State of the Economy: An Overview

01
CHAPTER

The global macroeconomic landscape is currently chartering a rough and uncertain terrain characterized by weak growth of world output. The situation has been exacerbated by; (i) declining prices of a number of commodities, with reduction in crude oil prices being the most visible of them, (ii) turbulent financial markets (more so equity markets), and (iii) volatile exchange rates. These conditions reflect extreme risk-aversion behaviour of global investors, thus putting many, and in particular, commodities exporting economies under considerable stress. Even in these trying and uncertain circumstances, India's growth story has largely remained positive on the strength of domestic absorption, and the country has registered a robust and steady pace of economic growth in 2015-16 as it did in 2014-15. Additionally, its other macroeconomic parameters like inflation, fiscal deficit and current account balance have exhibited distinct signs of improvement. Wholesale price inflation has been in negative territory for more than a year and the all-important consumer prices inflation has declined to nearly half of what it was a few years ago. However, weak growth in advanced and emerging economies has taken its toll on India's exports. As imports have also declined, principally on account of reduced prices of crude oil for which the country is heavily dependent on imports, trade and current account deficits continue to be moderate. Growth in agriculture has slackened due to two successive years of less-than-normal monsoon rains. Saving and investment rates are showing hardly any signs of revival. The rupee has depreciated vis-à-vis the US dollar, like most other currencies in the world, although less so in magnitude. At the same time, it has appreciated against a number of other major currencies. Given the fact that the government is committed to carrying the reform process forward, aided by the prevailing macroeconomic stability, it appears that conditions do exist for raising the economy's growth momentum and achieving growth rates of 8 per cent or higher in the next couple of years. At the same time, growth in 2016-17 may not pick up dramatically from the levels achieved in 2015-16 as the possibility of slow global economic growth and financial sector uncertainties still loom large. Given the prevalent overall macroeconomic scenario, and assuming a normal level of rains in 2016-17, it would not be unreasonable to conclude that the Indian economy is all set to register growth in excess of 7 per cent for the third year in succession.

1.2 Despite global headwinds and a truant monsoon, India registered robust growth of 7.2 per cent in 2014-15 and 7.6 per cent in 2015-16, thus becoming the fastest growing major economy in the world. As per the estimates of the International Monetary

Table 0.1 : Key Indicators

Data categories	Unit	2012-13	2013-14	2014-15	2015-16
GDP and Related Indicators					
GDP (2011-12 prices)	₹ Crore	9226879[2R]	9839434[2R]	10552151[1R]	11350962[AE]
Growth Rate	%	5.6	6.6	7.2	7.6
GVA at basic prices (2011-12 prices)	₹ Crore	8546552[2R]	9084369[2R]	9727490[1R]	10437579[AE]
Growth Rate	%	5.4	6.3	7.1	7.3
Savings Rate	% of GDP	33.8	33.0	33.0	na
Capital Formation Rate	% of GDP	38.6	34.7	34.2	na
Per Capita Net National Income (At current market prices)	₹	71050	79412	86879	93231
Production					
Food grains	Million tonnes	257.1	265.0	252.0	253.2[a]
Index of Industrial Production[b]					
(Growth)	%	1.1	-0.1	2.8	3.1[d]
Electricity Generation					
(Growth)	%	4.0	6.0	8.4	4.4[d]
Prices					
Inflation (WPI) (average)	%	7.4	6.0	2.0	-2.8 [e]
Inflation CPI (Combined) (average)	%	10.2	9.5	5.9	4.9 [e]
External Sector					
Export Growth (US$)	%	-1.8	4.7	-1.3	-17.6[e]
Import Growth (US$)	%	0.3	-8.3	-0.5	-15.5[e]
Current Account Balance (CAB)/GDP	%	-4.8	-1.7	-1.3	-1.4[f]
Foreign Exchange Reserves	US$ billion	292.0	304.2	341.6	349.6[c]
Average Exchange Rate	₹ /US$	54.40	60.51	61.14	65.03[e]
Money and Credit					
Broad Money (M3) (annual)	% change	13.6	13.4	10.8	11.0[g]
Scheduled Commercial Bank Credit	% change	14.1	13.9	9.0	11.3[g]
Fiscal Indicators (Centre)					
Gross Fiscal Deficit	% of GDP	4.9	4.5	4.0[i]	3.9[h]
Revenue Deficit	% of GDP	3.7	3.2	2.9[i]	2.8[h]
Primary Deficit	% of GDP	1.8	1.1	0.8[i]	0.7[h]

Notes:

na : Not available, 1R: First Revised Estimates

2R : Second Revised Estimates AE: Advance Estimates

a : 2nd Advance Estimates

b : Base (2004-05=100)

c : As at end-January 2016

d : April-December 201516

e : April-January 2015-16

f : April-September, 2015-16

g : y-o-y growth rate as on January 08, 2016

h : Budget Estimates

i : Provisional Actuals

Fund (IMF), global growth averaged 3.1 per cent in 2015, declining from 3.4 per cent registered in 2014. While growth in advanced economies has improved modestly since 2013, the emerging economies have witnessed a consistently declining trend in growth rate since 2010. It is against this background that the recent Indian growth story appears particularly bright.

INDIA'S INCREASING IMPORTANCE TO GLOBAL GROWTH

1.3 India has made striking progress in its contribution to the global growth of Gross Domestic Product (GDP) in Purchasing Power Parity (PPP) terms. PPP represents the number of units of a country's currency required to purchase the same amount of goods and services in the domestic market as the US dollar would purchase in the United States, thus adjusting for purchasing power differentials between currencies in relevant markets. India's contribution to global growth in PPP terms increased from an average of 8.3 per cent during the period 2001 to 2007 to 14.4 per cent in 2014. During the 1990s, the US's contribution to the global GDP growth in PPP terms was, on an average, around 16 percentage points higher than India's. The picture changed dramatically in 2013 and 2014 when India's contribution was higher than that of the US by 2.2 and 2.7 percentage points respectively. During 1991-2014, low growth in Japan (0.9 per cent annually) resulted in its low contribution (1.5 per cent) to global growth. India and China constitute 42.5 per cent and 53.2 per cent respectively of the total PPP measure of the lower-middle income countries and upper-middle income countries; and hence those country groups largely reflect India's and China's patterns (Figure1.1B).

1.4 The global economy—in particular the global growth powerhouse, China—is rebalancing, leading to an increasing role for India. After the onset of the multiple crises in different parts of the world, India's contribution has become much more valuable to the global economy (Figure 1.1A).

1.5 India's share in world GDP has increased from an average of 4.8 per cent during 2001-07 to 6.1 per cent during 2008-13 and further to an average of 7.0 per cent during 2014 to 2015 in current PPP terms (IMF). India's resilience and current levels of reasonably strong growth should, thus, be appreciated in the light of its increasing contribution to global growth.

Figure 1.1A: Contribution of Select Countries to Real Global Growth (PPP terms) (per cent)

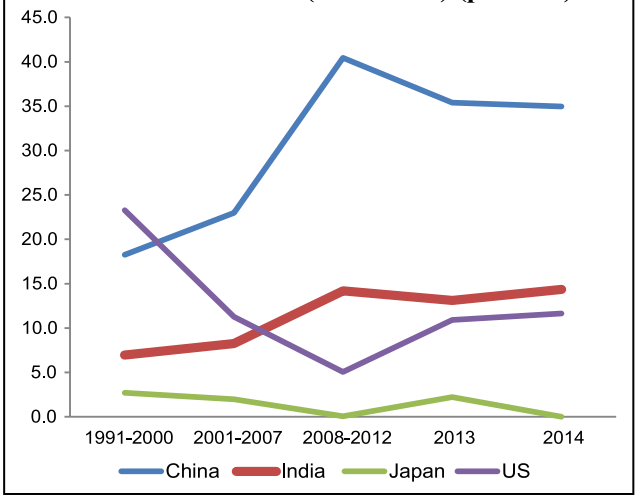
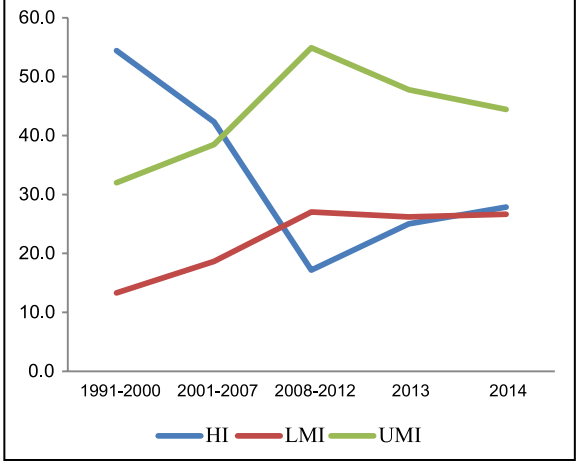


Figure 1.1B: Contribution of Country Groups to Real Global Growth (PPP terms) (per cent)



HI=high income countries; LMI=lower middle income countries; UMI=upper middle income countries

Source: **World Bank.**

Box 1.1: Global growth drivers and the Indian contrast

Overall, final consumption was the major component of global growth, accounting for nearly 72 per cent of the growth between 1991 and 2013. About one-fourth was accounted for by investment. The average shares of consumption (private and public) and investment in global output during the period were 76.1 per cent and 23.2 per cent respectively (Figure 1A & 1B). There were, however, substantial variations across periods, countries and continents.

Figure 1A: Share of final consumption expenditure in GDP (per cent)

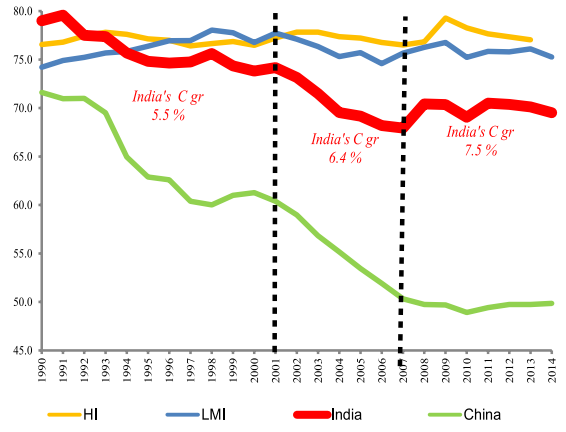
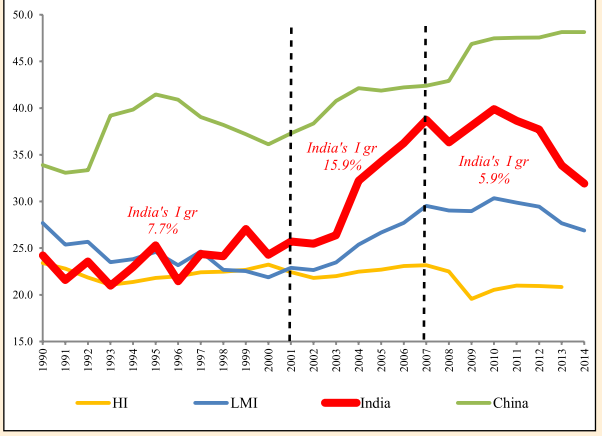
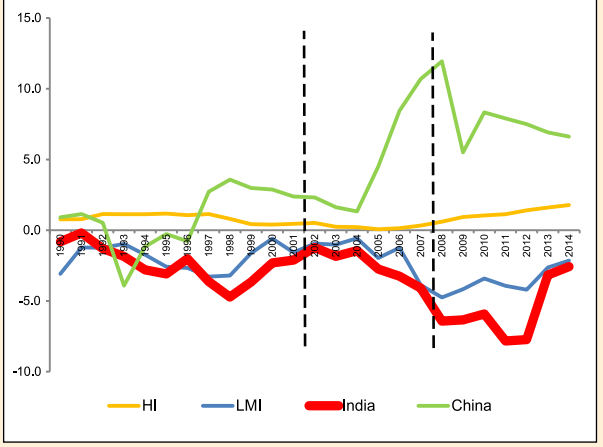


Figure 1B: Share of investment in GDP (per cent)



The period 2001-07 was marked by an increase in the growth of investment globally, with a gradual increase in the share of investment in global output and a pick-up in the rate of growth of the global economy. Given the sheer size of the high-income economies, the global picture closely tracked their patterns. The pick-up in investment growth was the sharpest among the lower middle income countries; and even among them, India stood as a positive outlier. Such movements in investment growth got reflected in the investment share in GDP. The growth surge in India during 2000–07 could be largely attributed to a significant increase in investment from about US$146 billion (at constant 2005 US$) in 2000 to US$388 billion in 2007.

Figure 1C: Share of net exports in GDP (per cent)



C gr=Average consumption growth I gr: Average investment growth

Source : **World Bank**

The high-income countries generally enjoyed an export surplus, which was compensated by the deficits of the lower income countries. China has also enjoyed an export surplus since the mid-1990s; notably though, China's export surplus has been generally declining since 2007. China, being an upper-middle income (UMI) country with a share of 45 to 50 per cent in the total output of UMI countries, largely influenced the patterns and trends shown by UMI countries as a group (not shown in the figures above). The first half of the 2000s witnessed a general improvement in the net export position of lower-middle income countries and their deficits came down, before worsening steeply. India exhibited these movements in an amplified manner. Corresponding opposite movements can be traced in the net export position of high-income countries.

The high-income countries have a relatively higher share of consumption, which has been sticky downwards, and lower share of investment in GDP, as compared to the middle-income countries (Figures 1A &1B). None of the countries/country groups have exhibited a consistently declining propensity to consume with China largely remaining an exception. China's consumption share, always below its upper-middle income peers, trended steeply downwards till 2010 to reach an exceptionally low level of around 49 per cent of GDP. India, as opposed

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to its lower-middle income peers, started with as high a consumption share in GDP as the high-income countries, and then went through a period of decline in consumption share by about 10 percentage points of GDP from 1993 to 2007, while the other lower-middle income countries generally stayed put. The space vacated by consumption, as noted above, was occupied by investment, engendering a period of investment-led growth for India in the last decade till 2007.

However, the story changed remarkably after 2007-08, the year that marked the global financial crisis. The share of consumption remained more or less the same for the high-income economies, but for a one-off spike in 2009 (which was not because of any growth in consumption, but on account of a significant decline in investment in the year). However, their investment share came down in a couple of years from 2007 and has remained at the reduced level, with a counterbalancing increase in the share of export surpluses. China's investment rate has plateaued at 48 per cent in recent years. India's has been an exceptional case where economic growth in the post crisis period was propelled by strengthening of consumption growth, thus defying the secular trends of declining share of consumption. The investment share in India declined much more than the average decline in the lower-middle income countries. Perhaps with the strengthening of the gradual improvement in corporate investment growth, evidenced by the national accounts for 2014-15, India can get back on an investment-led path.

Aggregate Demand

1.6 The recent growth revival in India is predominantly consumption-driven (Box 1.1). To make this clear, the following sections examine the expenditure components of GDP (aggregate demand) in detail.

1.7 From the expenditure side, GDP at current market prices can be seen as the sum of (a) consumption—both private and public, (b) investment, also known as Gross Capital Formation (GCF) which comprises fixed capital formation, change in stock and valuables, and, (c) net exports which represent the difference between exports and imports of goods and non-factor services. Gross fixed capital formation or fixed investment mainly refers to the value of new machinery and equipment plus the value of new construction activity undertaken during the year. Net acquisition of valuables covers precious articles, gems and stones, silver, gold, platinum, and gold and silver ornaments.

1.8 Three visible changes are taking place in aggregate demand. First, with improving growth in private consumption, its contribution to GDP growth is getting aligned to its GDP share. Private consumption has strengthened in the current year (Table 1.1). There was a significant increase in the growth of government consumption expenditure in 2014-15, which got corrected in the current year. Second, aided by the growth in capital

Table 1.1: Contribution of Components to Real GDP Growth

Final expenditures	Share in GDP		Growth (in per cent)			Contribution to GDP growth (in per cent)		
	2011-12	2015-16	2013-14	2014-15	2015-16 (AE)	2013-14	2014-15	2015-16 (AE)
Private final consumption	56.2	59.8	6.8	6.2	7.6	57.1	48.3	55.9
Government final consumption	11.1	10.7	0.4	12.8	3.3	0.7	17.6	4.5
Fixed capital formation	34.3	29.4	3.4	4.9	5.3	17.5	22.1	22.4
Change in stock	2.4	1.7	-18.6	20.3	5.5	-6.0	4.6	1.4
Valuables	2.9	1.5	-42.2	15.4	13.3	-17.9	3.2	2.9
Net exports	-6.5	-2.6	70.0	11.7	6.1	67.4	2.9	1.2
GDP at constant market prices	100.0	100.0	6.6	7.2	7.6	100.0	100.0	100.0

Source: **Central Statistics Office (CSO).**

Note: **AE--Advance Estimates. Shares/contributions may not add up to 100 due to errors and omissions.**

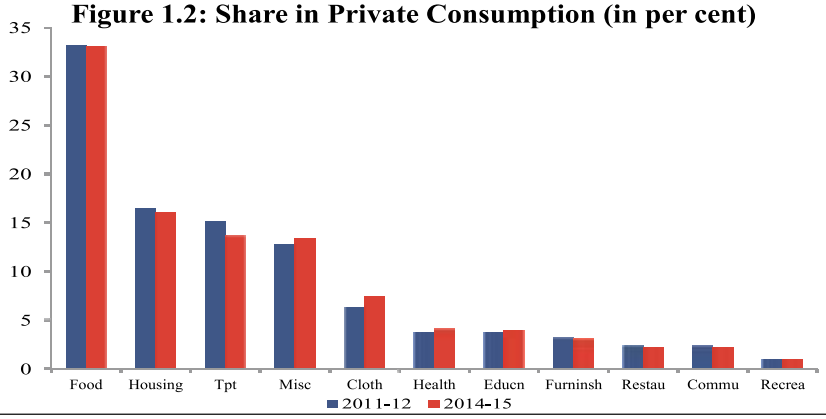
goods, the growth of fixed capital formation (also known as fixed investment and which reflects addition to the productive capacity in the economy) has picked up. A robust growth in valuables has been recorded during the current year. Third, the substantial erosion of global demand for Indian output, manifest in loss of Indian Exports, acts as a drag on domestic growth. It is from this angle that the India's achievement of being able to sustain its growth at a fairly high level, primarily on the strength of her domestic absorption, becomes noteworthy.

