.

IFC(W): International Finance Corporation, Washington DC

FII: Foreign Institutional Investors

a: Relates to SDR allocations from March 2004 onwards

b: Includes Financial Lease since 1996

c: Also includes India Development Bonds (IDBs), Resurgent India Bonds (RIBs), India Millennium Deposits (IMDs), Foreign Currency Convertible Bonds (FCCBs) and net investment by 100% FII debt funds and securitized borrowings of commercial banks, FCCB debt has been adjusted since end-March, 1998 after netting out conversion into equity and redemptions.

d: Figures include accrued interest.

e: Rupee denominated debt owed to Russia and payable through exports.

NRO Deposits are included under NRI Deposits from the quarter ended June 2005. Supplier's Credits upto 180 days and FII investment in short-term debt instruments are included under short-term debt from the quarter ended March 2005. Vostro balances / Nostro overdrafts of commercial banks, balances of foreign central banks/international institutions with RBI and investment in T-bills/securities by foreign central banks/ international institutions have been included in external debt from the quarter ended March 2007.

8.4 B. India's External Debt Outstanding

(US\$ million)

Sl. No.	Components of External Debt	At End-March										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016PR	2017QE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I.	Multilateral	35337	39490	39538	42857	48475	50452	51590	53418	52391	53956	54452
	A. Government Borrowing	32514	36171	35724	37825	42579	43686	43539	44598	43015	44170	44359
	(i) Concessional	24876	26859	25080	25711	26992	27221	26443	27173	24679	25005	24118
	a) IDA	24548	26497	24757	25380	26637	26853	26071	26770	24294	24595	23706
	b) Others	328	362	323	331	355	368	372	403	385	410	412
	(ii) Non-concessional	7638	9312	10644	12114	15587	16465	17096	17425	18336	19165	20241
	a) IBRD	5015	5660	5878	6397	8774	8897	8912	8876	9117	9244	9338
	b) Others	2623	3652	4766	5717	6813	7568	8184	8549	9219	9921	10903
	B. Non-Government Borrowing	2823	3319	3814	5032	5896	6766	8051	8820	9376	9786	10093
	(i) Concessional	0	0	0	0	0	0	0	0	0	0	0
	(ii) Non-concessional	2823	3319	3814	5032	5896	6766	8051	8820	9376	9786	10093
	a) Public Sector	2136	2589	2807	3305	3536	3808	4324	4669	5010	5320	4538
	i) IBRD	1043	1173	1395	1893	2057	2177	2355	2394	2502	2554	2558
	ii) Others	1093	1416	1412	1412	1479	1631	1969	2275	2508	2766	1980
	b) Financial Institutions	554	587	730	1193	1681	2017	2650	3139	3492	3747	4954
	i) IBRD	150	148	146	298	425	531	549	635	592	899	1090
	ii) Others	404	439	584	895	1256	1486	2101	2504	2900	2848	3864
	c) Private Sector	133	143	277	534	679	941	1077	1012	874	719	601
	i) IBRD	0	0	0	0	0	0	0	0	0	0	0
	ii) Others	133	143	277	534	679	941	1077	1012	874	719	601
II.	Bilateral	16065	19708	20610	22593	25712	26884	25158	24727	21726	22464	23164
	A. Government borrowing	12344	14853	14655	15860	17988	17987	16259	16099	14121	15457	16887
	(i) Concessional	12344	14853	14655	15860	17988	17987	16259	16099	14121	15457	16887
	(ii) Non-concessional	0	0	0	0	0	0	0	0	0	0	0
	B. Non-Government borrowing	3721	4855	5955	6733	7724	8897	8899	8628	7605	7007	6277

Contd....

8.4 B. India's External Debt Outstanding (Contd....)												
(US\$ million)												
Sl. No.	Components of External Debt	At End-March										
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016PR	2017QE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	(i) Concessional	396	435	641	702	918	1501	1558	1714	1610	1786	1799
	a) Public Sector	285	307	227	248	363	974	1093	1290	1205	1359	993
	b) Financial Institutions	111	128	414	454	555	527	465	424	405	427	806
	c) Private Sector	0	0	0	0	0	0	0	0	0	0	0
	(ii) Non-concessional	3325	4420	5314	6031	6806	7396	7341	6914	5995	5221	4478
	a) Public Sector	1702	2525	2959	3072	3087	2781	2397	2223	1846	1646	1462
	b) Financial Institutions	878	934	846	761	840	762	776	724	531	455	488
	c) Private Sector	745	961	1509	2198	2879	3853	4168	3967	3618	3120	2528
III.	IMF*	1029	1120	1018	6041	6308	6163	5964	6149	5488	5605	5410
IV.	Export Credit	7165	10328	14481	16841	18647	18990	17760	15518	12608	10639	9677
	a) Buyers' credit	5417	8287	12572	14811	16437	16790	15567	13323	10547	8377	7345
	b) Suppliers' credit	675	750	635	651	646	636	779	795	833	918	863
	c) Export credit component of bilateral credit	1073	1291	1274	1379	1564	1564	1414	1400	1228	1344	1469
V.	Commercial Borrowings	41443	62334	62461	70726	100476	120136	140125	149375	180295	180744	173074
	a) Commercial bank loans ^b	24577	40159	43169	44832	58643	72946	83555	96946	101492	97584	88159
	b) Securitised borrowings ^c	15603	20668	17918	25075	41100	46686	56274	52149	78426	82798	84564
	c) Loans/secritized borrowings etc., with multilateral/bilateral guarantee + IFC(W)	1263	1507	1374	819	733	504	296	280	377	362	351
VI.	NRI Deposits^d (Above one year Maturity)	41240	43672	41554	47890	51682	58608	70822	103845	115163	126929	116867
VII.	Rupee Debt^e	1951	2017	1523	1658	1601	1354	1258	1468	1506	1278	1228
	a) Defence	1728	1794	1361	1487	1437	1216	1133	1361	1407	1189	1141
	b) Civilian	223	223	162	171	164	138	125	107	99	89	87
VIII.	Total Long Term Debt (I TO VII)	144230	178669	181185	208606	252901	282587	312677	354500	389177	401615	383872
IX.	Short-Term Debt	28130	45738	43313	52329	64990	78179	96697	91678	85498	83374	87980
	a) Trade-Related Credits	25979	41901	39915	47473	58463	65130	86787	81743	81631	80021	86488
	1) Above 6 Months	11971	22884	23346	28003	35347	39182	50021	54992	53405	51207	56155

Contd....