1.9 As per the four-year data from the new series, the share of private final consumption expenditure in GDP at current market prices increased from 56.2 per cent in 2011-12 to 59.8 per cent in 2015-16. This also supports the argument of the consumption-led growth revival. A decline of household investment in construction activities, and a more pronounced reduction in household acquisition of machinery and equipment, indicates a realignment of household expenditures in favour of consumption. Partly this could be on account of higher inflation in items in the consumption basket than in the investment, as reflected in a higher deflator for private final consumption expenditure than for gross fixed capital formation of the household sector.

1.10 In assessing the changes in consumption patterns, a four-year time period may be too short a span and the changes during the period may reflect more relative price changes than conclusive shifts in preferences and patterns (Figure 1.2). As opposed to the secular decline in the share of food and non-alcoholic beverages in India's total consumption basket evidenced in pre-revised series, the share of these items in private consumption (in current prices) remained largely sticky during the period 2011-12 to 2014-15, perhaps on account of the higher relative prices of the food group during the period. This is clear from the fact that the pattern changes when the ratios are calculated at constant prices.

1.11 Among India's external transactions, exports create demand for Indian output and hence contribute positively to GDP growth, while imports account for India's demand from the rest of the world. Since 1950-51, India has had only seven years of marginal net export (exports minus imports of goods and non-factor services) surpluses; and never since 1993-94. Thus, India has generally been a net importer. However, the growth contribution of net exports was positive in many years—substantially positive in some—when its negativity declined from the immediately preceding year. For example; in 2013-14, when GCF declined at constant prices, vis-

Figure 1.2: Share in Private Consumption (in per cent)

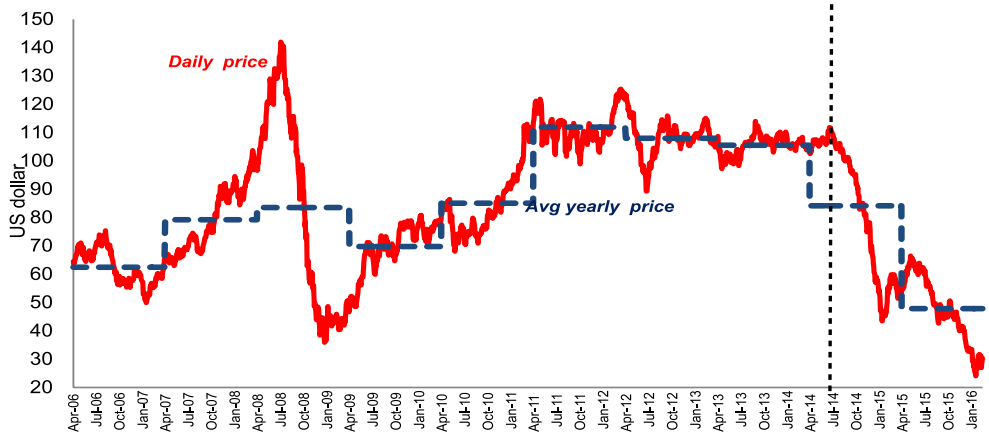


Source: **CSO**

Note:

Food : Food, beverages & tobacco **Housing: Housing, water & energy** **Tpt: Transport**
Misc: Misc. goods & services **Cloth: Clothing and footwear** **Health: Health**
Educn: Education **Furninsh: Furnishing, equipment & maintenance**
Restau: Restaurants & hotels **Commu: Communication** **Recrea: Recreation &culture**

Figure 1.3: Price of Crude Oil (Indian Basket US $ per barrel)



Note: **Based on data of Ministry of Petroleum and Natural Gas (PPAC).**

a-vis 2012-13, net exports contributed two-thirds of the GDP growth. In the current year, the rupee values of exports and imports (of goods and non-factor services) are both projected to decline; the former on account of the sluggish global demand and the latter due to steep decline in international crude oil prices (which was at multi-year lows, as seen from Figure 1.3) and other commodity prices. Such a dual decline would be the first since 1965-66; nonetheless, the net exports are estimated to make a positive contribution to growth—though marginal—because of the expected decline in the wedge between exports and imports.

Growth in Gross Value Added

1.12 The Gross Value Added (GVA), which broadly reflects the supply or production side of the economy, registered an increase in the growth rate from 5.4 per cent in 2012-13 to 7.1 per cent in 2014-15. In the current year, the growth in GVA is likely to increase to 7.3 per cent, as per the Advance Estimates (AE) released by the Central Statistics Office (CSO), affirming the positive trends in the economy indicated by GDP growth.

1.13 Growth in the agriculture sector in 2015-16 has continued to be lower than the average of last decade, mainly on account of it being the second successive year of lower-than-normal monsoon rains. Growth in the services sector moderated slightly, but still remains robust; while the acceleration in manufacturing growth compensated for it (Table 1.2).

Table 1.2: Growth in GDP and Major Sectors (in per cent)

Sector	2013-14 (2R)	2014-15 (1R)	2015-16 (AE)
Agriculture, forestry and fishing	4.2	-0.2	1.1
Industry	5.0	5.9	7.3
Mining and quarrying	3.0	10.8	6.9
Manufacturing	5.6	5.5	9.5
Electricity, gas, water supply, etc.	4.7	8.0	5.9
Construction	4.6	4.4	3.7
Services	7.8	10.3	9.2
Trade, hotels, transport and communication	7.8	9.8	9.5
Financing, real estate, professional services, etc.	10.1	10.6	10.3
Public administration, defence and other services	4.5	10.7	6.9
GVA at constant basic prices	6.3	7.1	7.3
GDP at constant market prices	6.6	7.2	7.6

Source: **Based on data from CSO.**

1.14 The farm sector has experienced two years of low growth on account of two consecutive years of deficient south-west monsoon (June-September) rainfall, the only fourth such occurrence during the last 115 years (source; National Council of Applied Economic Research). The post monsoon (October-December) rains also turned out to be below normal. Among the agriculture and allied sectors, crops including fruits and vegetables account for about 61.0 per cent of the GVA; the rest by the allied sectors consisting of livestock products, forestry and fisheries. As per the information of the Department of Agriculture, Cooperation and Farmers Welfare for 2015-16, the production of foodgrains and oil- seeds is estimated to decline by 0.5 per cent and 4.1 per cent respectively; while the production of fruits and vegetables is likely to increase marginally. As per the AE, a brighter picture is expected to emerge from the allied sectors, with a growth exceeding 5.0 per cent in 2015-16, which would have provided some impetus to rural incomes during the year.

1.15 Growth in industry is estimated to have accelerated during the current year on the strength of improving manufacturing activity (Table 1.2). The private corporate sector, with an around 69 per cent share of the manufacturing sector, is estimated, from available data of listed companies, to grow by 9.9 per cent at current prices in April-December 2015-16. The Index of Industrial Production (IIP) showed that manufacturing production grew by 3.1 per cent during April-December 2015-16, vis-à-vis a growth of 1.8 per cent in the corresponding period of the previous year. The ongoing manufacturing recovery in the current year is aided by robust growth in petroleum refining, automobiles, wearing apparels, chemicals, electrical machinery and wood products and furniture. Apart from manufacturing, the other three segments of the industry sector, i.e. electricity, gas, water supply and related utilities, mining and quarrying and construction activities, are witnessing a deceleration in growth.

1.16 The importance of sustaining the revival can be seen from the fact that manufacturing activity contributed only 17.4 per cent (at 2011-12 prices) to the total value addition in the economy (Table 1.3); but accounted for more than a third of the production of output. The difference between the output and GVA contributions has not been so stark in any other sector. This indicates that manufacturing provides the demand base for the products of many other growing sectors of the economy, thereby creating substantial backward linkages.

Table 1.3: Relationship between Output and Value Added, 2011-12 to 2014-15

Sector	Average Ratio of	
	Sectoral output to total output	Sectoral GVA to total GVA
Agriculture and allied	10.5	17.5
Industry, *of which*	53.9	31.8
Manufacturing	36.7	17.4
Services	35.6	50.7
Total	**100.0**	**100.0**

Source: **Based on data from CSO.**

1.17 More than half of the Indian economy is the services sector. Being the main driver of the economy, the sector contributed about 69 per cent of the total growth during 2011-12 to 2015-16; in the process expanding its share in the economy by 4 percentage points from 49 to 53 per cent.

1.18 One of the major services, domestic trade, is a highly disaggregated sector with a substantial informal sector presence in numerical terms. As per the NSSO (National Sample Survey Office) Survey on Unincorporated Non-agricultural Enterprises (excluding construction) in India, out of the estimated universe of 5.8 crore such enterprises in 2010-11, 2.1 crore were involved in trading activities. It is noteworthy that the trade and repair services contributed

almost as much to GVA as the crop sector in 2014-15.

1.19 The hospitality sector seems to be strengthening with the private corporate sector in the hotels and restaurant segment growing by 26.5 per cent at current prices during April-December 2015, as per the available data on listed companies. The different segments of transport services are giving mixed signals. The key indicators of railways, i.e. net tonne kilometers and passenger kilometers, contracted modestly during the first three quarters of the current year. In contrast, passengers handled by civil aviation, cargo handled by civil aviation and cargo handled at major ports registered growth rates of 16.5 per cent, 5.9 per cent and 3.2 per cent respectively during the same period. The sales of commercial vehicles grew by 8.5 per cent during the period, indicating pick-up in road freight transport.

1.20 Like in 2014-15, financial, insurance, real estate and professional services together are estimated to achieve double-digit growth this year. Real estate and professional services account for as much as 71.0 per cent of the GVA of these services. The corporate entities in the real estate sector and computer-related activities recorded growth at current prices of 1.0 per cent and 11.7 per cent during April-December 2015. Financial sector indicators, i.e. aggregate bank deposits and bank credits, grew by 10.4 per cent and 9.8 per cent respectively as on November 2015.

1.21 As per the advance estimates for 2015-16, the growth rate of public administration, defence and other services has decelerated, but remains reasonably high (Table 1.2). Public sector has a monopolistic presence in public administration and defence, while it accounts for about 44 per cent of the GVA of 'other services' that mainly include health, education, social work, arts and entertainment and personal services. One of the key indicators for these sectors is the union government revenue expenditure, which grew by 2.8 per cent during April-December 2015 as compared to 9.0 per cent in April-December 2014.

Quarter-wise growth

1.22 Tracking quarter-wise dynamics helps in identifying short-term growth patterns and assessing the near-term outlook. In the third quarter (Q3) of 2014-15, a GVA growth of only 1.7 per cent was realized in the manufacturing sector, adversely affecting industrial growth (Table 1.4). As per the IIP, the production of consumer durables plummeted by more than 20 per cent during the quarter. This was a one-off moderation in overall manufacturing, which got corrected in the fourth quarter (Q4) and its GVA growth bounced back to 6.6 per cent. However, the aforementioned moderation created a positive base effect for Q3 of the current year, taking advantage of which factory sector growth strengthened. This gets reflected in the spike in industrial growth in Q3 of the current year. But for this, the industry and services sectors

Table 1.4: Quarter-wise Growth in GVA at (2011-12) Basic Prices (year-on-year)

	2014-15				2015-16			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture and allied	2.3	2.8	-2.4	-1.7	1.6	2.0	-1.0	2.6
Industry	8.0	5.9	3.8	5.7	6.8	6.4	9.0	7.3
Services	8.6	10.7	12.9	9.3	9.0	9.4	9.4	9.0
GVA at basic prices	7.4	8.1	6.7	6.2	7.2	7.5	7.1	7.4
Net indirect taxes	8.5	10.8	5.3	11.4	13.4	10.2	9.7	10.4
GDP	7.5	8.3	6.6	6.7	7.6	7.7	7.3	7.7

Source: **Based on data from CSO.**

and total GVA followed a smooth trajectory of growth in the current year.

1.23 The difference between GDP and GVA is product taxes net of product subsidies and indicates net indirect taxes (NIT). As Table 1.4 shows, NIT growth is consistently higher than GVA growth (both at constant prices) thereby placing GDP growth higher than GVA growth in the recent quarters. During the first three quarters of the current year, the indirect taxes of the central government grew by 34.8 per cent, partly reflecting improving dynamics of economic activity and partly efforts for mobilizing additional resources to finance public investment. As per the National Accounts, the NIT of the general government is estimated to increase by 29.4 per cent in the current year. National Accounts align the growth in net indirect taxes to the underlying volume growth, treating the balance realization as price effect. By this procedure, the impressive current price growth of 29.4 per cent gets decomposed into a constant price growth of 10.8 per cent and an increase of implicit NIT deflator of 16.9 per cent for the full year. The quarter-wise NIT growth figures (Table 1.4) suggest that collections have been robust throughout the year, which aligns with the improving supply-side story.

1.24 With the revision of the data on annual National Accounts from the Provisional Estimates (PE) of May 2015 to the Revised Estimates (RE) of January 2016, the growth narrative of the Indian economy in the recent past has changed to an extent in certain respects. Such modifications used to occur in the earlier revisions too. This owes to the fact that on certain components of GVA, more comprehensive information becomes available with a lag, like manufacturing growth based on the Annual Survey of Industries and MCA database being different from the results indicated by the IIP. Major changes include the following.

1.25 The levels of GDP have been revised right from the base year, 2011-12. Growth rate of GDP at market prices for the years 2012-13, 2013-14 and 2014-15 is currently estimated to be 5.6 per cent, 6.6 per cent and 7.2 per cent respectively. Earlier, these were estimated to be 5.1 per cent, 6.9 per cent and 7.3 per cent respectively. Similarly, growth rate of GVA at basic prices for the years 2012-13, 2013-14 and 2014-15 is now estimated to be 5.4 per cent, 6.3 per cent and 7.1 per cent respectively as against earlier levels of 4.9 per cent, 6.6 per cent and 7.2 per cent respectively. The growth of sectors, namely agriculture, industry and services, has been also revised.

1.26 A more balanced picture of the ongoing growth recovery emerges from the revision in accounts on the demand side, with the growth rate in fixed investment having been revised upwards. The pre-revised data had indicated a much more consumption-led growth process (Table1.5). The contribution of consumption to overall GDP growth during the period 2012-13 to 2014-15 has been revised downwards from 63.1 per cent to 59.9 per cent, while the corresponding contribution of fixed investment has been revised upwards from 12.2 per cent to 22.6 per cent.

Table 1.5: Revision in Real GDP Growth

Item	Annual average growth rate (2012-13 to 2014-15)	
	PE	RE
Consumption	5.9	5.8
GFCE	5.5	4.6
PFCE	6.0	6.1
Fixed investment	2.4	4.4
GDP	6.4	6.5

Source: **CSO.**

Notes: **PE: Provisional Estimates released in May 2015; RE: Revised Estimates released in January 2016; GFCE: Government Final Consumption Expenditure; PFCE: Private Final Consumption Expenditure.**

Share of Public Sector in GVA

1.27 The public sector constitutes about a fifth of the Indian economy in terms of GVA at basic prices, the private corporate sector a little above one-third and the household sector the rest. One conspicuous change over the four-year period from 2011-12 to 2014-15 was the decline in the shares of the public and household sectors in total GVA, which was fully taken over by the private corporate sector as can be seen from Table 1.6.

Table 1.6: Contribution to GVA at Current Basic Prices (per cent)

	2011-12	2014-15
Public sector	20.6	19.4
Private corporate sector	33.9	35.9
Household sector	45.5	44.8

Source: **CSO.**

Factor incomes

1.28 The GVA at basic prices is the sum of Compensation of Employees including social contributions made by the employer (CE), Operating Surplus (OS)/ Mixed Income of the Self-employed (MI), Consumption of Fixed Capital (CFC) and taxes net of subsidies on production. OS is the difference between Net Value Added (NVA) and CE. However, the significant presence of unincorporated enterprises and household industries, with imperfect accounts, makes it impossible to separate the income of labour from that of entrepreneurship. This necessitates the introduction of MI to complete the accounts.

1.29 Table 1.7 indicates that the share of compensation of employees in the economy increased by almost a percentage point from 2011-12 to 2014-15, with an almost corresponding decline in the share of OS/ MI. The sectors that contributed most to this change include manufacturing, construction, financial services and public administration and defence. The absence of reliable complementary information on employment, sector-wise wage indexation to inflation, etc. makes it difficult to do further analysis on this information.

Per capita Income

1.30 Net national income (NNI), also known as national income, is the sum of GDP at market prices adjusted for CFC and net compensation of employees and property income from the rest of the world, during

Table 1.7: Segregation of GVA into Income Categories

Sector	Share in GVA in 2014-15			Change in share from 2011-12	
	CE	OS/MI	CFC	CE	OS
Agriculture & allied	15.1	81.0	7.3	-0.2	-0.1
Mining & quarrying	25.2	58.3	15.7	0.3	-3.3
Manufacturing	26.0	56.1	17.3	3.1	-1.4
Electricity, gas, water supply	30.3	36.7	34.5	-4.9	2.7
Construction	68.0	25.5	6.0	2.5	-3.4
Trade, repair, hotels & restaurant	15.6	77.6	5.4	-0.3	-0.2
Transport, storage & communication	31.2	53.1	18.6	-3.3	0.5
Financial services	31.8	66.3	1.8	3.9	-4.3
Real estate and professional services	25.8	56.5	15.2	1.7	-1.3
Public administration & defence	85.0	0.0	15.0	2.4	0.0
Other services	62.5	29.1	7.9	-1.4	2.5
Total	**33.6**	**54.9**	**11.6**	**0.9**	**-1.0**

Source: **CSO.**

Table 1.8: Level and Growth of Per Capita Income and Consumption

Item	Level in 2015-16 (in ₹)		Growth at constant prices (in per cent)			
	Current prices	Constant prices	2012-13	2013-14	2014-15	2015-16
Per capita GDP	105746	88472	4.3	5.3	5.9	6.2
Per capita NNI	93231	77431	3.5	4.9	5.8	6.2

Source: **CSO**

the reference year. With the combined share of the aforesaid two components of primary income from the rest of the world hovering around - 1.1 per cent of the Gross National Income (GNI) during 2011-12 to 2014-15, GNI remained lower than GDP during the period. Per capita income, defined as NNI divided by the estimated population, recorded a healthy growth rate in the last two years, which seems to have been reinforced in the current year (Table 1.8).

The Saving-Investment Balance

1.31 Broadly, there are three institutional sectors that save and invest, i.e. households, the private corporate sector—both financial and non-financial—and the public sector consisting of the general government and public corporations (Table 1.9).

1.32 The gross domestic savings rate in the economy declined by 1.6 percentage points of the GDP from 2011-12 to 2014-15. This happened despite a 3.2 percentage point pick-up in the private corporate savings rate. A marginal decline in the public savings rate has been counterbalanced by a proportionate increase in household financial savings. The other component of household savings, physical savings, is a mirror image of household investment, which consists of household construction, their possession of machinery and equipment and valuables, etc. Household construction, which constitutes the bulk of household investment, stood almost at the same level in 2014-15 as it did in 2011-12, resulting in a decline in the ratio of household physical savings by 4.9 percentage points of the GDP. Thus, the financial savings (public plus private corporate plus household financial savings) in the economy increased by 3.2 percentage points of the GDP from 18.4 per cent of the GDP in 2011-12 to 21.6 per cent in 2014-15, even while there was a decline in the gross savings rate.

Table 1.9: Gross Saving as Percentage of GDP at Current Market Prices

	2011-12	2012-13	2013-14	2014-15
Gross saving	34.6	33.8	33.0	33.0
Public	1.5	1.4	1.3	1.2
Private corporate	9.5	10.0	10.8	12.7
Household	23.6	22.4	20.9	19.1
Physical*	16.3	15.1	13.3	11.4
Financial	7.4	7.4	7.7	7.7

Source: **CSO.**

Note: *** household physical savings include valuables.**

Table 1.10: GFCF as Percentage of GDP at Current Market Prices

Item	2011-12	2012-13	2013-14	2014-15	2015-16
Gross fixed capital formation	34.3	33.4	31.6	30.8	29.4
Public sector	7.3	7.0	7.1	7.5	*
Private corporate	11.2	11.8	11.7	12.3	*
Household	15.7	14.6	12.9	11.0	*

Source: **CSO.**

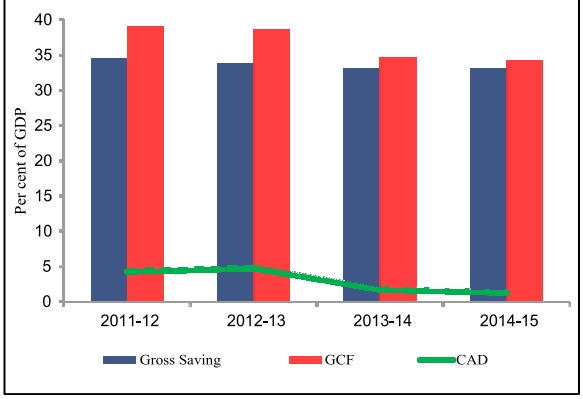
Note: *** Not available.**

This indicates that the GDP share of the domestically generated financial resources that can be available to potential investors has increased, mainly on account of the retained profits of the private corporate sector (Table 1.9).

1.33 In tandem with the trends in gross savings, fixed investment as proportion of GDP declined by 3.5 percentage points from 2011-12 to 2014-15 (Table 1.10). This was due to a 4.8 percentage points of GDP decline in the household sector's fixed assets and machinery, which was partly compensated by an increase of 1.1 percentage points in fixed investment in the private corporate sector.

1.34 Two points stand out in this context. First, there was a pickup in private corporate investment, but not to the extent of the pickup in its savings. Hence, while the retained profits of the companies might have improved robustly during the period, they were guarded in their investment decisions, perhaps in view of the shrinkage in demand due to global slowdown. Second, non-household fixed investment as a proportion of GDP increased from 18.5 per cent in 2011-12 to 19.8 per cent in 2014-15. This, in brief, suggests that when households are excluded from the picture, both the savings and investment scenarios appeared brighter in 2014-15. On the other hand, as noted earlier, improved household consumption has given some impetus to the ongoing growth recovery. From the limited information available from the AE for 2015-16, fixed investment stands reduced by 1.4 percentage points of the GDP; the composition of this decline will be known only when detailed information becomes available in January 2017.

Figure 1.4: Gap between Saving and Investment



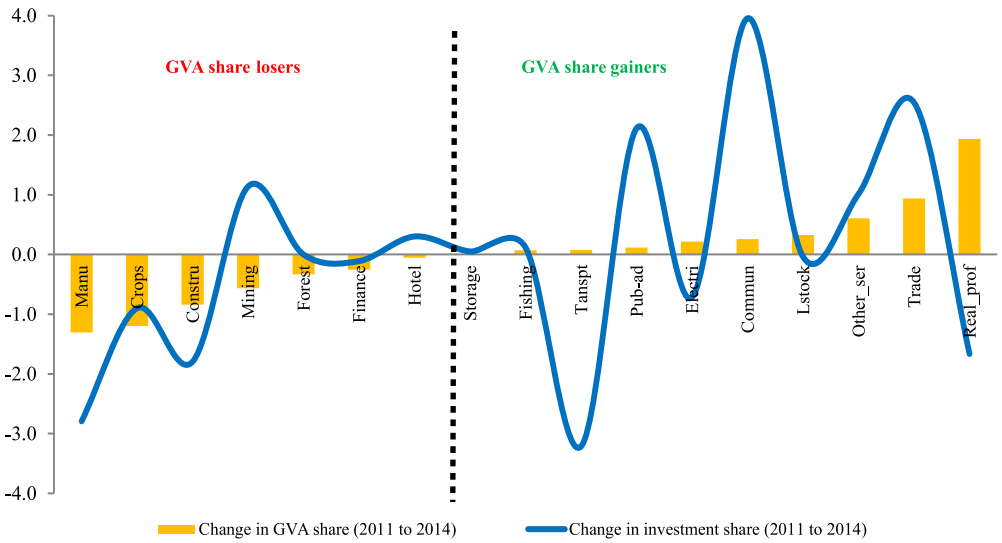
Source: **CSO and RBI**

1.35 The current account balance of the Balance of Payments (BoP) mirrors the difference between domestic savings and domestic investment, and conveys the extent of this gap that needs to be bridged by foreign savings. As is seen in Figure 1.4, the gap between investment and savings has been declining over time. However, it is due to the greater decline in the investment rate (measured as ratio of GCF to GDP) vis-à-vis the savings rate.

1.36 A look at the GCF by industry of use would reveal that the share of gross investment (excluding valuables) in agriculture and allied sectors and industry (including mining and quarrying and construction sectors in addition to manufacturing and electricity and other utilities) declined between 2011-12 and 2014-15, while it increased in services sector. However, it would be highly simplistic to ascribe the increased share of services in the GVA to this phenomenon, as is evident in Figure 1.5.

1.37 Figure 1.5 shows that there is, in general, some positive correlation between the change in sectoral shares in capital formation and the change in sectoral shares of GVA during the period 2011-12 to 2014-15; with notable exceptions being the mining and quarrying, transport, electricity, gas and water supply and real estate and professional services sectors. The relation could have been stronger, if excess capacities and lagged output responses had been fully controlled for. Nonetheless, this simple plot indicates that sectors like manufacturing, the crop segment of the agriculture sector and construction have significantly lost their GVA share and investment shares during the four-

Figure 1.5: Change in GVA Share and Investment Share (2011-2014)



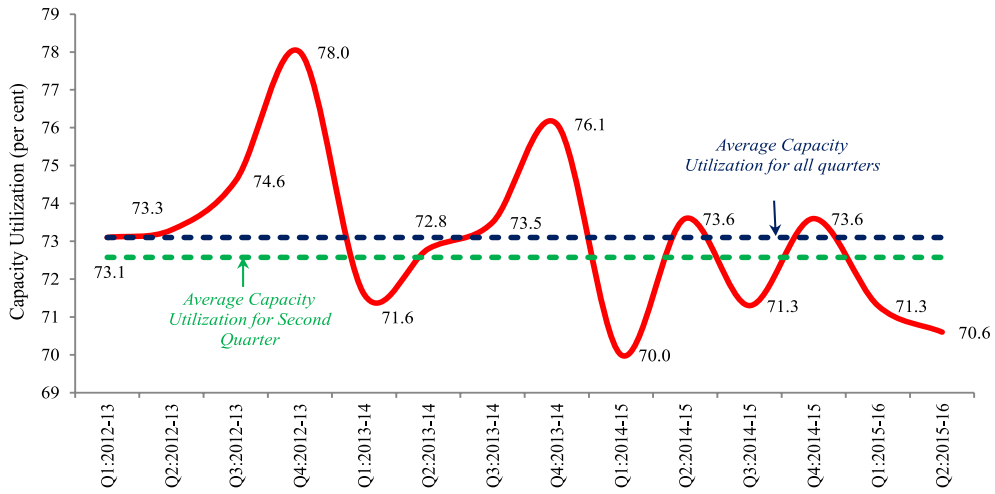
Source: **CSO**

Manu : Manufacturing
Crops: Crops
Constru: Construction
Mining: Mining & Quarrying
Forest : Forestry And Logging
Finance : Financial Services
Hotel: Hotels & Restaurants
Storage: Storage
Fishing: Fishing & Aquaculture
Tanspt: Transport
Pub-ad:Pub Ad & Defence
Electri: Electricity, Gas,Etc
Commun: Communication
Lstock: Livestock
Other_ser: Other Services
Trade: Trade & Repair Services
Real_prof: Real Estate, Professional Services

year period. In sharp contrast, sectors like trade and repair services and miscellaneous services gained on both grounds, while real estate and professional services as well as mining and quarrying presented a mixed picture.

1.38 Suboptimal capacity utilization may be one of the factors affecting slackness in investment in manufacturing. The July-September 2015 Round of the Order Books, Inventories and Capacity Utilization Survey (OBICUS) of the Reserve Bank of India (RBI) showed that at the aggregate level, capacity utilization of a sample of manufacturing companies recorded fractional decline in Q2 2015-16 over the previous quarter and over the corresponding quarter of the previous

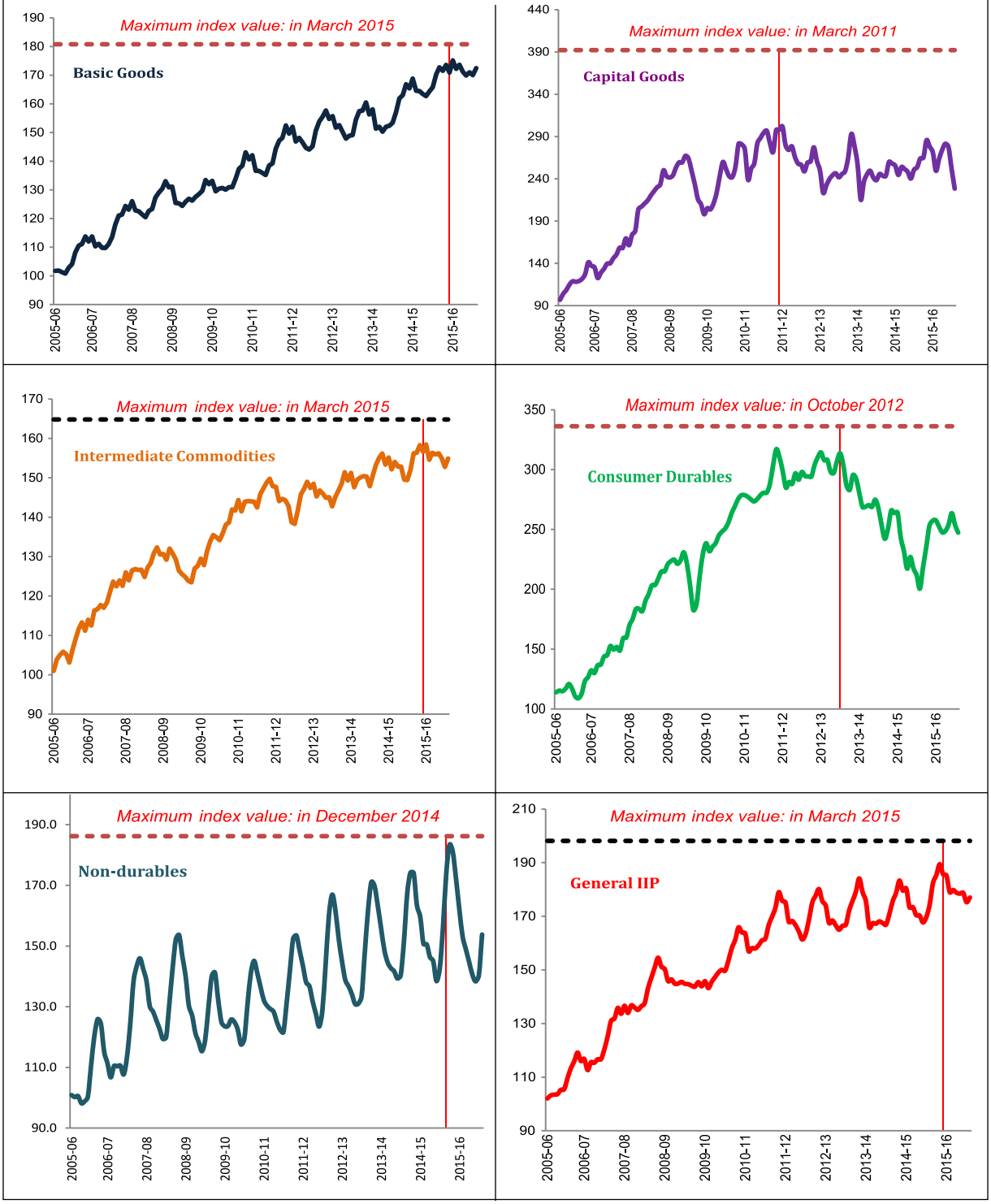
Figure 1.6: Capacity Utilization for Selected Manufacturing Companies



Source: **Based on RBI data.**

year (Figure 1.6). The Q1 OBICUS results indicated that capacity utilization in the manufacturing sector had improved over the corresponding quarter of the previous year. That there has been some improvement in capacity utilization in 2015-16 vis-a-vis 2014-15 becomes evident from looking at the IIP (Figure 1.7).

Figure 1.7 : Three-month moving average indices of different IIP categories



Note: **Based on CSO data**
Maximum index implies the highest achieved in the actual series since 2004-05.
The vertical line in each figure indicates the month in which maximum was achieved.

1.39 The indices of production of different industrial categories subsumed under the IIP point towards the existence of significant excess capacities in sectors like capital goods and consumer durables. Purely judged from this angle, a sustained pickup in the demand for consumer goods--either domestic or external--may condition robust industrial growth and investment in the economy.

Public Finance

1.40 The General Budget 2015-16, post Fourteenth Finance Commission (FFC) recommendations, ushered in a new era of 'co-operative federalism with shared responsibilities' between the centre and the states, and among the states for achieving development goals together. It was presented in a relatively stable economic environment as compared to the just preceding years but the challenge was to ensure the delicate equilibrium between the concerns of stirring growth, accommodating the resources transfer that greater fiscal federalism entailed and ensuring fiscal consolidation. The equilibrium was sought through a higher capital expenditure, higher net resource transfers to states and higher gross tax revenues.

1.41 The Budget 2015-16 sought to contain the fiscal deficit at ₹5.56 lakh crore (3.9 per cent of GDP) as against ₹ 5.13 lakh crore (4.1 per cent of GDP) in 2014-15 (RE). The desired fiscal consolidation was planned to be achieved by an estimated growth of 15.8 per cent in gross tax revenue (GTR) over RE 2014-15. The overall non-debt receipts for the 2015-16 were estimated to be 12.2 lakh crore against the total expenditure of ₹17.77 lakh crore which was 5.7 per cent higher than 2014-15 (RE). Within the total expenditure, the expected growth in capital expenditure was 25.5 per cent which ensures the better quality of expenditure.

1.42 The benign fiscal outcome in 2015-16 owed to improved tax buoyancy and prudent expenditure management with assistance from the decline in oil prices. The robust growth in GTR in the first three quarters of 2015-16 was aided by the 34.8 per cent growth in indirect taxes, with union excise duties growing by about 68 per cent. The excise collections may partly have been bolstered by the improved dynamics of economic activity as well as measures like increasing the excise duty on petrol and diesel in the milieu of falling international prices of crude oil. On the tax devolution front, with the changed regime for tax devolution, the taxes assigned to the states/UTs were raised by 36.6 per cent in April-December 2015 over the corresponding period of the previous year. The trends in expenditure in the first nine months of the current year are encouraging and the 33.5 per cent increase in capital expenditure, mainly led by plan expenditure, was very much in line with the budgetary objective for ensuring improved quality of expenditure.