8.4 B. India's External Debt Outstanding*(Contd.....)*

Sl. No.	Components of External Debt	At End-March											
		2007 (3)	2008 (4)	2009 (5)	2010 (6)	2011 (7)	2012 (8)	2013 (9)	2014 (10)	2015 (11)	2016PR (12)	2017QE (13)	
	2) Upto 6 Months	14008	19017	16569	19470	23116	25948	27766	26751	28226	28814	30333	
	b) FII Investment in Govt. Treasury Bills and other instruments	397	651	2065	3357	5424	9395	5455	5605	1167	20	40	
	c) Investment in Treasury Bills by foreign central banks and other international institutions etc.	164	155	105	103	50	64	82	95	114	108	99	
	d) External Debt Liabilities of:	1590	3031	1228	1396	1053	3590	4373	4235	2586	3225	1353	
	1) Central Bank	501	1115	764	695	155	170	181	148	150	180	243	
	2) Commercial banks	1089	1916	464	701	898	3420	4192	4087	2436	3045	1110	
X.	Grand Total (VIII+IX)	172360	224407	224498	260935	317891	360766	409374	446178	474675	484989	471852	
	Memo Items :												
	Concessional Debt ^f	39567	44164	41899	43931	47499	48063	45518	46454	41916	43526	44052	
	Concessional Debt to total external debt (per cent)	23.0	19.7	18.7	16.8	14.9	13.3	11.1	10.4	8.8	9	9.3	
	Short-term debt	28130	45738	43313	52329	64990	78179	96697	91678	85498	83374	87980	
	Short-term debt to total external debt (per cent)	16.3	20.4	19.3	20.1	20.4	21.7	23.6	20.6	18	17.2	18.6	

Source: Ministry of Finance (Department of Economic Affairs), Ministry of Defence, Reserve Bank of India, Securities & Exchange Board of India.

Notes:

PR: Partially Revised; QE : Quick Estimates.

IFC(W): International Finance Corporation, Washington DC

FII: Foreign Institutional Investors

a: Relates to SDR allocations from March 2004 onwards

b: Includes Financial Lease since 1996

c: Also includes India Development Bonds (IDBs), Resurgent India Bonds (RIBs), India Millennium Deposits (IMDs), Foreign Currency Convertible Bonds (FCCBs) and net investment by 100% FII debt funds and securitized borrowings of commercial banks, FCCB debt has been adjusted since end-March, 1998 after netting out conversion into equity and redemptions.

d: Figures include accrued interest.

e: Rupee denominated debt owed to Russia and payable through exports.

f: The definition of concessional debt here includes Concessional categories under multilateral and bilateral debt and rupee debt under item VII

NRO Deposits are included under NRI Deposits from the quarter ended June 2005. Supplier's Credits upto 180 days and FII investment in short-term debt instruments are included under short-term debt from the quarter ended March 2005. Vostro balances / Nostro overdrafts of commercial banks, balances of foreign central banks/international institutions with RBI and investment in T-bills/securities by foreign central banks/ international institutions have been included in external debt from the quarter ended March 2007.

Table 9.1. Selected Indicators of Human Development for Major States

States	Life expectancy at birth (in years)						Infant mortality rate (per 1000 live births)						Birth rate (per 1000)						Death rate (per 1000)						Total fertility Rate					
	2007-11			2011-15			2005			2015			2005			2015			2005			2015			2005			2015		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)												
Andhra Pradesh	64.0	68.6	66.3	67.1	71.2	69.0	56	58	57	36	38	37	19.1	16.8	7.3	7.1	2.0	1.7												
Assam	61.2	63.6	62.2	63.5	66.2	64.7	66	69	68	47	47	47	25.0	22.0	8.7	7.1	2.9	2.3												
Bihar	65.9	66.8	66.3	68.5	68.3	68.4	60	62	61	36	50	42	30.4	26.3	8.1	6.2	4.3	3.2												
Gujarat	65.2	69.6	67.3	66.9	71.6	69.1	52	55	54	33	34	33	23.7	20.4	7.1	6.1	2.8	2.2												
Haryana	65.0	69.8	67.3	66.9	71.9	69.1	51	70	60	36	37	36	24.3	20.9	6.7	6.1	2.8	2.2												
Himachal Pradesh	67.9	72.3	70.1	69.1	75.2	72.0	47	51	49	28	27	28	20.0	16.3	6.9	6.6	2.2	1.7												
Jammu & Kashmir	69.4	71.9	70.5	71.2	76.1	73.2	47	55	50	25	27	26	18.9	16.2	5.5	4.9	2.4	1.6												
Karnataka	65.2	70.0	67.5	67.2	70.9	69.0	48	51	50	26	30	28	20.6	17.9	7.1	6.6	2.2	1.8												
Kerala	71.5	77.3	74.4	72.2	78.2	75.2	14	15	14	10	13	12	15.0	14.8	6.4	6.6	1.7	1.8												
Madhya Pradesh	61.3	64.5	62.8	63.2	66.5	64.8	72	79	76	51	48	50	29.4	25.5	9.0	7.5	3.6	2.8												
Maharashtra	68.3	72.4	70.3	70.3	73.9	72.0	34	37	36	19	22	21	19.0	16.3	6.7	5.8	2.2	1.8												
Odisha	62.9	64.5	63.7	65.6	68.3	66.9	74	77	75	45	47	46	22.3	19.2	9.5	7.6	2.6	2.0												
Punjab	67.7	72.2	69.8	70.3	74.2	72.1	41	48	44	22	24	23	18.1	15.2	6.7	6.2	2.1	1.7												
Rajasthan	65.0	68.7	66.8	65.7	70.4	67.9	64	72	68	40	47	43	28.6	24.8	7.0	6.3	3.7	2.7												
Tamil Nadu	67.6	71.4	69.4	69.1	73.0	71.0	35	39	37	19	19	19	16.5	15.2	7.4	6.7	1.7	1.6												
Uttar Pradesh	61.9	64.2	63.0	63.4	65.6	64.5	71	75	73	44	48	46	30.4	26.7	8.7	7.2	4.2	3.1												
West Bengal	67.8	71.3	69.4	69.4	71.8	70.5	38	39	38	25	28	26	18.8	15.5	6.4	5.9	2.1	1.6												
All India	64.9	68.2	66.5	66.9	70.0	68.3	56	61	58	35	39	37	23.8	20.8	7.6	6.5	2.9	2.3												

Source : Office of the Registrar General of India, Ministry of Home Affairs

Table 9.2. Gross Enrolment Ratio 2015-16 (Provisional)

(in per cent)

States/UTs	Classes I-V			Classes VI-VIII			Classes I-VIII		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Andhra Pradesh	84.9	84.1	84.5	81.1	81.6	81.3	83.5	83.1	83.3
Arunachal Pradesh	127.6	125.9	126.8	127.1	133.2	130.1	127.5	128.1	127.8
Assam	104.7	107.6	106.1	87.7	98.8	93.1	98.8	104.6	101.6
Bihar	104.4	111.3	107.7	98.2	119.4	107.9	102.4	113.7	107.7
Chhattisgarh	100.2	99.9	100.0	101.6	103.1	102.3	100.7	101.1	100.9
Gujarat	95.6	99.1	97.2	94.7	97.0	95.7	95.3	98.3	96.7
Haryana	90.0	93.2	91.4	87.4	99.2	92.4	89.0	95.4	91.8
Himachal Pradesh	98.0	99.7	98.8	103.4	105.5	104.4	100.0	101.9	100.9
Jammu & Kashmir	84.9	87.2	86.0	68.8	71.9	70.2	78.8	81.5	80.1
Jharkhand	108.6	109.9	109.2	97.8	108.2	102.7	104.9	109.4	107.1
Karnataka	102.9	103.0	103.0	92.4	94.4	93.4	99.0	99.8	99.4
Kerala	95.5	95.4	95.4	94.6	96.3	95.4	95.1	95.8	95.4
Madhya Pradesh	95.4	93.5	94.5	90.5	98.1	94.0	93.5	95.2	94.3
Maharashtra	97.9	97.6	97.7	97.4	101.4	99.2	97.7	99.0	98.3
Manipur	128.9	132.9	130.9	127.0	132.9	129.9	128.3	132.9	130.6
Meghalaya	138.8	143.1	140.9	126.0	146.2	135.9	134.9	144.0	139.4
Mizoram	124.9	121.0	123.0	135.9	133.6	134.8	128.3	124.8	126.6
Nagaland	98.1	101.0	99.5	98.6	106.4	102.3	98.3	102.7	100.4
Odisha	104.9	102.5	103.7	94.9	93.6	94.3	101.2	99.2	100.2
Punjab	99.9	104.0	101.7	95.0	102.9	98.4	98.0	103.6	100.4
Rajasthan	101.3	99.5	100.4	91.5	91.2	91.3	97.8	96.6	97.2
Sikkim	107.3	98.3	102.9	143.7	157.9	150.6	119.5	118.0	118.8
Tamil Nadu	103.4	104.4	103.9	92.6	95.7	94.0	99.0	100.9	99.9
Telangana	103.1	102.9	103.0	88.6	90.3	89.4	97.6	98.0	97.8
Tripura	107.6	108.4	108.0	125.8	130.3	128.0	113.4	115.3	114.3
Uttar Pradesh	88.6	96.2	92.2	68.2	83.5	75.1	81.3	91.8	86.2
Uttarakhand	98.9	99.8	99.3	85.8	88.1	86.9	93.9	95.3	94.6
West Bengal	103.1	104.3	103.7	97.9	112.6	105.0	101.2	107.3	104.2
A & N Islands	91.1	86.8	88.9	86.4	82.0	84.1	89.3	84.9	87.1
Chandigarh	77.4	86.6	81.4	90.4	102.4	95.5	82.3	92.3	86.7
D&N Haveli	84.7	80.2	82.5	93.7	88.0	91.0	88.0	83.0	85.6
Daman & Diu	79.7	85.0	82.0	74.9	84.6	79.2	77.9	84.8	81.0
Delhi	108.0	113.9	110.7	118.9	140.6	128.1	111.8	122.6	116.6
Goa	100.9	104.5	102.6	96.8	100.9	98.7	99.3	103.1	101.1
Lakshadweep	77.9	69.9	73.8	92.5	75.7	83.3	83.3	72.2	77.5
Puducherry	80.2	90.2	84.8	82.4	92.6	87.0	81.0	91.1	85.6
All India	97.9	100.7	99.2	88.7	97.6	92.8	94.5	99.6	96.9

Source: School Education in India, U-DISE 2015-16 (Provisional)

Table 9.3. Number of Recognised Educational Institutions in India 2015-16

States/UTs	2015-16 (Provisional) ¹				2015-16 ²							(in numbers)
	Intermediate/ Sr. Sec. Schools	High/ Secondary Schools	Upper Primary Schools	Only Primary Schools	Universities / University level Institutes	Colleges	Technical Education (Polytechnics)	PGDM	Nursing	Teacher Training	Institutes under Ministries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Andhra Pradesh	2589	11234	10086	38793	28	2532	156	11	297	351	na	na
Arunachal Pradesh	155	263	1266	2363	9	28	3	na	2	7	na	na
Assam	2075	6987	13451	48529	21	539	16	1	45	22	2	2
Bihar	3926	3701	33204	43405	22	744	29	4	80	44	3	3
Chhattisgarh	3818	2465	14672	32826	22	706	1	10	38	32	3	3
Gujarat	6592	4350	29642	11840	57	2019	1	18	126	149	7	7
Haryana	4300	3363	4658	9994	39	1113	204	21	42	37	5	5
Himachal Pradesh	2212	1570	2930	11327	25	348	41	1	31	18	2	2
Jammu & Kashmir	1061	3141	10286	14604	11	329	36	na	12	25	na	na
Jharkhand	1229	3372	15917	28010	14	328	32	8	33	7	10	10
Karnataka	4509	13627	30563	26790	52	3555	314	26	572	757	8	8
Kerala	2949	1733	4020	8428	20	1302	79	8	233	273	7	7
Madhya Pradesh	8100	6793	47276	88593	43	2260	103	19	128	204	7	7
Maharashtra	8738	16287	29448	53151	45	4569	1091	75	167	1147	21	21
Manipur	210	899	933	2951	4	87	1	na	6	8	1	1
Meghalaya	300	1255	3597	9362	10	63	3	na	7	11	1	1
Mizoram	138	615	1511	1561	3	29	2	na	4	9	na	na
Nagaland	175	561	825	1265	4	65	4	na	3	4	na	na
Odisha	1291	9454	22795	36760	21	1076	143	11	179	65	2	2
Punjab	4553	4618	5446	14371	26	1050	173	2	209	31	4	4
Rajasthan	16958	11237	37656	42577	70	3050	199	19	160	202	5	5
Sikkim	87	140	346	706	7	16	2	na	1	2	na	na
Tamil Nadu	6877	5594	9733	35379	58	2368	476	10	115	399	13	13
Telangana	2162	11333	7189	21948	21	2454	107	25	234	207	11	11
Tripura	411	603	1262	2568	3	51	3	na	5	4	na	na
Uttar Pradesh	15937	8632	75644	155756	67	6491	370	128	245	182	12	12
Uttarakhand	2218	1294	5017	15497	28	439	103	3	9	17	2	2
West Bengal	6898	3296	8839	76703	34	1082	118	12	54	100	11	11
A & N Islands	63	49	84	218	na	7	1	na	2	1	na	na
Chandigarh	90	70	29	122	3	25	3	1	na	3	na	na
D & N Haveli	21	20	129	177	na	8	na	na	1	na	1	1
Daman & Diu	24	18	44	59	na	na	na	na	na	2	na	na
Delhi	1684	377	939	2755	26	191	35	21	17	36	20	20
Goa	110	385	86	973	2	55	8	1	2	1	na	na
Lakshadweep	13	1	14	17	na	0	na	na	na	na	na	na
Puducherry	164	202	87	278	4	84	10	na	1	46	na	na
All India	112637	139539	429624	840546	799	39071	3867	435	3060	4403	158	158

Source: ¹ : School Education in India, U-DISE 2015-16 ; ² : AISHE, 2015-16, Ministry of Human Resource Development

Note:

na : not available

1: Upper primary means primary schools/sections, secondary means secondary schools/sections and senior secondary means senior secondary schools/sections unless otherwise mentioned.