1.43 Given the pattern of revenue and expenditure in the first nine months of the current financial year, in spite of the challenges posed by the lower-than-projected nominal GDP growth, the fiscal deficit target of 3.9 per cent of GDP seems achievable.

Prices and Monetray Management

Prices

1.44 The year 2015-16 continues to experience moderation in general price levels in the country. The substantial decline in price of the Indian basket of crude oil, through its direct and second round effects, partly contributed to the decline in general inflation for the second successive year. Further, the astute policies and management of inflation by the government through buffer stocking, timely release of cereals and import of pulses and moderate increase in Minimum Support Prices (MSP) of agricultural commodities helped in keeping prices of essential commodities under check during 2015-16. Headline inflation, based on the Consumer

Price Index (CPI) (combined for rural and urban areas) series, dipped to 4.9 per cent during April-January 2015-16 as against 5.9 per cent in 2014-15. Food inflation in terms of the Consumer Food Price Index (CFPI) declined to 4.8 per cent during April-January 2015-16 as compared to 6.4 per cent in 2014-15. CPI-based core (non-food, non-fuel) inflation also remained range-bound, inching marginally upwards from 4.2 per cent in March 2015 to 4.7 per cent in January 2016. For various subgroups of the CPI (combined), the decline in inflation was broad based and mainly driven by lower inflation of food articles and items under the non-food non-fuel category. The decline in CPI non-food, non-fuel inflation was largely on account of decline in the inflation of housing (rent), transport, communication, education and other services.

1.45 Headline wholesale price index (WPI) inflation declined following the global trend of declining commodity and producers prices. WPI inflation has remained in the negative territory since November 2014 and was (-) 2.8 per cent in 2015-16 (April-January) as compared to 2.0 per cent in 2014-15. The WPI inflation in fuel and power group declined significantly and was (-) 12.3 per cent in 2015-16 (April-January) from (-) 0.9 per cent in 2014-15. The decline in global commodity prices resulted in the drop in the WPI based core inflation from 2.4 per cent in 2014-15 to (-) 1.5 per cent in 2015-16 (April-January). WPI-based food inflation continues to remain moderate at 2.2 per cent during 2015-16 (April-January), despite the below average monsoon this year and the sporadic spurt in the prices of pulses and a few other essential commodities in the second half of the year.

Monetary Developments

1.46 With the easing of inflation and moderation in inflationary expectations, the RBI reduced the repo rate by 25 basis points (bps) to 7.75 per cent on 15th January 2015. Subsequent reductions by 25 bps each on 4 March 2015 and 2 June 2015 and 50 bps on 29 September 2015—brought it down another 100 bps to 6.75 per cent. The RBI has kept the policy repo rate unchanged in its sixth bi-monthly monetary policy statement on 2 February 2016.

1.47 Liquidity conditions were generally tight during Q1 of 2015-16, mainly due to restrained government spending. In Q2 of financial year (FY) 2015-16, however, liquidity conditions eased significantly as public expenditure picked up and deposits exceeded credit substantially. In Q3 of FY 2015-16, liquidity conditions tightened again, mainly due to festive season currency demand. The RBI conducted variable rate repo and reverse repo (overnight and term) auctions in order to address the day-to-day liquidity requirements arising out of frictional factors, besides regular liquidity operations under the Liquidity Adjustment Facility coupled with Open Market Operations (OMO). Accordingly, the weighted average call rate or the operating target of monetary policy remained closely aligned to the policy repo rate.

New initiatives in the Banking sector

1.48 The performance of Scheduled Commercial Banks (SCB) during the current financial year remained subdued. The Year-on-Year (Y-o-Y) growth in bank credit remained below 10 per cent. For the fortnight ended November 2015, credit growth stood at 9.3 per cent. The sluggish growth of bank credit can be attributed to several factors: (a) incomplete transmission of the monetary policy as banks have not passed on the entire benefit to borrowers; (b) unwillingness of the banks to lend credit on account of rising Non-performing Assets (NPA); (c) worsening of corporate balance sheets, forcing them to put their investment decisions on hold; (d) interest rates in the bond market being more

attractive to borrowers. Besides, it is also instructive to note that bank credit explains about half of the resource flow to productive sectors.

1.49 There was considerable increase in the opening of basic savings bank deposit accounts during the year in view of the government's initiative under the Pradhan Mantri Jan Dhan Yojana. For creating a universal social security system for all Indians, especially the poor and the underprivileged, three schemes were launched in 2015 in the insurance and pension sectors--the Pradhan Mantri Suraksha BimaYojana, the Pradhan Mantri Jeevan Jyoti Bima Yojana and the Atal Pension Yojana--on pan-India basis on 9 May 2015

1.50 In pursuance of the announcement in the Union Budget 2015-16 of the setting up of a Micro Units Development Refinance Agency (MUDRA) Bank to refinance last-mile financers, the Pradhan Mantri Mudra Yojana has been launched on 8 April 2015. MUDRA seeks to offer two products, namely refinance products with a loan requirement up to ₹10 lakh and support to micro-finance institutions by way of refinance. In order to mobilize gold for productive purpose and to reduce the country's reliance on imports of gold, two main schemes were launched in 2015: (i) the Sovereign Gold Bond Scheme and (ii) the Gold Monetization Scheme.

External Sector

1.51 One important positive outcome in 2015 is the modest pickup in the growth of some of the advanced economies. However, growth in emerging market and developing economies declined for the fifth consecutive year. As a result, overall global economic activity remained subdued in 2015. In its latest Update of the World Economic Outlook (WEO), published on 19 January 2016, the IMF projected growth in the global economy to improve from 3.1 per cent in 2015, to 3.4 per cent in 2016 and further to 3.6 per cent in 2017. Growth in advanced economies is projected at 2.1 per cent in 2016 and to continue through 2017 at the same rate.

1.52 The slowdown and rebalancing of the Chinese economy, lower commodity prices, and strains in some large Emerging Market and Developing economies (EMDE) are likely to continue to weigh on their growth prospects in 2016–17. Assessments indicate that mixed inflation developments in the EMDEs reflect the conflicting implications of weak domestic demand and lower commodity prices versus marked currency depreciations over the past year. The WEO Update also indicated that India and the rest of emerging Asia are bright spots, with some other countries facing strong headwinds from China's economic rebalancing and global manufacturing weakness. World trade volume growth projections have been placed at 2.6 per cent and 3.4 per cent respectively for 2015 and 2016, which is much lower than what was estimated earlier in WEO in October 2015.

India's merchandise trade

1.53 After reaching unsustainably high levels, trade and current account deficits moderated on import restrictions in 2013-14 and continued so in 2014-15. It might be recalled that the restrictions on gold were withdrawn mid-year in 2014-15 and the continuance of robust outcome in 2015-16 indicates that the external sector position is sustainable. Such an outcome in times of continued low growth in trade volumes and weak global prospects is significant. India's merchandise exports have been declining continuously since December 2014, which is in line with the performance of export growth in different countries. During the current financial year (April-January 2015-16), India's exports declined year-on-year by 17.6

per cent to US$ 217.7 billion and this decline was broad-based. The decline in India's exports owed to sluggish global demand and low global commodity prices, particularly petroleum.

1.54 In keeping with the global trends of slow growth, imports have declined by 15.5 per cent in 2015-16 (April-January) to US $ 324.5 billion. Lower imports of petroleum, oil and lubricants (POL) were the main reason for the decline in total imports this year so far. POL imports declined by 41.4 per cent to US$ 73.1 billion 2015-16 (April-January) as against US$ 124.8 billion 2014-15 (April-January), as a result of steep fall in international crude oil prices. Non-POL imports at US$ 251.4 billion in 2015-16 (April- January) were 3.0 per cent lower than non-POL imports of US$ 259.1 billion in 2014-15 (April- January). Gold and silver imports increased by 5.1 per cent to US$ 32.9 billion in 2015-16 (April-January) as compared to US$ 31.3 billion in the corresponding period of the previous year. Moderation in trade deficit in 2014-15 was due to, among other factors, decline in the value of POL imports by 16.0 per cent, caused by fall in international oil price by 20.2 per cent in 2014-15. The moderation continues through in 2015-16 with further decline in global crude oil prices, with trade deficit in 2015-16 (April- January) placed at US $ 106.8 billion.

1.55 The composition and direction of trade is undergoing changes and sectors that are resilient are accounting for higher proportions to total trade and also changing the trade direction. During 2015-16 (April-December), there was a broad-based decline in exports to Europe, America, Africa, Asia and the CIS. Imports from all five regions declined, with the highest decline of 21.5 per cent in imports from America in 2015-16 (April-December). India's imports from China registered a growth of 2.5 per cent in 2015-16 (April-December) while imports from other major countries registered negative growth rates.

Trade policy and World Trade Organization negotiations

1.56 In the wake of declining exports, the government took various measures to boost exports in the Union Budget 2015-16 and in the new Foreign Trade Policy (FTP), for the period 2015-20, announced on 1 April 2015. The focus of the new FTP has been on supporting both manufacturing and services exports and improving ease of doing business. The FTP aims to increase India's exports to US$900 billion by 2019-20 and it also provides the road map for by the government to align it with the 'Make in India' and 'Digital India' programmes and to ease trade.

1.57 The Tenth Ministerial Conference of the World Trade Organization (WTO) was held in Nairobi, Kenya, from 15 to 19 December 2015. The outcomes of the conference, referred to as the 'Nairobi Package' include Ministerial Decisions on agriculture, cotton and issues related to Least Developed Countries (LDCs). These cover public stockholding for food security purposes, a Special Safeguard Mechanism (SSM) for developing countries, a commitment to abolish export subsidies for farm exports, particularly from the developed countries, and measures related to cotton. Decisions were also taken regarding preferential treatment to LDCs in the area of services and the criteria for determining whether exports from LDCs may benefit from trade preferences. As regards the future of the Doha Round of trade negotiations, the Nairobi Ministerial Declaration reflects divergence amongst the WTO membership on the relevance of reaffirming the Doha mandate as the basis of future negotiations. With the process of multilateral negotiations being slow, mega-regional trading agreements like the Trans-Pacific Partnership have emerged. This has implications in the long run for many emerging countries, as the dominant interests and emphasis of its current membership

may not be aligned with the requirements of emerging markets like India.

Balance of Payments

1.58 Despite the decline in merchandise exports during the first half (H1) of 2015-16, India's BoP position remained comfortable. Some of the salient external sector developments are: (i) lower trade deficit and modest growth in invisibles resulted in lower Current Account Deficit (CAD), (ii) continued increase in Foreign Direct Investment (FDI) inflows and Non-resident Indian (NRI) deposits and (iii) net outflow of portfolio investment. Although, there was a net outflow under portfolio investment, capital/financial flows were in excess of the CAD and the absorption of the same by the RBI led to an accretion in reserves.

1.59 Trade deficit (on BoP basis) declined from US$74.7 billion in 2014-15 (April-September) to US$71.6 billion in 2015-16 (April-September). The surplus of net invisibles increased by around US$1 billion to US$57.2 billion in the first half of 2015-16. Moderate growth in invisibles surplus coupled with lower trade deficit, resulted in a lower CAD of US$26.8 billion (1.3 per cent of GDP) in 2014-15 and US$ 14.4 billion (1.4 per cent of GDP) in H1 of 2015-16.

1.60 Net portfolio investment recorded an outflow of US$8.7 billion in H1 of 2015-16 as against net inflow of US$22.2 billion in H1 of 2014-15. Net FDI reached the level of US$16.7 billion in H1 of 2015-16 (US$15.1 billion in H1 of 2014-15). External commercial borrowings (ECBs) are another relatively less volatile item of the capital/finance account. Net ECBs were US$ 1.6 billion in 2014-15; during H1 of 2015-16, net ECBs logged an outflow of US$ 0.9 billion. During H1 of 2015-16, NRI deposits reached US$10.1 billion as against 6.5 billion in H1 of 2014-15. Net capital flows in 2014-15 were at their second highest at US$88.2 billion. The highest was US$107.9 billion in 2007-8. Net capital inflows were 4.3 per cent of GDP during 2014-15 (2.6 per cent of GDP during 2013-14). During H1 of 2015-16, net capital/finance flows was US$24.9 billion as against US$36.5 billion in H1 of 2014-15. Low levels of CAD coupled with moderate rise in capital inflows resulted in accretion in foreign exchange reserves of US$10.6 billion in H1 of 2015-16.

Foreign exchange reserves

1.61 India's foreign exchange reserves at US$351.5 billion as on 5 February 2016 mainly comprised foreign currency assets amounting to US$328.4 billion, accounting for about 93.4 per cent of the total. With an increase in reserves in 2015-16, all traditional reserve-based external sector vulnerability indicators, namely foreign exchange cover for imports and short-term debt, have improved.

Exchange rate

1.62 During 2015-16 (April-January), the average exchange rate of the rupee depreciated to ₹65.04 per US dollar as compared to ₹60.92 per US dollar in 2014-15 (April-January). This was mainly on account of the fact that the dollar strengthened against all the major currencies because of stronger growth in the USA as well as the fact that China's growth and currency developments this year deteriorated, impacting the outlook on other EDMEs owing to risk-aversion perceptions of global investors. It is, however, instructive to note that in 2015-16 so far, the rupee has performed better than the currencies of most of other EDMEs (except the Chinese yuan).

External debt

1.63 As per the latest available data, India's external debt stock increased by US$8.0 billion (1.7 per cent) to US$483.2 billion at end-September 2015 over end-March 2015. This rise in external debt occurred on account of long-term debt, particularly commercial borrowings and NRI deposits. However, on a sequential basis, total external debt at end-

September 2015 declined by US$291 million from the end-June 2015 level. The maturity pattern of India's external debt shows the predominance of long-term borrowings. At end-September 2015, long-term debt accounted for 82.2 per cent of India's total external debt, vis-à-vis 82.0 per cent at end-March 2015. Correspondingly, the proportion of short-term debt declined. India's external debt has remained in safe limits, with an external debt to GDP ratio of 23.7 per cent and a debt service ratio of 7.5 per cent in 2014-15.

1.64 India's foreign exchange reserves provided a cover of 72.5 per cent to total external debt stock at end-September 2015 vis-à-vis 71.9 per cent at end-March 2015. The ratio of short-term external debt to foreign exchange reserves was 24.6 per cent at end-September 2015 as compared to 25.0 per cent at end-March 2015. The ratio of short term debt to total external debt decreased steadily and stood at 17.8 per cent at end-September 2015 as against 18.0 per cent at end-March 2015.

External sector outlook

1.65 The global economic outlook has remained under clouds of uncertainty for long, with periodic financial market turbulence and heightened risk aversion. The recent bout of uncertainty owes to developments and concerns about China's growth, financial markets and currency. The spill overs are causing shocks in vulnerable economies. India's external sector outcome continues to be strong and sustainable because of strong macroeconomic fundamentals and low commodity prices. As such, while export slowdown may continue for a while before picking up in the next fiscal, continuance of low global commodity prices augurs well for sustaining low trade and current account deficits. As a proportion of GDP, the CAD is likely to be in the low range of 1-1.5 per cent. While global developments like concern over China and normalization of the monetary policy in the US may affect global financial flows, with policy reform initiatives and strong macroeconomic outcome, deficit in the current account is likely to be more than fully financed through stable flows and the volatility in global financial markets may affect the exchange rate less than in other emerging economies.

Outlook

1.66 The Indian economy has made substantial improvements in its macroeconomic fundamentals and impressive strides in reducing macro-vulnerability with reforms in key areas, pursuit of fiscal prudence and consolidation, focus on price stability and the resultant benign price situation and comfortable level of external current account. With improved industrial growth supplementing the buoyant services sector, overall economic growth has also picked up. Set against the background of the unsupportive global economic landscape, and back-to-back weak monsoons with deleterious effects on farm production, the growth rate of 7.6 per cent in 2015-16 as estimated by the CSO is encouraging. In sharp contrast, the global economy, shrouded in uncertainties and constrained by sluggish demand, has failed to generate confidence. While the emerging market economies have clearly slowed down, the large Chinese economy is faced with concerns of rebalancing investment and consumption activities. In this milieu, the Indian economy stands out as a haven of macroeconomic stability, resilience and optimism and can be expected to register GDP growth that could be in the range of 7.0 to 7.75 per cent in the coming year.

1.67 With focus on reforms in key sectors coupled with stable macroeconomic conditions, the above growth prospect for the economy in the next year appears reasonable. Yet, the outlook will be conditioned by a

number of factors; some of which indicate downside risks; the strongest of them being weak global demand. In 2015-16, the external vulnerability indicators improved and the rupee weathered the depreciation pressure better than the currencies of most emerging market economies. The headwinds to growth may come from sluggish global demand as the Indian economy is closely integrated with the rest of the world; exports and imports together constitute 42 per cent of the GDP, even at the reduced levels in 2015-16. On the brighter side, however, the composite growth of India's trading partners is projected to modestly improve in 2016. Improved competitiveness and brighter perceptions about the Indian economy get reflected in greater investment inflows.

1.68 From the angle of aggregate demand, domestic absorption has remained reasonably strong, despite reduction in overall investment. Private consumption has, of late, been the major driver of growth. The possible shifts on the consumption front in the next year are: first, consumption incentives flowing from declining oil prices may partially recede in the next year; second, the pay commission awards could potentially add modestly to consumption demand; third, an improved farm sector performance can add to rural consumption. However, it may be hard to endlessly expect significantly higher growth impetus from consumption. Government's focus on fiscal consolidation rightly limits the option of raising general government consumption expenditure. Private corporate savings and investment showed encouraging results in 2014-15; but the eventual outcome may also be influenced by indications of excess capacity in some sectors. However, with multifaceted measures from the government to foster industry and enterprise, investment-led growth should return.

1.69 To encapsulate, in the short run, Indian growth may fall short of its growth potential of 8-9 per cent. Yet, the economy could continue weathering the global sluggishness with resilience and consolidate the gains in macroeconomic stability in the year ahead. This is an outlook that multilateral institutions, in their latest assessments, have also attested to.

Sectoral Developments

Agriculture

1.70 The contribution of agriculture and allied sectors to the GVA (at 2011-12 prices) of the country has been declining. The growth rates in agriculture have been fluctuating at 1.5 per cent in 2012-13, 4.2 per cent in 2013-14, (-) 0.2 per cent in 2014-15 and a likely gowth of 1.1 per cent in 2015-16. The uncertainties in growth in agriculture are explained by the fact that 60 per cent of agriculture in India is rainfall dependent and there have been two consecutive years of less then normal rainfall in 2014-15 and 2015-16.

1.71 As per the Second Advance Estimates for 2015-16 released on 15 February 2016, foodgrains production during 2015-16, estimated at 253.16 million tonnes, is expected to be higher by 1.14 million tonnes over the production of 252.02 million tonnes during 2014-15. As per the fourth AE, the production of foodgrains during 2014-15 is placed at 252.7 million tonnes (rice at 104.8 million tonnes and wheat at 88.9 million tonnes) vis-à-vis 265.0 million tonnes (rice at 106.6 million tonnes and wheat at 95.9 million tonnes) in 2013-14 (final estimates) and the production of pulses is estimated at 17.2 million tonnes, sugarcane at 359.3 million tonnes, oilseeds at 26.7 million tonnes and cotton at 35.5 million bales of 170 kg each.

1.72 At present, there are multifarious issues and challenges faced by the agriculture sector and in order to revive it, a significantly different approach needs to be followed. The following measures, inter alia, need to be taken to step up productivity in agriculture and transform the sector:

Table 1.11: Agriculture Sector: Key indicators (per cent change at 2011-12 prices)

Item	2011-12*	2012-13*	2013-14*	2014-15@
Growth in GDP in agriculture & allied sectors (at constant 2011-12 prices)	5.0#	1.5	4.2	-0.2
Share of agriculture & allied sectors in total GVA (at current 2011-12 prices)	18.5	18.2	18.3	17.4
Share of crops	12.1	11.8	11.9	10.9
Share of livestock	4.0	4.1	4.1	4.4
Share of forestry and logging	1.5	1.5	1.4	1.2
Share of fishing	0.8	0.9	0.9	0.9
Share of agriculture & allied sectors in total GCF (at current 2011-12 prices)	8.6	7.8	8.6	7.7
Share of crops	7.3	6.6	7.3	6.4
Share of livestock	0.8	0.8	0.8	0.8
Share of forestry and logging	0.1	0.1	0.1	0.1
Share of fishing	0.4	0.4	0.5	0.5
GCF in agriculture & allied sectors as per cent to GVA of the sector (at current 2011-12 prices)	18.3	16.3	17.0	15.8

Source: **CSO.**

Notes: # at 2004-05 prices; * Second RE (new series); @ First RE.

- Need to scale up investments to expand water efficient irrigation to achieve 'more crop per drop' to improve productivity in agriculture. The low and skewed distribution of irrigated area needs to be corrected through appropriate policy measures.
- Effective use of other inputs like fertilizers, quality seeds and pesticides is also required, along with irrigation, to reach optimal agricultural potential of India.
- The success of dairy, an allied sector, has been the result of an integrated cooperative system of milk collection, transportation, processing and distribution. Diversification of the produce through value added products in the dairy industry has minimized the seasonal impact on suppliers, which is a strategy that needs to be emulated by other allied sectors in agriculture.
- There is tremendous potential to increase availability of agricultural produce by reducing wastage in the post-harvest value chain. Reducing post-harvest losses through investments in storage facilities and drying facilities will also help ensure food security for the population.

Industrial, Corporate and Infrastructure Performance

1.73 The industrial sector has continued to perform well in the wake of various reforms measures undertaken by the government recently. As per the data on RE of national income, the growth of the industrial sector comprising mining and quarrying, manufacturing, electricity, gas, water supply and other utility services, and construction is 5.9 per cent during 2014-15, as against 5.0 per cent during 2013-14. The growth is expected to strengthen further to 7.3 per cent for 2015-16 as per the AE released by the CSO recently. Within the industrial sector, manufacturing is expected to register a growth of 9.5 per cent. In the first nine months of 2015-16, the growth rate in terms of the IIP was 3.1 per cent as compared to 2.6 per cent in the corresponding period of 2014-15. The rate of growth of GCF in industry registered a sharp

rise from (-) 3.7 per cent in 2013-14 to 3.6 per cent in 2014-15, showing upward momentum of investment in industry. The sector-wise shares in overall GCF shows that the share of electricity has gone up, while those of mining, manufacturing and construction have declined.

1.74 The eight core infrastructure-supportive industries--coal, crude oil, natural gas, refinery products, fertilizers, steel, cement and electricity--that have a total weight of nearly 38 per cent in the IIP registered a cumulative growth of 1.9 per cent during April-December 2015-16 as compared to 5.7 per cent during April-December, 2014-15. Month-wise performance of eight core sectors shows that the production of coal and fertilizer increased substantially, while that of crude oil, natural gas and steel mostly declined. Refinery products, cement and electricity attained moderate growth.

1.75 The performance of the corporate sector highlighted that the growth of sales has been contracting since Q3 of 2014-15. Similarly, the last four successive quarters since Q3 of 2014-15, witnessed a steep contraction in raw material expenses. Y-o-Y growth in interest expenses moderated during 2014-15 as compared to 2013-14. There was a further decline in the growth of interest expenses from 9.4 per cent in Q1 of 2015-16 to 4.2 per cent in Q2 of 2015-16. Other income, which was contracting since Q3 of 2014-15, grew by 12.5 per cent in Q2 of 2015-16. Net profit grew by 19.8 per cent in Q2 of 2015-16, after a contraction in three successive quarters. Growth in credit flow to the industrial sector, including mining and manufacturing, has slowed down in 2015-16 as compared to 2014-15. Growth of credit flow to the manufacturing sector was 2.5 per cent in 2015-16 (up to December) as compared 13.2 per cent in 2014-15 (up to December).

1.76 With a view to creating investment and a business-friendly environment, the government has initiated various reform measures for simplification and rationalization of procedures and processes to attract more FDI. The impact of these has started becoming visible. After the launch of the initiatives in September 2014, there was nearly 40 per cent increase in FDI inflows during October 2014 to June 2015 over the corresponding period of the previous year. During April-November 2015-16, total FDI inflows of were US$34.8 billion as compared to US$27.7 billion during April-November 2014-15, showing a 26 per cent surge. The FDI equity inflows also increased from US $18.9 billion during April-November 2014-15 to US$24.8 billion during April-November 2015-16, showing a 31 per cent growth.

1.77 Development of the infrastructure sector has been a priority area for the government and has witnessed enhanced public investment. Many reforms have been initiated in the infrastructure sector, resulting in robust growth in most of the sectors. Major infrastructure sectors, namely power, road, railways, civil aviation, ports and telecommunication, have performed better during 2014-15 as compared to 2013-14. During 2014-15, electricity generation was 1048.4 billion units (BU) as against a target of 1023 BU, registering Y-O-Y growth of 8.4 per cent. Continuing with similar trends, electricity generation in the country during the current year (April–December 2015) registered a growth of 4.4 per cent. Considering the renewable energy potential of the country, the government has laid major emphasis on this sector. A total of 3030 MW of grid-connected power generation capacity from renewable energy sources like solar and wind has been added so far this fiscal (April-December), taking the cumulative generation capacity in the country to over 38,820 MW from the sources.

1.78 In Indian Railways, the freight carried shows an increase of 9.0 million tonnes during April-November 2015, over the freight

traffic of 2014-15, translating into growth of 1.3 per cent. Under the National Highways Development Project (NHDP), total length of 26, 177 km road has been completed as on 31 December 2015. Similarly, the civil aviation sector witnessed an improvement of 20.4 per cent in domestic traffic and 7.8 per cent in international passenger traffic during April-November 2015-16 over the same period of the previous year. During April-September 2015 while cargo traffic at all ports increased by 1.1 per cent, major ports reported an increase of 4.1 per cent and non-major ports a decline of 1.0 per cent as compared to the corresponding period in 2014-15. The performance of the telecommunication sector during 2015-16 has been encouraging, with approximately 33.4 million new telephone connections added during April-October 2015, which is way ahead of the 29.7 million new connections in the corresponding period of 2014-15.

Services Sector

1.79 The services sector has emerged as the most dynamic sector globally and remains the key driver of India's economic growth. The global growth of services in the post-crisis period (2010-14) at 2.5 per cent was lower than the 3.0 per cent growth in the pre-crisis period (2001-8). India's services sector growth in the pre-crisis period was 9.3 per cent which declined to 8.6 per cent in the post crisis period. The impact of the global financial crisis was more pronounced in services trade, with the Compound Annual Growth Rate (CAGR) of world commercial services exports during the post-crisis period decelerating to 6.4 per cent compared to the 15.0 per cent during the pre-crisis period. The corresponding growth for India in the pre-crisis and post-crisis periods was 30.1 per cent and 7.5 per cent respectively. In 2015, world's services trade growth was in negative territory from Q1 to Q3, and this was so for India in Q2 and Q3.

1.80 Services sector growth in India accelerated to 10.3 per cent in 2014-15 from 7.8 per cent in the previous year, on account of higher growth in services sub-sectors like trade, repair, hotels & restaurants (10.7 per cent), financial services (7.9 per cent), public administration and defence (9.8 per cent), and other services (11.4 per cent). In 2015-16, as per the AE, the services sector registered a growth of 9.2 per cent (constant prices), mainly due to the lower growth of 6.9 per cent in public administration, defence and other services vis-à-vis 10.7 per cent growth achieved in 2014-15.

1.81 The share of services in the Gross State Domestic Product (GSDP) varies across states. Out of the 23 states and union territories (UT) for which data is available for 2014-15, the services sector accounted for 87.5 per cent of Delhi's GSDP, followed by Maharashtra at 63.8 per cent, with growth rates of 8.2 per cent and 5.7 per cent respectively. On the other extreme, services sector accounted for only 30.2 per cent of the GSDP in Arunachal Pradesh in 2014-15.

1.82 In 2014-15, while total FDI equity inflows grew by 27.3 per cent to US$30.9 billion, FDI equity inflows to the services sector (top 10 services including construction) grew by a whopping 70.4 per cent to US$16.4 billion. This rising trend is continuing in the first seven months of 2015-16, with the FDI equity inflows in the services sector growing by 74.7 per cent to US$14.8 billion, while total FDI equity inflows grew by 26.1 per cent to US$27.1 billion.

1.83 India's services exports increased from US$16.8 billion in 2001 to US$155.6 billion in 2014, making the country the eighth largest services exporter in the world. The share of India's services exports in global services exports, at 3.2 per cent in 2014, is nearly double that of its merchandise exports in global merchandise exports at 1.7 per cent. Of late, India's services exports witnessed

sluggishness, much more discernible since H2 of 2014-15 with 3.7 per cent growth, which decelerated further to 0.7 per cent in H1 of 2015-16. The impact of the global slowdown on services exports is evident. Growth of net services, which has been a major source of financing India's trade deficit in recent years, decelerated to 5.0 per cent in 2014-15 from 12.4 per cent in 2013-14 and became negative at (-) 3.1 per cent in H1 of 2015-16. This was mainly due to a 17 per cent reduction in receipts from transportation services and increased payments of non-software miscellaneous services.

1.84 Foreign Tourist Arrivals (FTA) registered a growth of 10.2 per cent and there was nearly 9.7 per cent growth in Foreign Exchange Earnings (FEE) in 2014.It decelerated to 4.5 per cent in terms of FTAs and fell by 2.8 per cent in terms of FEEs in 2015.

1.85 The shipping sector has been passing through tumultuous waters in recent years. The Baltic Dry Index, a freight index and a good proxy for the robustness of trade and also an indicator of shipping services declined from 10720 in May 2008 to 747 in December 2008, but partially recovered to 2517 in May 2009. Though it picked up slightly in the following years, it has remained very low in the recent months, reaching 386 in January 2016 and has averaged 300 in February 2016 so far. This is a reflection of slowdown in India's and the world's merchandise trade as well as of overseas shipping services.

1.86 The three prominent ports-related performance indicators have shown improvement with the average turnaround time and average pre-berthing detention time falling to 2.08 days and 0.17 day respectively and the average output per ship berth day improving to 12,570 tonnes in 2015-16 (up to November 2015).

1.87 Total revenue (exports plus domestic) of the information technology and business process management (IT-BPM) sector for 2015-16 including and excluding hardware is expected at US$143 billion and US$129 billion, with growths of 8.3 per cent and 9.3 per cent respectively over the previous year. Exports including hardware and excluding hardware are likely to record 10.2 per cent growth (both) to reach US$ 108 billion and US$107.6 billion respectively. The domestic market including hardware and excluding hardware is set to grow at 2.9 per cent to reach US$35 billion (excluding e-commerce) and 4.8 per cent to reach US$ 22 billion over the previous year respectively. E-commerce growth in 2015-16 is expected at 21.4 per cent to reach US$17 billion.

1.88 Despite the slowdown, the growth prospects of the services sector are promising, as also indicated by some other estimates like the Nikkei/Markit Services PMI for India, which rose to 54.3 in January 2016 from 53.6 in December 2015, the highest reading since June 2014. A targeted policy of speedily addressing the issues in major and potential services can result in higher dividends in the form of higher services growth and services exports which in turn can help in pulling the economy to higher growth.

Social Infrastructure, Employment and Human Development

1.89 Social infrastructure like education and health is critical for improving the output productivity of the population. Lack of access to affordable and quality health and educational facilities leads to economic impoverishment and lowers potential human capabilities for many. Economic development needs to be inclusive by involving all sections of society, deprived and marginalized groups like women and children, scheduled tribes, scheduled castes, the differently abled and senior citizens. Additionally, skill gaps in various productive sectors in India are large and will require upscaling of training and skill development to maximize the benefits of

its demographic dividend and make India's development trajectory more inclusive and productive. Thus, India has to address the challenges of not just providing employment but of increasing the employability of the labour force, which is correlated to knowledge and skills developed through quality education and training along with ensuring good quality of health.

1.90 Expenditure on Social Infrastructure: Expenditure on education as a proportion of GDP has hovered around 3 per cent during the period 2008-09 to 2014-15. Similarly, there has not been any significant change in the expenditure on health as a proportion of GDP, which has remained stagnant at less than 2 per cent during the same period. However, increase in expenditure may not always be a guarantee for appropriate outcomes. The efficiency of expenses incurred so far can be assessed by the performance of various social indicators.

1.91 Progress in Education: Though India has made considerable progress in education over the years, there still persist inequalities in access and achievements across regions and populations. As per the Annual Status of Education Report (ASER 2014), the trends in enrolment reflect a decline in the percentage of enrolment in government schools from 72.9 per cent in 2007 to 63.1 per cent in rural areas (with corresponding increase in private schools enrolment), while levels of the children in class V who can read class II text declined during the same period. There has been perceptible improvement in the education of girls, with the Gender Parity Index becoming favourable at all levels of school education, except for scheduled caste students in higher education and scheduled tribe students at all levels of education, for which special efforts have to be made.

1.92 Employment Scenario: As per the fourth Annual Employment-Unemployment Survey conducted by the Labour Bureau during the period January 2014 to July 2014, the Labour Force Participation Rate (LFPR) (usual principal status) is 52.5 for all persons. The LFPR of women is significantly lower than that of males in both rural and urban areas. The Worker Population Ratio (WPR) reflects similar patterns. Female participation in the labour force and employment rates are affected by economic, social and cultural issues and unpaid work by women remain unaccounted for by the conventional employment surveys. A notable aspect of the employment situation in India is the large share of informal employment and growth in informal employment in the organized sector. The share of informal employment in total employment has remained above 90 per cent throughout the period 2004-05 to 2011-12. The informal sector has to be given due attention in order to achieve the stated development objectives. In a major initiative for bringing compliance in the system, the central and state governments have initiated reforms in the labour markets.

1.93 Skill Development: At present there is preponderance of unskilled workers in India, mainly engaged in less productive informal sectors. According to the NSDC (National Skill Development Corporation), there is a severe quality gap and lack of availability of trainers in the vocational education and training sector. By 2017, the skill gap within the vocational training sector including both teachers and non-teachers will be to the tune of 211,000. The workforce requirement is projected to increase to 320,000 by 2022. The government has to invest in bridging the skill gap in the vocational education and training sector to improve the employability of people. A multipronged policy approach to enable skill development (including but not limited to initiatives such as setting up of SSCs (Sector Skill Councils), definition of Occupation Standards, definition of NSQF (National Skills Qualification Framework) funding initiatives such as the Standard

Training and Assessment Reward (STAR) scheme are likely to create a widespread positive impact on the skills ecosystem in India. Besides, under the Pradhan Mantri Kaushal Vikas Yojana aiming to offer 24 lakh Indian youth meaningful, industry-relevant, skill-based training, 4.38 lakh persons have successfully completed training throughout India.