Table 9.4. State-Wise Literacy Rates (1951-2011)

States/UTs	1951	1961	1971	1981	1991	2001	2011
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Andhra Pradesh	na	21.2	24.6	35.7	44.1	60.5	67.0
Arunachal Pradesh	na	7.1	11.3	25.6	41.6	54.3	65.4
Assam	18.5	33.0	33.9	na	52.9	63.3	72.2
Bihar	13.5	22.0	23.2	32.3	37.5	47.0	61.8
Chhattisgarh	9.4	18.1	24.1	32.6	42.9	64.7	70.3
Gujarat	21.8	31.5	37.0	44.9	61.3	69.1	78.0
Haryana	na	na	25.7	37.1	55.9	67.9	75.6
Himachal Pradesh	na	na	na	na	63.9	76.5	82.8
Jammu & Kashmir	na	13.0	21.7	30.6	na	55.5	67.2
Jharkhand	12.9	21.1	23.9	35.0	41.4	53.6	66.4
Karnataka	na	29.8	36.8	46.2	56.0	66.6	75.4
Kerala	47.2	55.1	69.8	78.9	89.8	90.9	94.0
Madhya Pradesh	13.2	21.4	27.3	38.6	44.7	63.7	69.3
Maharashtra	27.9	35.1	45.8	57.2	64.9	76.9	82.3
Manipur ^a	12.6	36.0	38.5	49.7	59.9	70.5	76.9
Meghalaya	na	26.9	29.5	42.1	49.1	62.6	74.4
Mizoram	31.1	44.0	53.8	59.9	82.3	88.8	91.3
Nagaland	10.5	22.0	33.8	50.3	61.7	66.6	79.6
Odisha	15.8	21.7	26.2	33.6	49.1	63.1	72.9
Punjab	na	na	34.1	43.4	58.5	69.7	75.8
Rajasthan	8.5	18.1	22.6	30.1	38.6	60.4	66.1
Sikkim	na	na	17.7	34.1	56.9	68.8	81.4
Tamil Nadu	na	36.4	45.4	54.4	62.7	73.5	80.1
Tripura	na	20.2	31.0	50.1	60.4	73.2	87.2
Uttar Pradesh	12.0	20.9	24.0	32.7	40.7	56.3	67.7
Uttarakhand	18.9	18.1	33.3	46.1	57.8	71.6	78.8
West Bengal	24.6	34.5	38.9	48.7	57.7	68.6	76.3
A & N Islands	30.3	40.1	51.2	63.2	73.0	81.3	86.6
Chandigarh	na	na	70.4	74.8	77.8	81.9	86.0
D & N Haveli	na	na	18.1	32.9	40.7	57.6	76.2
Daman & Diu	na	na	na	na	71.2	78.2	87.1
Delhi	na	62.0	65.1	71.9	75.3	81.7	86.2
Goa	23.5	35.4	52.0	65.7	75.5	82.0	88.7
Lakshadweep	15.2	27.2	51.8	68.4	81.8	86.7	91.8
Puducherry	na	43.7	53.4	65.1	74.7	81.2	85.8
All India ^a	18.3	28.3	34.5	43.6	52.2	64.8	73.0

Source: Office of the Registrar General of India, Ministry of Home Affairs

Notes:

a : India and Manipur figures exclude those of the three sub-divisions viz. Mao Maram, Paomata and Purul of Senapati district of Manipur as census results of 2001 in these three sub-divisions were cancelled due to technical and administrative reasons.

na : not available

1. Literacy rates for 1951, 1961 and 1971 Censuses relate to population aged five years and above and from 1981 onwards Literacy rates relate to the population aged seven years and above. The literacy rate for 1951 in case of West Bengal relates to total population including 0-4 age group. Literacy rate for 1951 in respect of Chhattisgarh, Madhya Pradesh and Manipur are based on sample population

Table 9.5. Households with Access to Safe Drinking Water in India

(per cent)

States/ UTs	(Tap/Handpump/Tubewell)								
	1991			2001			2011		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Andhra Pradesh	55.1	49.0	73.8	80.1	76.9	90.2	90.5	88.6	94.5
Arunachal Pradesh	70.0	66.9	88.2	77.5	73.7	90.7	78.6	74.3	91.3
Assam	45.9	43.3	64.1	58.8	56.8	70.4	69.9	68.3	78.2
Bihar	58.8	56.5	73.4	86.6	86.1	91.2	94.0	93.9	94.7
Chhattisgarh	a	a	a	70.5	66.2	88.8	86.3	84.1	93.9
Gujarat	69.8	60.0	87.2	84.1	76.9	95.4	90.3	84.9	97.0
Haryana	74.3	67.1	93.2	86.1	81.1	97.3	93.8	92.0	96.7
Himachal Pradesh	77.3	75.5	91.9	88.6	87.5	97.0	93.7	93.2	97.8
Jammu & Kashmir	na	na	na	65.2	54.9	95.7	76.8	70.1	96.1
Jharkhand	a	a	a	42.6	35.5	68.2	60.1	54.3	78.4
Karnataka	71.7	67.3	81.4	84.6	80.5	92.1	87.5	84.4	92.3
Kerala	18.9	12.2	38.7	23.4	16.9	42.8	33.5	28.3	39.4
Madhya Pradesh	53.4	45.6	79.4	68.4	61.5	88.6	78.0	73.1	92.1
Maharashtra	68.5	54.0	90.5	79.8	68.4	95.4	83.4	73.2	95.7
Manipur	38.7	33.7	52.1	37.0	29.3	59.4	45.4	38.1	60.8
Meghalaya	36.2	26.8	75.4	39.0	29.5	73.5	44.7	35.1	79.5
Mizoram	16.2	12.9	19.9	36.0	23.8	47.8	60.4	43.4	75.8
Nagaland	53.4	55.6	45.5	46.5	47.5	42.3	53.8	54.6	51.8
Odisha	39.1	35.3	62.8	64.2	62.9	72.3	75.3	74.4	79.8
Punjab	92.7	92.1	94.2	97.6	96.9	98.9	97.6	96.7	98.9
Rajasthan	59.0	50.6	86.5	68.2	60.4	93.5	78.1	72.8	94.3
Sikkim	73.1	70.8	92.8	70.7	67.0	97.1	85.3	82.7	92.2
Tamil Nadu	67.4	64.3	74.2	85.6	85.3	85.9	92.5	92.2	92.9
Tripura	37.2	30.6	71.1	52.5	45.0	85.8	67.5	58.1	91.9
Uttar Pradesh	62.2	56.6	85.8	87.8	85.5	97.2	95.1	94.3	97.9
Uttarakhand	a	a	a	86.7	83.0	97.8	92.2	89.5	98.7
West Bengal	82.0	80.3	86.2	88.5	87.0	92.3	92.2	91.4	93.9
A & N Islands	67.9	59.4	90.9	76.7	66.8	97.8	85.5	78.2	98.1
Chandigarh	97.7	98.1	97.7	99.8	99.9	99.8	99.3	98.7	99.4
D & N Haveli	45.6	41.2	91.0	77.0	70.5	96.1	91.6	84.3	98.4
Daman & Diu	71.4	56.9	86.8	96.3	94.9	98.9	98.7	97.8	99.0
Delhi	95.8	91.0	96.2	97.2	90.1	97.7	95.0	87.9	95.2
Goa	43.4	30.5	61.7	70.1	58.3	82.1	85.7	78.4	90.4
Lakshadweep	11.9	3.4	18.8	4.6	4.6	4.6	22.8	31.2	20.2
Puducherry	88.8	92.9	86.1	95.9	96.6	95.5	97.8	99.6	97.0
All India	62.3	55.5	81.4	77.9	73.2	90.0	85.5	82.7	91.4

Source: Office of the Registrar General of India, Ministry of Home Affairs

Notes:

a : Created in 2001. Uttarakhand, Jharkhand and Chhattisgarh for 1991 are included under Uttar Pradesh, Bihar and Madhya Pradesh respectively.

na : not available as no census was carried out in Jammu & Kashmir during 1991.

Table 9.6. Population of India (1951-2011)

(in thousands)							
States /UTs	1951	1961	1971	1981	1991	2001	2011
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Andhra Pradesh	31115	35983	43503	53551	66508	76210	84581
Arunachal Pradesh ^a	na	337	468	632	865	1098	1384
Assam ^b	8029	10837	14625	18041	22414	26656	31206
Bihar	29085	34841	42126	52303	64531	82999	104099
Chhatisgarh	7457	9154	11637	14010	17615	20834	25545
Gujarat	16263	20633	26697	34086	41310	50671	60440
Haryana	5674	7591	10036	12922	16464	21145	25351
Himachal Pradesh	2386	2812	3460	4281	5171	6078	6865
Jammu & Kashmir ^c	3254	3561	4617	5987	7837	10144	12541
Jharkhand	9697	11606	14227	17612	21844	26946	32988
Karnataka	19402	23587	29299	37136	44977	52851	61095
Kerala	13549	16904	21347	25454	29099	31841	33406
Madhya Pradesh	18615	23218	30017	38169	48566	60348	72627
Maharashtra	32003	39554	50412	62783	78937	96879	112374
Manipur ^d	578	780	1073	1421	1837	2294	2856
Meghalaya	606	769	1012	1336	1775	2319	2967
Mizoram	196	266	332	494	690	889	1097
Nagaland	213	369	516	775	1210	1990	1979
Odisha	14646	17549	21945	26370	31660	36805	41974
Punjab	9161	11135	13551	16789	20282	24359	27743
Rajasthan	15971	20156	25766	34262	44006	56507	68548
Sikkim	138	162	210	316	406	541	611
Tamil Nadu	30119	33687	41199	48408	55859	62406	72147
Tripura	639	1142	1556	2053	2757	3199	3674
Uttar Pradesh	60274	70144	83849	105137	132062	166198	199812
Uttarakhand	2946	3611	4493	5726	7051	8489	10086
West Bengal	26300	34926	44312	54581	68078	80176	91276
A & N Islands	31	64	115	189	281	356	381
Chandigarh	24	120	257	452	642	901	1055
D & N Haveli	42	58	74	104	138	220	344
Daman & Diu	49	37	63	79	102	158	243
Delhi	1744	2659	4066	6220	9421	13851	16788
Goa	547	590	795	1008	1170	1348	1459
Lakshadweep	21	24	32	40	52	61	64
Puducherry	317	369	472	604	808	974	1248
All India ^d	361088	439235	548160	683329	846421	1028737	1210855

Source : Office of the Registrar General of India, Ministry of Home Affairs

Notes:

na : not available

a : Census conducted for the first time in 1961.

b : The 1981 Census could not be held in Assam. Total population for 1981 has been worked out by interpolation.

c : The 1991 Census could not be held in Jammu & Kashmir. Total population for 1991 has been worked out by interpolation.

d : India and Manipur figures include estimated population for those of the three sub-divisions viz. Mao Maram, Paomata and Purul Senapati district of Manipur as census results of 2001 in these three sub-divisions were cancelled due to technical and administrative reasons.

Table 9.7. Population under different age groups and Child Sex Ratio in 2001 and 2011