1.94 Health and Sanitation: There are innumerable challenges in the delivery of efficient health services in India given the paucity of resources and the plethora of requirements in the health sector. According to the World Bank's Universal Health Coverage (UHC) Index 2015, India's level of immunization is very low. High-risk patients like children and pregnant women require special preventive health care services. With the aim of covering all those children who are either unvaccinated, or are partially vaccinated, against seven vaccine-preventable diseases by 2020, Mission Indradhanush was launched in December 2014 and has covered 352 districts of the country so far.

1.95 Health is closely related to sanitation and a hygienic environment. The progress in sanitation has witnessed a spurt since the launch of the Swachh Bharat Mission. More than 122 lakh toilets have already been constructed in rural areas since the beginning of the Swachh Bharat Mission (Gramin). It is also imperative that the constructed toilets are maintained and utilized by the beneficiaries to reap the benefits of the Swachh Bharat Mission. In order to improve availability of drinking water in rural areas, the National Rural Drinking Water Programme initiated a new World Bank-supported project named the Rural Water Supply and Sanitation Project–-Low Income States.

1.96 Poverty: Poverty estimates based on the Tendulkar Committee methodology using household consumption expenditure survey data collected by the NSSO in its 68th round (2011-12), show that the incidence of poverty declined from 37.2 per cent in 2004-5 to 21.9 per cent in 2011-12 for the country as a whole, with a sharper decline in the number of rural poor. The high rural poverty can be attributed to lower farm incomes due to subsistence agriculture, lack of sustainable livelihoods in rural areas, impact of rise in prices of food products on rural incomes, lack of skills, underemployment and unemployment.

1.97 Technology for Efficient Delivery of Services: Technology will play a crucial role as an enabler of inclusiveness and provider of efficient services by preventing leakages. The government has introduced the game-changing potential of technology-enabled Direct Benefits Transfers (DBT), namely the JAM (Jan Dhan-Aadhaar-Mobile) Number Trinity solution, which offers possibilities for effectively targeting public resources to those who need them most, and including all those who have been deprived in multiple ways. The progress is already evident with overhauling of the subsidy regime and moving to Aadhaar- based DBT. It is paving way for expenditure rationalization and is ensuring the removal of, so far undetected, fake and duplicate entities from the beneficiary lists, resulting in substantial savings of public money for giving renewed focus on social welfare schemes.

Climate Change and Sustainable Development

1.98 The year 2015 witnessed two landmark international events. The historic climate change agreement under the United Nations Framework Convention on Climate Change (UNFCCC) was adopted by 195 nations in Paris in December 2015, with the aim of keeping the rise in global temperature well below 2°C, which will set the world towards a low carbon, resilient and sustainable future. The world also witnessed the adoption of the Sustainable Development Goals (SDGs) in September 2015 which replace the

Millennium Development Goals (MDGs) and set the development agenda for the next 15 years with the aim of guiding the international community and national governments on a path of sustainable development.

1.99 Placing emphasis on concepts like climate justice and sustainable lifestyles, the Paris agreement seeks to enhance the 'implementation of the Convention' while reflecting the principles of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances. Further, the Agreement is not mitigation-centric and covers all crucial areas identified as essential for a landmark conclusion, including adaptation, loss and damage, finance, technology, capacity building and transparency of action and support. To achieve the long-term temperature goal of keeping the increase below 2°C, parties in the Agreement aim to reach global peaking of greenhouse gas as soon as possible while noting that developing countries will take longer to peak their emissions. The agreement also establishes a framework for global stocktaking to assess the collective action towards achieving the long-term goals mentioned in the agreement.

1.100 The Agreement provides binding obligation for developed countries to provide financial resources to developing countries for both mitigation and adaptation while encouraging other countries to provide support on voluntary basis. It reaffirms that developed countries will take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds. The decision also sets a new collective quantified goal from a floor of US$100 billion per year prior to 2025 , taking into account the needs and priorities of developing countries. Pre-2020 actions are also part of the decisions. The Agreement also called upon developed countries to scale up their level of financial support with a complete road map for achieving the goal of jointly providing US$100 billion by 2020 for mitigation and adaptation, by significantly increasing adaptation finance from current levels and to further provide appropriate technology and capacity building support.

1.101 The United Nations General Assembly (UNGA) in its 17th session in September 2015 announced a set of 17 SDGs and 169 targets which will stimulate action over the next 15 years. This set of goals replaces the MDGs which were coming to an end in 2015 and aims to work on the areas which could not be completed earlier. The agenda highlights poverty eradication, combating inequalities, promoting gender equality and the empowerment of women and girls as the ambient goal and has at its core the integration of the economic, social and environmental dimensions of sustainable development. This also calls for an invigorated global partnership for sustainable development, including multi-stakeholder partnerships, in addition to enhancing capacities of stakeholders in better quality measurement and compilation of data or information on sustainable development.

1.102 Domestically, many initiatives have been taken by India on climate change and sustainable development. India has submitted ambitious targets in its Intended Nationally Determined Contribution (INDC) in the renewable energy sector, mainly from solar and wind energy. With a potential of more than 100 GW, the aim is to achieve a target of 60 GW of wind power as well as 100 GW of solar power installed capacity by 2022. India's INDC is comprehensive and covers all elements, i.e. adaptation, mitigation, finance, technology and capacity building. The country's goal is to reduce overall emission intensity and improve energy efficiency of its economy over time, at the same time protecting the vulnerable sectors and segments of the economy and society. The principle of equity and

Common but Differentiated Responsibilities (CBDR), historical responsibilities and India's development imperatives, enhanced adaptation requirements, etc. have been a recurring theme in the INDC document. India's INDC has been welcomed as fair and ambitious specifically on renewable energy and forestry sector.

1.103 India has also taken the initiative of setting up an International Solar Alliance (ISA), an alliance of 121 solar-resource-rich countries, lying fully or partially between the Tropic of Cancer and Tropic of Capricorn. This alliance was jointly launched by the Prime Minister of India and President of France on 30 November 2015 at Paris, on the sidelines of the 21st Conference of Parties to the UNFCCC. The Paris declaration on the ISA states that the countries share the collective ambition to undertake innovative and concerted efforts for reducing the cost of finance and technology for immediate deployment of competitive solar generation and to pave the way for future solar generation, storage and good technologies for countries' individual needs.

1.104 Successful implementation of the Paris Agreement, SDGs and the ambitious targets set out in the INDCs would require huge financing which cannot be met through budgetary sources alone. In this context it is important that the issue of mobilization and tracking of finance, with increased importance to adaptation and clean technology is adequately addressed.

02 CHAPTER

Public Finance

Financial year 2015-16 ushered in a new era of 'co-operative federalism with shared responsibilities' and more coordinated efforts between the centre and states for achieving development goals, following the recommendations of the 14th Finance Commission. The General Budget 2015-16 was presented in a more stable economic environment as compared to the just preceding years, with the economy showing signs of revival of growth. Against this background, the fiscal policy for 2015-16 was calibrated with three main objectives: first, to amplify the growth revival with greater emphasis on public investment at a time when private investment was understandably lean; second, to institutionalize the changing structure of cooperative federalism; and third, to continue the commitment to fiscal consolidation.

2.2 Budget 2015-16 sought to achieve the delicate equilibrium between the concerns of stirring growth, accommodating the resource transfer that greater fiscal federalism entailed and ensuring fiscal consolidation. This was intended to be achieved through higher capital expenditure, greater net resource transfers to states, higher gross tax revenues and expenditure rationalisation. The Budget also signalled government's intent on fiscal consolidation with respect to all major deficit indicators (Table 2.1), albeit with a revised medium-term framework that opted for shifting the fiscal deficit target of 3 per cent of the GDP by one year, from 2016-17 to 2017-18. Accordingly, the envisaged fiscal deficit to GDP targets were 3.9 per cent in 2015-16, 3.5 per cent in 2016-17 and 3.0 per cent in 2017-18.

Table 2.1 Major Fiscal Indicators of the Centre

Fiscal Indicator	2012-13	2013-14	2014-15 P	2015-16 BE	2012-13	2013-14	2014-15 P	2015-16 BE
	₹ lakh crore				Per cent of GDP			
Revenue receipts	8.8	10.1	11.0	11.4	8.8	9.0	8.8	8.1
Gross tax revenue	10.4	11.4	12.5	14.5	10.4	10.1	10.0	10.3
Net tax to centre	7.4	8.2	9.0	9.2	7.5	7.2	7.2	6.5
Total expenditure	14.1	15.6	16.4	17.8	14.2	13.8	13.2	12.6
Revenue expenditure	12.4	13.7	14.6	15.4	12.5	12.2	11.7	10.9
Capital expenditure	1.7	1.9	1.9	2.4	1.7	1.7	1.5	1.7
Revenue deficit	3.6	3.6	3.6	3.9	3.7	3.2	2.9	2.8
Fiscal deficit	4.9	5.0	5.0	5.6	4.9	4.5	4.0	3.9
Primary deficit	1.8	1.3	1.0	1.0	1.8	1.1	0.8	0.7

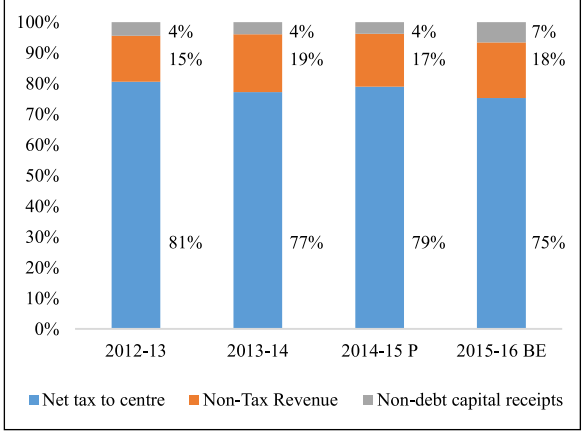
Source: **Budget documents, Controller General of Account (CGA) and Central Statistical Office (CSO).**

Note: **BE is budget estimates P : Provisional**

Trends in Receipts

2.3 Central government receipts can broadly be divided into non-debt and debt receipts. The non-debt receipts comprise tax revenue, non-tax revenue, recovery of loans and disinvestment receipts, whereas debt receipts mostly consist of market borrowings and other liabilities, which the government is obliged to repay in the future. The composition of non-debt receipts is plotted in Figure 2.1. The decline in share of net tax revenue to the centre in non-debt receipts 2015-16 is mainly on account of the implementation of the 14th Finance Commission (FFC) recommendations that advocated higher tax devolution to the states for fostering fiscal federalism.

Figure 2.1: Composition of Non-debt Receipts (per cent)



Source: **Budget documents & CGA**

Tax Revenue

2.4 Fiscal consolidation entails revenue augmentation and expenditure rationalization. In the post-FRBMA (Fiscal Responsibility and Budget Management Act 2003) period from 2004-5 to 2007-8, significant fiscal consolidation could be achieved largely due to buoyant tax revenues with net tax revenue to the centre increasing by 1.9 percentage points of GDP. Fiscal consolidation was paused post the financial crisis that led to tax concessions and higher public expenditure, as part of the growth revival strategy and this probably continued somewhat longer than required.

2.5 Budget 2015-16 envisaged a growth of 15.8 per cent in gross tax revenue (GTR) over the revised estimates (RE) of 2014-15. GTR was estimated to be ₹14.49 lakh crore for 2015-16 (Table 2.2), which was 10.3 per cent of GDP (Figure 2.2). The growth in GTR was estimated to be led by a 19.5 per cent growth in indirect taxes (IDT), as against a 13.1 per cent growth envisaged in direct taxes (DT). Roughly 54 per cent of the GTR was estimated to accrue from direct taxes and the remaining 46 per cent from indirect taxes (Figure 2.3).

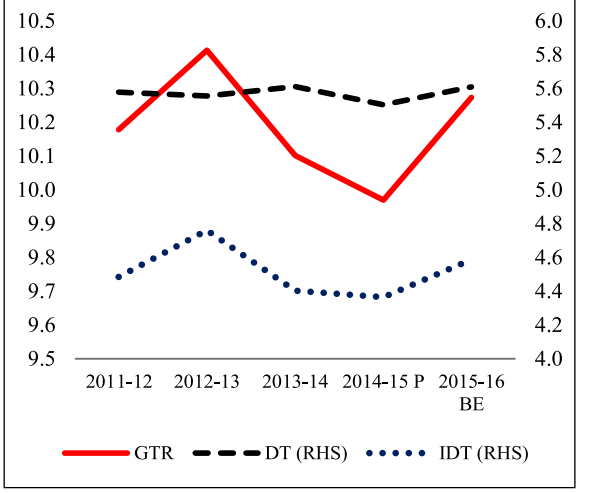
Table 2.2: Sources of GTR (₹ lakh crore)

	2011-12	2012-13	2013-14	2014-15 P	2015-16 BE
GTR	8.89	10.36	11.39	12.45	14.49
CT	3.23	3.56	3.95	4.29	4.71
IT	1.64	1.97	2.38	2.58	3.21
CD	1.49	1.65	1.72	1.88	2.08
UED	1.45	1.76	1.69	1.89	2.29
ST	0.98	1.33	1.55	1.68	2.10

Notes: GTR=gross tax revenue CT= corporation tax IT= income tax UED= union excise duty CD=custom duty ST= service tax

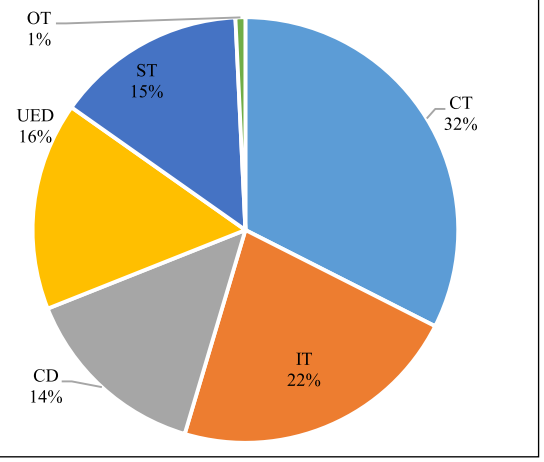
Source: **Budget documents and CGA.**

Figure 2.2: Tax Revenue as Per Cent of GDP



Source: **Budget documents, CGA and CSO.**

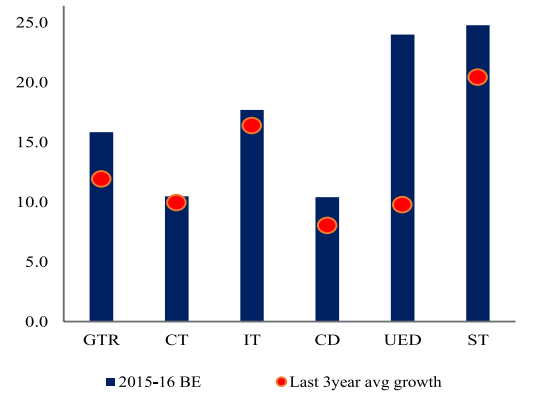
Figure 2.3: Contribution of Different Taxes in GTR in 2015-16 BE



Source: **Budget 2015-16.**

2.6 The rates of growth of tax revenues envisaged in the budget estimates (BE) of 2015-16 over RE 2014-15 might have initially looked optimistic, especially for indirect taxes, partly because the targeted growth in tax revenue was much higher than the average growth registered in the preceding three years (Figure 2.4). The performance of indirect taxes in the first nine months of 2015-16 indicates that the budget estimates are likely to be achieved and possibly exceeded, partly on account of measures taken by the government to enhance revenue by raising excise duty on petroleum products. Boxes 2.1 and 2.2 enumerate the other major measures initiated on both indirect and direct taxes in 2015-16.

Figure 2.4: Growth in Tax Revenue (per cent)



Source: **Budget documents & CGA.**

Box 2.1: Indirect Tax Measures in 2015-16

A. Customs

Reduction in duty on certain inputs to address the problem of' duty inversion: Metal parts for use in the manufacture of electrical insulators; ethylene-propylene-non-conjugated-Diene Rubber (EPDM), water blocking tape and Mica glass tape for use in the manufacture of insulated wires and cables; magnetron upto 1 KW for use in the manufacture of microwave ovens; C- Block for compressor, over load protector & positive thermal co-efficient and Crank Shaft for compressor, for use in the manufacture of Refrigerator compressors; zeolite, ceria zirconia compounds and cerium compounds for use in the manufacture of washcoats, which are further used in manufacture of catalytic converters; anthraquinone for manufacture of hydrogen peroxide; Sulphuric acid for use in the manufacture of fertilizers.

Reduction in Basic Customs Duty to reduce the cost of raw materials: ethylene dichloride, vinyl chloride monomer and styrene monomer from 2.5 per cent to 2 per cent; isoprene and liquefied butanes from 5 per cent to 2.5 per cent; butyl acrylate from 7.5 per cent to 5 per cent; ulexite ore from 2.5 per cent to Nil; antimony metal, antimony waste and scrap from 5 per cent to 2.5 per cent; specified components for use in the manufacture of specified CNC lathe machines and machining centers from 7.5 per cent to 2.5 per cent; certain specified inputs for use in the manufacture of flexible medical video endoscopes from 5 per cent to 2.5 per cent; HDPE for use in the manufacture of telecommunication grade optical fibre cables from 7.5 per cent to Nil per cent; black light unit module for use in the manufacture of LCD/LED TV panels from 10 per cent to Nil; organic LED TV panels from 10 per cent to Nil; CVD and SAD are being fully exempted on specified raw materials for use in the manufacture of pacemakers; evacuated tubes with three layers of solar selective coating for use in the manufacture of solar water heater and system to Nil; active energy controller for use in the manufacture of Renewable Power System Inverters to 5 per cent, subject to certification by MNRE; parts, components and accessories for use in the manufacture of tablet computers and their sub-parts for use in manufacture of parts, components and accessories were fully exempted from BCD, CVD and SAD.