States/UTs	Age Group (2001)					Age Group (2011)					Child Sex Ratio (0-6 years)	
	0-14	15-34	35-59	60 & above	Age not stated	0-14	15-34	35-59	60 & above	Age not stated	2001	2011
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Andhra Pradesh	24398125	26904637	18985717	5788078	133450	21790792	30609248	23131065	8278241	771431	961	939
Arunachal Pradesh	442825	366838	237279	49916	1110	493361	512549	312669	63639	1509	964	972
Assam	9970342	9220063	5875783	1560366	28974	10248899	11123193	7736116	2078544	18824	965	962
Bihar	34874151	24971476	17473783	5501274	177825	41721188	32264872	22002745	7707145	403502	942	935
Chhattisgarh	7692654	6782442	4826242	1504383	28082	8183836	8861697	6472641	2003909	23115	975	969
Gujarat	16624168	18233455	12267094	3499063	47237	17445613	21695832	16272844	4786559	238844	883	890
Haryana	7579980	7458045	4441951	1584089	80499	7529954	9370426	6225793	2193755	31534	819	834
Himachal Pradesh	1884390	2159835	1471395	547564	14716	1775385	2419844	1956201	703009	10163	896	909
Jammu & Kashmir	3617025	3523571	2282065	675324	45715	4240710	4411400	2951417	922656	15119	941	862
Jharkhand	10708694	8563383	6061782	1578662	33308	11891118	10992825	7630779	2356678	116734	965	948
Karnataka	16845601	18667321	13223774	4062022	51844	16024874	22349821	16883719	5791032	45851	946	948
Kerala	8296545	11271154	8911546	3335675	26454	7830974	10335954	11011254	4193393	34486	960	964
Madhya Pradesh	23252416	19871596	12783564	4280924	159523	24302242	25176834	17351555	5713316	82862	932	918
Maharashtra	31100375	34038392	23167117	8454660	118083	29917215	40661653	30280834	11106935	407696	913	894
Manipur	706705	813358	496722	145470	4533	861688	1060221	726088	200020	7777	957	930
Meghalaya	980877	776836	452223	105726	3160	1177942	1052138	592123	138902	5784	973	970
Mizoram	313736	331766	193272	49023	776	356002	412771	259172	68628	633	964	970
Nagaland	728409	762383	404177	90323	4744	679032	760810	434463	102726	1471	964	943
Odisha	12207872	12591532	8904094	3039100	62062	12076422	14385953	11408224	3984448	119171	953	941
Punjab	7617876	8609860	5845668	2191693	93902	7084950	10174719	7576330	2865817	41522	798	846
Rajasthan	22543231	18257954	11608147	3810272	287584	23725426	23811691	15629580	5112138	269602	909	888
Sikkim	188907	205320	115646	29040	1938	165937	251098	151614	40752	1176	963	957
Tamil Nadu	16710874	22392020	17366443	5507400	428942	17007503	25144641	22418323	7509758	66805	942	943
Tripura	1075552	1135652	750645	232549	4805	1017991	1362144	1002622	289544	1616	966	957
Uttar Pradesh	67923332	51963534	33924676	11649468	736911	71308266	68153539	43288570	15439904	1622062	916	902

Contd....

Table 9.7. Population under different age groups and Child Sex Ratio in 2001 and 2011 (Contd....)

States/UTs	Age Group (2001)					Age Group (2011)					Child Sex Ratio (0-6 years)	
	0-14	15-34	35-59	60 & above	Age not stated	0-14	15-34	35-59	60 & above	Age not stated	2001	2011
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Uttarakhand	3086976	2845406	1884841	654356	17770	3129008	3602662	2437205	900809	16608	908	890
West Bengal	26645405	27999332	19719644	5700099	111717	24737475	32655852	26027955	7742382	112451	960	956
A & N Islands	104044	142088	90375	17366	2279	92675	147586	114528	25424	368	957	968
Chandigarh	261188	364690	228545	44912	1300	266512	426702	294812	67078	346	845	880
D & N Haveli	77758	90151	43663	8814	104	107813	147931	73701	13892	372	979	926
Daman & Diu	43194	75924	30973	8042	71	54985	122110	54435	11361	356	926	904
Delhi	4492939	5368740	3248002	719650	21176	4565319	6534460	4524015	1147445	16702	868	871
Goa	331226	523205	373952	112273	7012	318160	503105	471691	163495	2094	938	942
Lakshadweep	20734	21382	14752	3729	53	16457	22857	19774	5270	115	959	911
Puducherry	262686	373118	256712	81016	813	298392	440449	387575	120436	1101	967	967
All India	363610812	347676459	237962264	76622321	2738472	372444116	421959587	308112432	103849040	4489802	927	918

Source: Office of the Registrar General of India, Ministry of Home Affairs

Table 9.8. Socio-Economic Profiles &

Socio-economic Indicators/Items	Andhra Pradesh	Assam	Bihar	Chhattisgarh	Gujarat	Haryana	Himachal Pradesh	Jammu & Kashmir
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Demographic indicators*								
Population 2001 (in '000)	76210	26656	82999	20834	50671	21145	6078	10144
Population 2011 (in '000)	84581	31206	104099	25545	60439	25351	6865	12541
Percentage decadal growth rate of population (1991-2001)	14.6	18.9	28.6	18.3	22.7	28.4	17.5	29.4
Percentage decadal growth rate of population (2001-2011)	11.0	17.1	25.4	22.6	19.3	19.9	12.9	23.6
Sex-ratio 2001 (Females per 1000 males)	978	935	919	989	920	861	968	892
Sex-ratio 2011 (Females per 1000 males)	993	958	918	991	919	879	972	889
Sex ratio at birth 2012-14 (Females per 1000 males)	919	918	907	973	907	866	938	899
Sex ratio at birth 2013-15 (Females per 1000 males)	918	900	916	961	854	831	924	899
States HDI and its components**								
HDI Ranking 1999-2000	15	17	19	21	10	7	4	11
HDI 1999-2000	0.368	0.336	0.292	0.278	0.466	0.501	0.581	0.465
Health Index 1999-2000	0.521	0.339	0.506	0.341	0.562	0.576	0.681	0.457
Income Index 1999-2000	0.197	0.152	0.100	0.127	0.323	0.417	0.426	0.431
Education Index 1999-2000	0.385	0.516	0.271	0.365	0.512	0.512	0.636	0.507
HDI Ranking 2007-08	15	16	21	23	11	9	3	10
HDI 2007-08	0.473	0.444	0.367	0.358	0.527	0.552	0.652	0.529
Health Index 2008	0.580	0.407	0.563	0.417	0.633	0.627	0.717	0.530
Income Index 2007-08	0.287	0.288	0.127	0.133	0.371	0.408	0.491	0.459
Education Index 2007-08	0.553	0.636	0.409	0.526	0.577	0.622	0.747	0.597
Growth and Per capita income at constant prices (2011-12)#								
GSDP 2013-14	7.0	4.9	5.0	9.8	7.6	8.2	7.1	6.2
GSDP 2014-15	8.5	7.9	13.0	7.6	7.8	5.7	7.5	-0.3
Average GSDP 2012-13 to 2014-15	5.3	5.2	7.3	7.5	8.8	7.2	7.0	2.9
Per capita income (PCY) 2013-14	4.9	3.3	2.6	8.0	6.1	7.1	6.6	4.2
Per capita income (PCY) 2014-15	8.0	6.3	11.5	5.8	7.1	4.0	6.5	-2.9
Poverty Headcount Ratio (HCR) ***								
2011-12 (Rural)	10.9	33.9	34.1	44.6	21.5	11.6	8.5	11.5
2011-12 (Urban)	5.8	20.5	31.2	24.8	10.1	10.3	4.3	7.2
2011-12 (Total)	9.20	31.9	33.7	39.9	16.6	11.2	8.1	10.4
2009-10 (Rural)	22.8	39.9	55.3	56.1	26.7	18.6	9.1	8.1
2009-10 (Urban)	17.7	26.1	39.4	23.8	17.9	23.0	12.6	12.8
2009-10 (Total)	21.1	37.9	53.5	48.7	23.0	20.1	9.5	9.4
Rural Urban Disparity ##								
Rural Average MPCE 2009-10 (in ₹)	1234	1003	780	784	1110	1510	1536	1344
Rural share of food expenditure 2009-10 (%)	58.0	64.4	64.7	58.2	57.7	54.0	51.6	57.8
Urban Average MPCE 2009-10 (in ₹)	2238	1755	1238	1647	1909	2321	2654	1759
Urban share of food expenditure 2009-10 (%)	44.8	52.9	52.9	43.7	46.2	43.1	41.5	51.3
Rural Average MPCE 2011-12 (in ₹)	1754	1219	1127	1027	1536	2176	2034	1743
Rural share of food expenditure 2011-12 (%)	51.4	61.3	59.3	52.7	54.9	52.1	47.3	55.3
Urban Average MPCE 2011-12 (in ₹)	2685	2189	1507	1868	2581	3817	3259	2485
Urban share of food expenditure 2011-12 (%)	42.3	47.7	50.5	42.2	45.2	39.2	42.4	47.8

Inter State Comparison of Selected Major States of India

Jharkhand	Karnataka	Kerala	Madhya Pradesh	Maharashtra	Odisha	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	Uttarakhand	West Bengal	All India
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
26946	52851	31841	60348	96879	36805	24359	56507	62406	166198	8489	80176	1028737
32988	61095	33406	72627	112374	41974	27743	68548	72147	199812	10086	91276	1210855
23.4	17.5	9.4	24.3	22.7	16.3	20.1	28.4	11.7	25.9	20.4	17.8	21.5
22.4	15.6	4.9	20.3	16.0	14.0	13.9	21.3	15.6	20.2	18.8	13.8	17.7
941	965	1058	919	922	972	876	921	987	898	962	934	933
948	973	1084	931	929	979	895	928	996	912	963	950	943
910	950	974	927	896	953	870	893	921	869	871	952	906
902	939	967	919	878	950	889	861	911	879	844	951	900
23	12	2	20	6	22	5	14	8	18	16	13	
0.268	0.432	0.677	0.285	0.501	0.275	0.543	0.387	0.480	0.316	0.339	0.422	0.387
0.434	0.567	0.782	0.363	0.601	0.376	0.632	0.520	0.586	0.398	0.465	0.600	0.497
0.100	0.260	0.458	0.127	0.297	0.076	0.455	0.293	0.285	0.179	0.179	0.210	0.223
0.271	0.468	0.789	0.365	0.606	0.372	0.542	0.348	0.570	0.371	0.371	0.455	0.442
19	12	1	20	7	22	5	17	8	18	14	13	
0.376	0.519	0.790	0.375	0.572	0.362	0.605	0.434	0.570	0.380	0.490	0.492	0.467
0.500	0.627	0.817	0.430	0.650	0.450	0.667	0.587	0.637	0.473	0.530	0.650	0.563
0.142	0.326	0.629	0.173	0.351	0.139	0.495	0.253	0.355	0.175	0.302	0.252	0.271
0.485	0.605	0.924	0.522	0.715	0.499	0.654	0.462	0.719	0.492	0.638	0.575	0.568
1.6	10.5	3.9	3.6	6.2	8.7	6.3	6.1	6.9	6.4	8.2	na	6.5
12.5	7.3	7.3	5.4	5.8	6.0	4.9	6.1	6.9	6.3	5.0	na	7.2
7.4	8.0	5.9	6.8	6.2	6.4	5.5	5.5	6.2	5.7	6.8	na	6.4
-0.9	9.0	4.1	3.4	4.9	6.1	5.2	4.6	4.0	4.1	6.0	na	4.8
10.9	6.2	7.4	3.4	4.1	4.5	3.3	4.6	5.8	4.7	3.0	na	5.8
40.8	24.5	9.1	35.7	24.2	35.7	7.7	16.1	15.8	30.4	11.6	22.5	25.7
24.8	15.3	4.9	21.0	9.1	17.3	9.2	10.7	6.5	26.1	10.5	14.7	13.7
36.9	20.9	7.1	31.7	17.4	32.6	8.3	14.7	11.3	29.4	11.3	19.9	21.9
41.6	26.1	12.0	42.0	29.5	39.2	14.6	26.4	21.2	39.4	14.9	28.8	33.8
31.1	19.6	12.1	22.9	18.3	25.9	18.1	19.9	12.8	31.7	25.2	22.0	20.9
39.1	23.6	12.0	36.7	24.5	37.0	15.9	24.8	17.1	37.7	18.0	26.7	29.8
825	1020	1835	903	1153	818	1649	1179	1160	899	1747	952	1054
60.9	56.5	45.9	55.8	54.0	61.9	48.2	54.8	54.7	57.9	45.1	63.4	57.0
1584	2053	2413	1666	2437	1548	2109	1663	1948	1574	1745	1965	1984
51.5	42.3	40.2	41.7	41.0	48.4	44.3	48.0	45.0	46.3	48.5	46.2	44.4
1006	1561	2669	1152	1619	1003	2345	1598	1693	1156	1726	1291	1430
58.4	51.4	43.0	52.9	52.4	57.2	44.1	50.5	51.5	53.0	49.6	58.2	52.9
2018	3026	3408	2058	3189	1941	2794	2442	2622	2051	2339	2591	2630
46.5	40.1	37.0	42.2	41.6	45.4	41.0	44.8	42.7	44.0	46.3	44.2	42.6

Contd....