Reduction in SAD to address the problem of CENVAT credit accumulation: all goods [except populated PCBs], falling under any chapter of the Customs Tariff, for use in manufacture of IT A bound goods from 4 per cent to Nil; naphtha, ethylene dichloride, vinyl chloride monomer and styrene monomer for manufacture of excisable goods from 4 per cent to 2 per cent; metal scrap of iron & steel, copper, brass and aiuminiurn from 4 per cent to 2 per cent; inputs for use in the manufacture of LED drivers and MCPCB for LED lights, fixtures and LED lamps from 4 per cent to Nil.

Increase in Basic Customs Duty: metallurgical coke from 2.5 per cent to 5 per cent; tariff rate on commercial vehicles from 10 per cent to 40 per cent and effective rate from 10 per cent to 20 per cent. However, customs duty on commercial vehicles in completely knocked down kits and electrically operated vehicles including those in CKD condition will continue to be at 10 per cent.

B. Excise

Excise duty structure on certain goods was restructured as follows: mobiles handsets, including cellular phones from 1 per cent without CENVAT credit or 6 per cent with CENVAT credit to 1 per cent without CENV AT credit or 12.5 per cent with CENVAT credit; tablet computers from 12 per cent to 2 per cent without CENVAT credit or 12.5 with CENVAT credit; specified raw materials for use in the manufacture of pacemakers to Nil; wafers for use in the manufacture of integrated circuit (1 C) modules for smart cards from 12 per cent to 6 per cent; inputs for use in the manufacture of LED drivers and MCPCB for LED lights, fixtures and LED lamps from 12 per cent to 6 per cent; duty on Pig iron SO grade and Ferro-silicon-magnesium for use in the manufacture of cast components of wind operated electricity generators reduced to Nil, subject to certification by MNRE; solar water heater and system from 12 per cent to Nil without CENVAT credit or 12.5 per cent with CENVAT credit; round copper wire and tin alloys for use in the manufacture of Solar PV ribbon for manufacture of solar PV cells to Nil subject to certification by Department of Electronics and Information Technology.

Reduction in number of levies: Education cess and secondary & higher education cess on excisable goods were subsumed in Basic Excise duty.

Improving the quality of life and public health through Swachh Bharat initiatives: Increase in the clean energy cess levied on coal, lignite and peat from Rs. 100 per tonne to Rs.200 per tonne; extension upto 31.03.2016 of the concessional customs and excise duty rates on specified parts of electrically operated vehicles and hybrid vehicles; increase in excise duty on sacks and bags of polymers of ethylene other than for industrial use from 12 per cent to 15 per cent.

C. Measures post-Budget 2015-16 (Excise and Customs)

- Basic customs duty on specified steel goods was increased to 10 / 12.5 per cent.
- Anti-dumping duty and safeguard duty was imposed on specified goods.
- Basic customs duty and excise duty was exempted on specified bunker fuels for use in Indian Flag vessels for carrying export-import containers, empty containers and domestic containerized cargo.
- Excise duty was exempted on RBD Palm Stearin, Methanol and Sodium Methoxide for use in the manufacture of specified biodiesel for a period upto 3l.03 .20 16.
- Basic customs duty was increased on sugar from 15 per cent to 25 per cent which was later increased to 40 per cent.
- Excise duty was exempted on ethanol produced from molasses generated from cane crushed in the sugar season 2015-16 i.e. 1st October, 2015 onwards, for supply to the specified public sector oil marketing companies, for the purposes of blending with petrol. Also, input tax credit was allowed to manufacturers of such exempted ethanol.
- Basic customs duty was increased on crude edible oils (of vegetable origin) from 7.5 per cent to 12.5 per cent and refined edible oils (of vegetable origin) from 15 per cent to 20 per cent.
- Basic customs duty was increased on ghee, butter and butter oil from 30 per cent to 40 per cent for a period up to and inclusive of the 31 st day of March, 2016.
- Basic customs duty of 10 was imposed on wheat which was later increased to 25 per cent for a period up to 31.03.2016.
- CVD and SAD exemptions available to specified defence supplies were withdrawn. Exemption from excise duty available to defence PSUs and ordnance factories was withdrawn.

Contd....

D. Service tax

- Education cess and secondary & higher education cess on taxable services were subsumed in Service tax with effect from 01.06.2015.
- Registration in service tax to be granted within two working days.
- Time limit for taking CENVAT credit of duty/tax paid on inputs and input services was extended from six months to one year.
- For availing CENVAT credit of service tax paid under reverse charge mechanism, the condition of having made the payment of consideration to the service provider was done away with.
- Penalty provisions in service tax were rationalized to encourage compliance and early dispute resolution.
- Service tax assesses were allowed to issue digitally signed invoices and maintain other records electronically.
- Instructions were issued providing for withdrawal of prosecution where a notice was exonerated in quasi-judicial proceedings and such order has attained finality.
- If the export proceeds are not received within the prescribed time period, the exporter would have to reverse the Cenvat Credit. Re-credit of such reversed Cenvat credit was allowed, if such export proceeds are received within one year from the specified period.
- Uniform abatement of 70 per cent from gross value prescribed for transport by rail, road and vessel.
- Restrictions were placed on exemption on specified services of construction, repair, maintenance, renovation or alteration service provided to the Government, a local authority, or a governmental authority.
- Exemption to construction, erection, commissioning or installation of original works pertaining to an airport or port is being withdrawn.
- Exemption to services provided by a performing artist in folk or classical art form of music, or dance, or theatre, would be limited only to such cases where amount charged is upto Rs 1,00,000 for a performance.
- Exemption to transportation of food stuff by rail, or vessels or road would be limited to food grains including rice and pulses, flour, milk and salt. Transportation of agricultural produce is separately exempt.
- Exemptions are being withdrawn on services provided by a mutual fund agent to a mutual fund or assets management company, distributor to a mutual fund or AMC, selling or marketing agent of lottery ticket to a distributor.
- Services by common affluent treatment plants were exempted.
- Certain pre-cold storage services relating to fruits and vegetables were exempted.
- Service provided by way of admission to museum, zoo, national park, wild life sanctuary and a tiger reserve was exempted.
- The negative list entry that covers "admission to entertainment event or access to amusement facility" was omitted.
- Service tax would be levied on services by way of admission to entertainment event of concerts, pageants, musical performances concerts, award functions and sporting events other than the recognized sporting event, if the amount charged is more than Rs. 500 for right to admission to such an event.
- The entry in the negative list was pruned to exclude services related to carrying out production or manufacture of alcoholic liquor for human consumption.

E. Service Tax: post-Budget 2015-16

- Service tax on Pradhan Mantri Suraksha Bima Yojna, Pradhan Mantri Jeevan Jyoti Bima Yojana; Pradhan Mantri Jan Dhan Yogana; and on services by way of collection of contribution under Atal Pension Yojana were exempted.
- Specified services under Power System Development Fund Scheme were exempted.
- In the case of good transport service, a single composite service need not be broken into its components and considered as constituting separate services, if it is provided as such in the ordinary course of business.
- The service tax payable under section 66B of the Finance Act, 1994, on the service provided by an Indian bank or other entity acting as an agent to the MTSO in relation to remittance of foreign currency from outside India to India, in from the 1st day of July, 2012 and ending with the 13th day of October, 2014, but for the said practice, shall not be required to be paid.
- Charitable activities on advancement of yoga provided by an entity registered under Section 12 AA of the Income Tax Act were exempted.

Contd....

- Specified services provided by Business Facilitators/Business Correspondents with respect to a Basic Saving Bank Deposit were exempted.
- Detailed guidelines were issued for speedy disbursal of pending refund claims of exporters of services under rule 5 of the CENVAT Credit Rules, 2004.
- Swachh Bharat Cess was imposed at the rate of 0.5 per cent on all services, which are presently liable to service tax with effect from 15th November 2015 and not otherwise exempt or in the negative list.
- Distinct nature of manpower supply services/ service of job work were clarified.

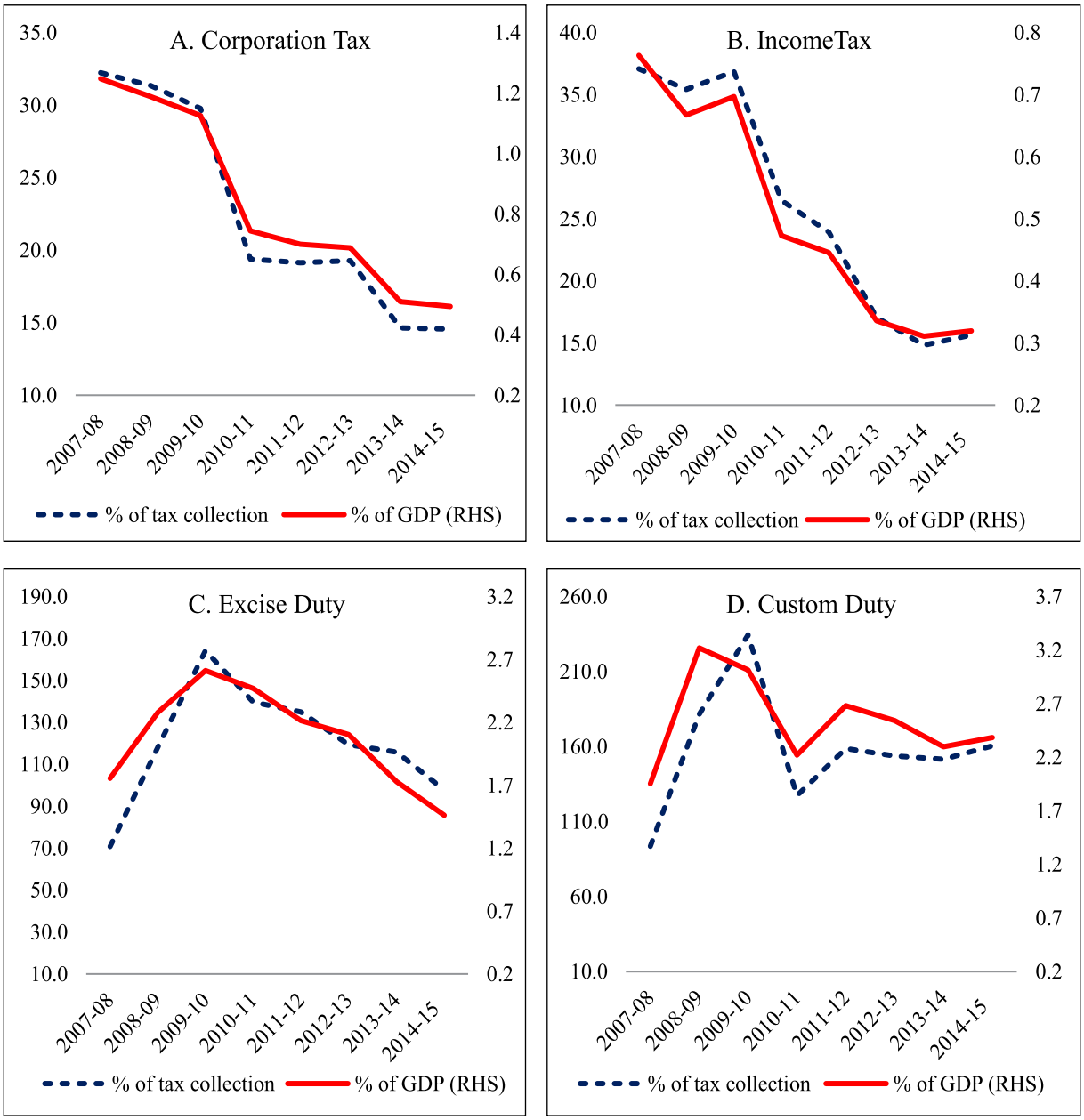
Box 2.2: Direct Tax Measures in 2015-16

- The levy of wealth tax was abolished and replaced it with an additional surcharge of 2 on the super-rich with a taxable income of over Rs 1 crore.
- Investment in Sukanya Samriddhi Scheme was made eligible for deduction u/s 80C of the Income Tax Act, 1961 (the Act).
- The limit of deduction u/s 80D of the Act was increased from ₹ 15,000/- to ₹ 25,000/- on health insurance premium (in case of senior citizen from ₹ 20,000/- to ₹ 30,000/-).
- The limit of deduction in their case u/s 80DDB of the Act was increased from Rs 60,000/- to Rs. 80,000/- in respect of expenditure on account of specified diseases.
- The limit of deduction u/s 80DD and 80U of the Act was increased from ₹ 50,000/- to ₹ 75,000/- in case of disability and from ₹ 1 lakh to ₹ 1.25 lakh in case of severe disability.
- An additional deduction of ₹ 50,000 was provided for contribution to the New Pension Scheme under Section 80CCD over and above the limit of ₹ 1.5 lakh.
- Exemption limit of transportation allowance was increased from ₹ 800 per month to ₹ 1600 per month to any employee and from ₹ 1600 to ₹ 3200 in case of an employee who is blind, orthopedically handicapped and, deaf and dumb.
- Deduction u/s 80JJAA of the Act was extended to all assesses, hitherto available only to companies along with the reduction in eligibility threshold of minimum hundred workmen to fifty.
- Pass through status was provided to Category-I and Category-II Alternative Investment Funds governed by the regulations of Securities and Exchange Board of India.
- To facilitate relocation of fund managers of offshore funds in India, the permanent establishment norms were modified.
- The rate of tax on royalty and fees for technical services was reduced from 25 per cent to 10 per cent.
- The indirect transfer provisions were modified to provide clarity regarding its applicability.
- The residency requirement regarding companies incorporated outside India was modified.
- Yoga was included as a specific category of activity in the definition of 'charitable purpose'.
- The period of applicability of reduced rate of tax at 5 per cent on income of foreign investors (FII and QFI) from corporate bonds and government securities was extended from 31.5.2015 to 30.06.2017.
- An additional investment allowance to new manufacturing units set-up during the period 01.04.2015 to 31.03.2020 in notified backward areas of the states of Andhra Pradesh, Bihar, Telangana and West Bengal was provided.
- The scope of reporting of foreign remittances was expanded.
- The scope of TDS on interest on bank deposits was expanded by bringing the interest on recurring deposits within the ambit of TDS.
- The facility for filing self-declaration for certain Insurance payments was provided.
- Tax neutrality on transfer of units on merger of similar schemes of a Mutual Fund was provided.
- Mechanisms to prevent tax disputes and to provide speedy disposal was strengthened. Scope of advance rulings and settlement of cases was further broadened.
- Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act 2015 was enacted and Rules thereunder have been notified.
- For collection of Information in non-intrusive manner third party reporting mechanism was broadened and strengthened. Norms for Mandatory Quoting of PAN were also rationalized and broadened.

Tax Expenditure

2.7 The divergence between the statutory tax rate and effective tax rate (defined as the ratio of total tax revenue collected to the aggregate tax base) is mainly on account of tax exemptions. Tax expenditure is also termed as 'revenue forgone', but it does not necessarily imply that this quantum of revenue has been waived by the government. It should be interpreted as targeted incentives for the promotion of certain sectors that may not, in the absence of such incentives, have come up. Arguably, high tax expenditure can make the tax system unduly complex. Tax expenditures have been brought down significantly as a result of simplification of the tax system and improvements in tax administration in recent years (Figure 2.5).

Figure 2.5: Tax Expenditure as Per Cent of Tax Collection under Respective Heads and as Per Cent of GDP



Source: Statement of Revenue Foregone, Budget documents and CSO.
Note : Numbers for 2014-15 are projected.

Non-Tax Revenue

2.8 Non-tax revenue mainly consists of interest and dividend receipts, external grants and receipts from services provided by the central government which include fiscal services like currency and mint, general services like the Union Public Service Commission police, etc.; social services like education, health, etc. and economic services like irrigation and transportation. The Budget for 2015-16 envisaged generation of ₹ 2.22 lakh crore (Table 2.3) from non-tax revenue, which was 1.6 per cent of GDP and constituted 18 per cent of non-debt receipts.

Table 2.3: Trend in Non-tax Revenue (₹crore)

	2013-14	2014-15 P	2015-16 BE
Interest receipts	21868	24265	23599
Dividend and profit	90435	89912	100651
External grants	3618	1268	1774
Others	81475	80209	94413
Receipts of UTs	1474	1305	1296
Total	**198870**	**196959**	**221733**

Source: **Budget documents and CGA.**

Non-Debt Capital Receipts

2.9 Non-debt capital receipts mainly consist of recovery of loans and advances, and disinvestment receipts. The share of recovery of loans has been declining in non-debt capital receipts mainly because of the 12th Finance Commission's recommendation against loan intermediation from the centre to states, and allowing the states to directly borrow from the market. The Budget for 2015-16 placed non-debt capital receipts at ₹80,253 crore, comprising ₹10,753 crore of recovery of loans and ₹ 69,500 crore of other receipts (mainly disinvestment).

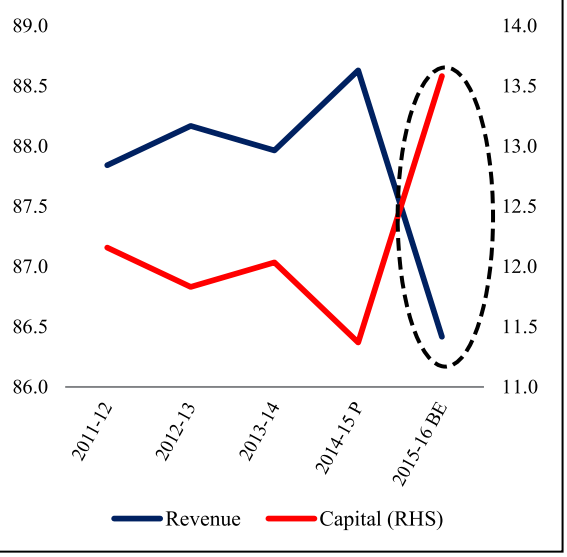
Trends in Expenditure

2.10 Rationalization and reprioritization of public expenditure is integral to fiscal reforms. In particular, it is a challenge to attain fiscal consolidation while ensuring that sufficient funds are allocated for public investment, in the face of low tax to GDP ratio. Therefore, improving the quality of expenditure becomes central to achieving sustained fiscal consolidation.