Table 9.8. Socio-Economic Profiles &

Socio-economic Indicators/Items	Andhra Pradesh	Assam	Bihar	Chhattisgarh	Gujarat	Haryana	Himachal Pradesh	Jammu & Kashmir
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WPR 2015-16 (15 Years & above) @								
Rural (%)	68.6	51.4	49.3	72.7	52.9	47.1	40.5	36.1
Urban (%)	42.9	45.9	40.8	45.8	41.9	39.5	43.1	38.5
Total (%)	61.6	50.6	48.4	67.3	49.0	44.7	40.8	36.7
Unemployment Rate 2015-16 (15 Years & above)@								
Rural (%)	3.3	3.3	4.2	0.5	0.6	2.6	11.2	7.8
Urban (%)	4.3	8.5	6.2	5.7	0.6	4.9	2.3	3.2
Total (%)	3.5	4.0	4.4	1.2	0.6	3.3	10.2	6.6
Health related*								
Male Life expectancy at birth (2010-14)	66.3	62.7	67.8	63.3	66.6	66.3	69.3	70.9
Female Life expectancy at birth (2010-14)	70.8	65.5	68.4	66.3	71.0	71.3	74.1	74.9
Total Life expectancy at birth (2010-14)	68.5	63.9	68.1	64.8	68.7	68.6	71.6	72.6
Male Life expectancy at birth (2011-15)	67.1	63.5	68.5	63.6	66.9	66.9	69.1	71.2
Female Life expectancy at birth (2011-15)	71.2	66.2	68.3	66.8	71.6	71.9	75.2	76.1
Total Life expectancy at birth (2011-15)	69.0	64.7	68.4	65.2	69.1	69.1	72.0	73.2
Infant Mortality Rates (per 1000 live births) 2014	39	49	42	43	35	36	32	34
Infant Mortality Rates (per 1000 live births) 2015	37	47	42	41	33	36	28	26
Birth Rate (per 1000) 2014	17.0	22.4	25.9	23.4	20.6	21.2	16.4	16.8
Death Rate (per 1000) 2014	7.3	7.2	6.2	7.7	6.2	6.1	6.7	5.1
Birth Rate (per 1000) 2015	16.8	22.0	26.3	23.2	20.4	20.9	16.3	16.2
Death Rate (per 1000) 2015	7.1	7.1	6.2	7.5	6.1	6.1	6.6	4.9
Education related \$								
GER (I-V Class) (2015-16)	84.5	106.1	107.7	100.0	97.2	91.4	98.8	86.0
GER(VI-VIII Class) (2015-16)	81.3	93.1	107.9	102.3	95.7	92.4	104.4	70.2
GER(IX-X Class) (2015-16)	75.5	77.6	78.4	91.9	74.1	84.2	107.1	66.8
Pupil-Teacher Ratio (2015-16) Primary School	21	21	36	20	19	20	12	9
Pupil-Teacher Ratio (2015-16) Upper Primary School	16	13	24	17	13	13	10	6
Pupil-Teacher Ratio (2015-16) High School	20	14	66	33	34	15	18	15
GER (I-V Class) (2014-15)	88.2	115.0	101.1	103.1	98.7	97.6	99.4	86.0
GER(VI-VIII Class) (2014-15)	79.5	95.9	98.1	101.2	93.6	96.0	103.1	70.9
GER(IX-X Class) (2014-15)	72.4	74.8	69.1	101.8	74.3	84.3	115.9	66.3
Pupil-Teacher Ratio (2014-15) Primary School	21	24	35	21	20	22	12	9
Pupil-Teacher Ratio (2014-15) Upper Primary School	15	14	23	18	13	14	10	6
Pupil-Teacher Ratio (2014-15) High School	19	13	59	33	34	14	19	16

Source:

* : Office of Registrar General of India(RGI). Andhra Pradesh includes Telangana for health related data excluding IMR, Birth Rate & Death Rate

** : India HDR 2011 & 1999-2000

*** : NITI Aayog (Planning Commission)

\$: School Education in India, U-DISE 2015-16 (Provisional)

: CSO

NSSO, Monthly per capita expenditure (MPCE) is based on mixed modified recall period

@ : 5th EUS 2015-16 (Labour Bureau), WPR (Worker Participation Rate) and Employment Rate are based on Usual Principal & Subsidiary Status (UPSS)

Note:

na: not available

Inter State Comparison of Selected Major States of India*(Contd....)*

Jharkhand	Karna- taka	Kerala	Madhya Pradesh	Mahar- ashtra	Odisha	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	Uttara- khand	West Bengal	All India
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
71.9	58.6	46.0	47.1	61.1	52.7	40.6	57.9	65.5	45.8	46.4	53.4	53.9
42.0	49.9	44.2	37.8	39.0	42.7	39.3	38.7	45.1	35.6	39.4	43.8	41.8
65.2	55.5	45.2	44.8	52.2	51.2	40.2	53.7	56.3	43.7	44.6	50.7	50.5
1.2	1.1	10.2	3.0	1.3	3.7	5.7	2.4	3.9	5.6	7.1	3.0	3.4
7.9	1.9	11.0	2.9	1.9	4.4	6.2	3.3	3.5	6.5	2.7	5.4	4.4
2.2	1.4	10.6	3.0	1.5	3.8	5.8	2.5	3.8	5.8	6.1	3.6	3.7
66.2	66.9	72.0	62.5	69.9	64.7	69.7	65.5	68.6	62.9	69.1	68.9	66.4
66.9	70.8	77.8	66.0	73.6	67.1	73.8	70.2	72.7	65.4	74.5	71.6	69.6
66.6	68.8	74.9	64.2	71.6	65.8	71.6	67.7	70.6	64.1	71.7	70.2	67.9
67.0	67.2	72.2	63.2	70.3	65.6	70.3	65.7	69.1	63.4	68.9	69.4	66.9
67.5	70.9	78.2	66.5	73.9	68.3	74.2	70.4	73.0	65.6	74.9	71.8	70.0
67.2	69.0	75.2	64.8	72.0	66.9	72.1	67.9	71.0	64.5	71.8	70.5	68.3
34	29	12	52	22	49	24	46	20	48	33	28	39
32	28	12	50	21	46	23	43	19	46	34	26	37
23.8	18.1	14.8	25.7	16.5	19.4	15.5	25.0	15.4	27.0	18.2	15.6	21.0
5.9	6.8	6.6	7.8	6.0	7.9	6.4	6.4	7.0	7.4	6.0	6.1	6.7
23.5	17.9	14.8	25.5	16.3	19.2	15.2	24.8	15.2	26.7	17.8	15.5	20.8
5.8	6.6	6.6	7.5	5.8	7.6	6.2	6.3	6.7	7.2	6.4	5.9	6.5
109.2	103.0	95.4	94.5	97.7	103.7	101.7	100.4	103.9	92.2	99.3	103.7	99.2
102.7	93.4	95.4	94.0	99.2	94.3	98.4	91.3	94.0	75.1	86.9	105.0	92.8
73.7	83.2	102.4	80.5	90.0	79.6	87.1	76.1	93.9	67.8	85.7	83.6	80.0
27	19	18	20	24	17	18	17	18	39	18	25	23
19	13	14	18	17	14	12	10	15	31	17	27	17
62	16	17	39	23	20	16	21	21	56	16	39	27
108.4	101.9	95.1	101.1	99.0	105.5	105.1	98.6	103.1	95.0	100.5	102.3	100.1
100.0	93.2	96.9	96.6	98.8	90.1	96.8	85.8	94.6	74.5	85.5	103.2	91.2
71.9	81.8	103.2	80.2	89.3	77.1	85.6	76.2	91.9	67.8	90.4	78.2	78.5
29	18	17	22	25	19	19	17	18	39	19	25	24
20	13	14	19	17	14	12	10	15	33	17	28	17
61	16	17	40	23	20	17	23	21	57	18	37	27



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