Quality of Expenditure

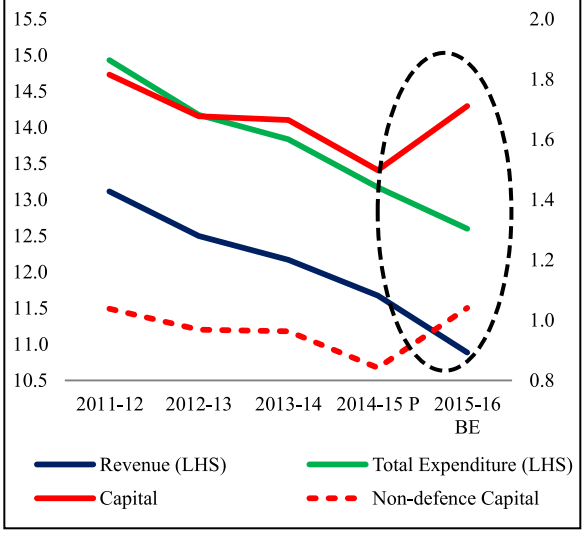
2.11 The Budget for 2015-16 estimated a total expenditure at ₹17.77 lakh crore, which was 5.7 per cent higher than the 2014-15 RE and 8.1 per cent higher than the provisional estimates (P) of 2014-15. Within this, the expected growth in capital expenditure was 25.5 per cent and growth in revenue expenditure was 3.2 per cent over RE 2014-15. Underlining the need for greater public investment to aid growth revival, Budget 2015-16 ensured a higher share for capital expenditure from the total pool of expenditure (Figure 2.6). As a proportion of GDP, total capital expenditure and non-defence capital expenditure were both raised by more than 0.2 percentage points of GDP (Figure 2.7). Budget 2015-16 sought to achieve the proposed expansion of capital expenditure on railways, roads and others without compromising defence capital expenditure.

Figure 2.6: Revenue and Capital expenditure as per cent of total expenditure



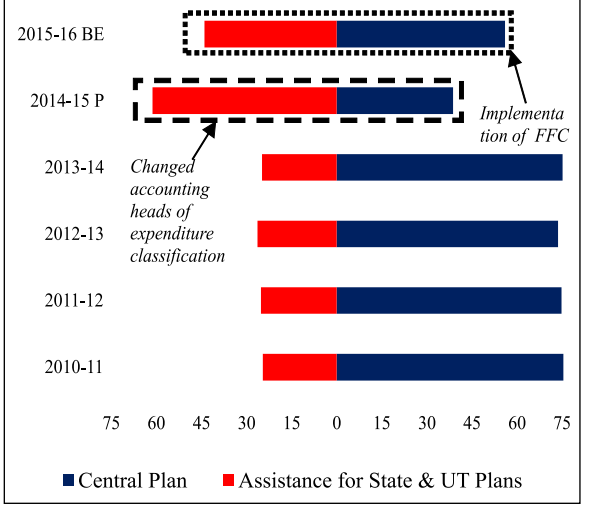
Source: **Budget documents and CGA**

Figure 2.7: Revenue and Capital expenditure as per cent of GDP



Source: **Budget documents, CGA and CSO.**

Figure 2.8: Share of Central Plan and Central Assistance for State and UT Plans in of Total Plan Expenditure (Per Cent)



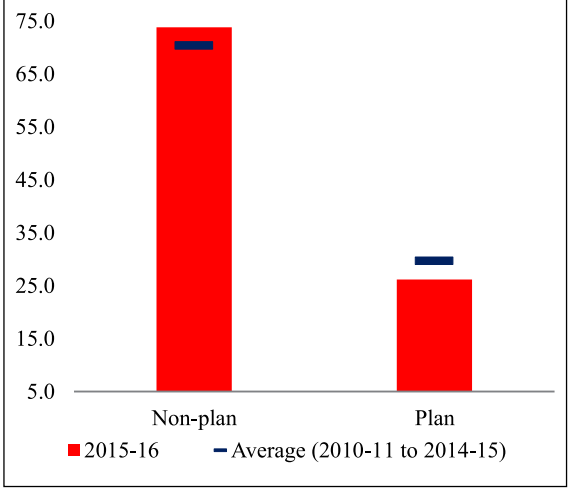
Source: **Budget documents and CGA.**

Plan Expenditure

2.12 Two major developments that took place in two consecutive years transformed the whole plan expenditure regime. First, in the Budget for 2014-15, the centrally sponsored schemes were restructured and reclassified into 66 programmes for greater synergy and effective implementation. CSS funds are released as central assistance to state plans and also routed through the states' budgets. This provides greater autonomy, authority and responsibility to the states in implementation of schemes. As a result, central assistance to the plans of states and union territories (UT) recorded a significant increase in 2014-15(P) (Figure 2.8).

2.13 Second, there was a readjustment in the manner of allocation of plan funds to the states in the Budget for 2015-16 following the acceptance of major recommendations of FFC. The FFC had recommended allocation of greater resources to states through the automatic route by increasing the states' share in the divisible pool of taxes from 32 per cent to 42 per cent, and counterbalancing this increase in devolution by curtailing the resources transferred under central plan assistance to the states and by changing the expenditure-sharing pattern. These developments translated into a decline in central assistance to the states (Figure 2.8) and also led to a decline in the share of plan expenditure in 2015-16 (BE) vis-à-vis the average of shares during 2010-11 to 2014-15 (Figure 2.9). However, there has been an increase in overall resource transfer to states as discussed later in the chapter.

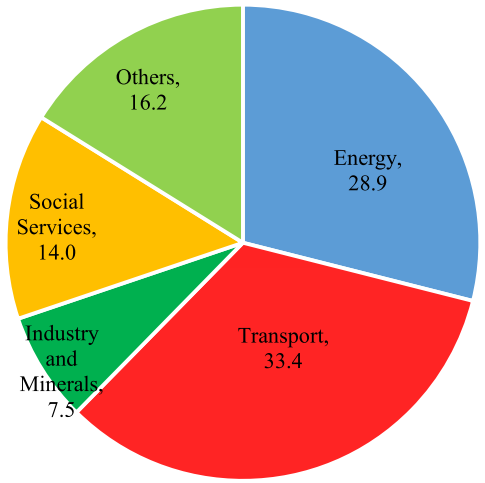
Figure 2.9: Plan and Non-plan Expenditure of the Centre as Per Cent of Total Expenditure



Source: **Budget documents and CGA.**

2.14 Given the change in the pattern of plan expenditure, the budget did well to allocate a plan outlay of ₹4.65 lakh crore in 2015-16 (₹2.60 lakh crore for central plan and ₹2.05 lakh crore for central assistance to states and UTs) as against ₹4.54 lakh crore in 2014-15 (P). Furthermore, the broad sector-wise allocations of central plan outlay (gross budgetary support to central plan plus internal and extra-budgetary resources of the central public sector enterprises) indicate that transport, energy, social services and industry and minerals together constituted roughly 84 per cent of the BE of 2015-16 (Figure 2.10).

Figure 2.10: Central Plan Outlay by Sectors in BE 2015-16 (in per cent)

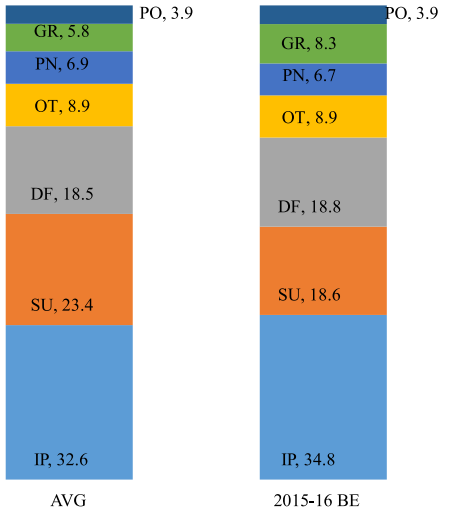


Source: **Budget documents and CGA.**

Non-plan Expenditure

2.15 Non-plan expenditure constituted 73.8 per cent of the total expenditure in BE 2015-16, which is 3 percentage points higher than the average of the last five years ending 2014-15. Out of the total non-plan expenditure of ₹13.12 lakh crore in BE 2015-16, revenue expenditure accounted for around 92 per cent; the remaining 8 per cent was mainly defence capital expenditure. Second, the share of committed expenditure (interest payment and pension) was roughly 41.5 per cent as against the last five years' (ending 2014-15) average of approximately 38.6 per cent (Figure 2.11).

Figure 2.11: Composition of Non-plan Expenditure (in per cent)



Source: **Budget documents and CGA.**

Note:

IP=Interest payment DF=Defence
SU=Subsidies PO=Police
PN= Pension OT=Others
GR=Grants to states and UTs
AVG= Average of last five year ending to 2014-15.

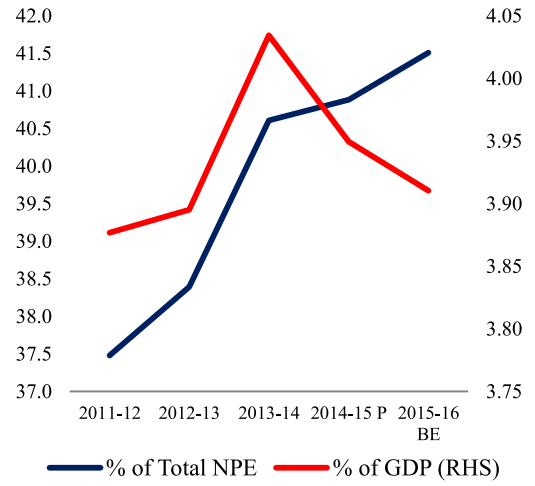
2.16 One of the major constraints in the rationalization of non-plan expenditure is committed expenditure. Committed expenditure occurs on two counts: first, interest liability on debt incurred in the past, and second, pension payment to superannuated/retiring workforce from government services. BE 2015-16 estimated committed expenditure at ₹5.45 lakh crore, as against ₹4.87 lakh crore in 2014-15(P) (Table 2.4). The share of committed expenditure in total non-plan expenditure (NPE in Figure 2.11) has been constantly increasing, but it started declining post 2013-14 as a per cent of the GDP and BE 2015-16 estimated a decline to 3.86 per cent of the GDP, from 3.90 per cent in 2014-15 (Figure 2.11). The diverging trends in committed expenditure seen under two different indicators (Figure 2.12a) are also the result of rationalization in other categories of non-plan expenditure. For example, the decline in the subsidy bill increased the relative share of committed expenditure in non-plan expenditure.

Table 2.4: Committed Expenditure (₹ crore)

	2013-14	2014-15 P	2015-16 BE
Interest payments	374254	404019	456145
Pensions	74896	82954	88521
Total	**449150**	**486973**	**544666**

Source: **Budget documents & CGA.**

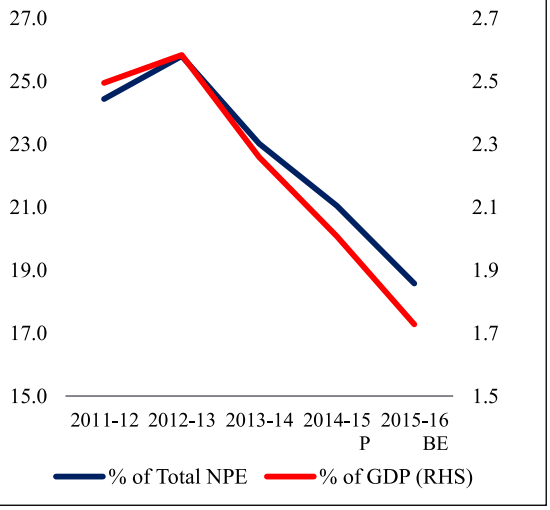
Figure 2.12a: Committed Expenditure



Source: **Budget documents, CGA and CSO.**

2.17 The subsidy bill for BE 2015-16 was placed at ₹2.44 lakh crore, which was 1.7 per cent of GDP. The deregulation of petrol and diesel prices and direct benefit transfer of subsidy for domestic LPG, along with a decline in global crude oil prices, helped in containing the petroleum subsidy bill at ₹30,000 crore in BE 2015-16 as against ₹57,769 crore in 2014-15 (P) (Table 2.5). The total subsidy bill as a proportion of GDP has been declining since 2012-13 and is expected to be below 2 per cent of GDP as per BE 2015-16 (Figure 2.12b). The rationalization and reprioritization of subsidies through better targeting would play a vital role in fiscal consolidation and in targeting expenditure more towards inclusive development (Box 2.3).

Figure 2.12b: Subsidy Bill as Per Cent of GDP



Source: **Budget documents, CGA and CSO.**

Table 2.5: Total Subsidies (₹crore)

	2013-14	2014-15 P	2015-16 BE
Food	92000	122676	124419
Fertilizer	67339	70967	72969
Petroleum	85378	60270	30000
Others	9915	-	16423

Source: **Budget documents & CGA.**

Box 2.3: Trends in Subsidies on Petroleum Products

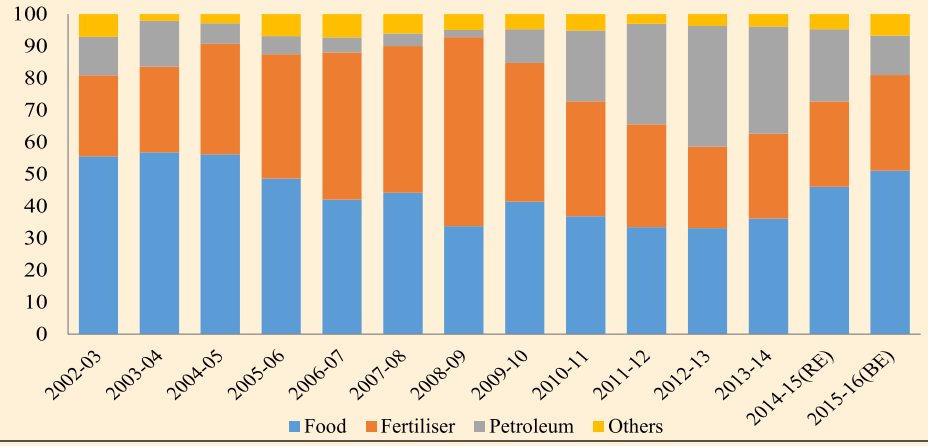
Provision of subsidies to the poor has large welfare dimensions; but fiscal prudence considerations required to containing subsidies to sustainable levels. These seemingly conflicting objectives can be reconciled by making subsidies transparent, efficient and targeted through initiatives like direct benefits transfer wherever feasible. Petroleum subsidy is a major subsidy with somewhat limited welfare dimension, but has resulted in a fiscal drag. This box traces the problem in detail.

The explicit subsidies paid from the union budget increased over six-fold from around ₹ 43,000 crore in 2002-03 to nearly ₹2,67,000 crore in 2014-15 (RE). As a ratio of GDP, subsidies from the union budget peaked in 2012-13 to reach 2.58 per cent. The share of major sectors, namely food, fertilizer and petroleum, along with 'others' receiving these subsidies is depicted in Figure 1.

Petroleum pricing policies, under-recoveries of oil marketing companies and subsidies provided by government: The prices of petroleum products were determined by the government under what is known as the administrative pricing mechanism (APM), with effect from July 1975 and this continued till 2002. Under the APM, the oil refining and marketing companies were compensated to meet operating costs and certain return on net worth. An oil pool account was maintained to ensure stable domestic prices of petroleum products (to

Contd....

Figure 1: Sectoral Distribution of Subsidies in India (per cent)



prevent the fluctuating international prices from affecting domestic oil prices). Products like LPG for cooking and kerosene oil for domestic users were provided at subsidized rates and, to compensate for it, products like motor spirit and aviation turbine fuel were charged at higher rates.

However, it was being increasingly realized that the APM was coming in the way of expansion programmes of the refinery and marketing companies and that private companies would find it difficult to invest in the sector. Hence, following the recommendations of the Strategic Planning Group on Restructuring of Oil Industry (also known as the 'R' group), the government decided to dismantle the APM in a phased manner.

Since the dismantling of the APM, petroleum pricing and subsidy regimes have followed a rather chequered path. In the post APM phase, subsidies were to be provided only for kerosene oil and domestic cooking gas for a limited time. However, following the sustained increase in international prices of crude oil, particularly since 2004-5, the government was in effect controlling the revision in prices of almost all petroleum products. Higher levels of international oil prices were not commensurately passed on to the consumers, leading to significant escalation in under-recoveries of the oil marketing companies. These under-recoveries were financed through a mix of (i) issuing of 'oil-bonds' (below-the-line budget entity); (ii) requiring the upstream companies like the Oil and Natural Gas Corporation (ONGC) and Oil India Limited (OIL) to charge discounted prices on crude oil sold to the oil marketing companies (OMCs) and (iii) direct subsidy from the budget. Prices of petroleum products were also controlled through downward revision of taxes and duties, which impacted indirect tax collections directly, and with less than full pricing and burden-sharing arrangements by upstream companies like the ONGC, direct tax revenue and non-tax revenues, i.e. profits and dividends, also declined.

Clearly, the system in place could not be sustained for long, keeping in view the fact that crude oil prices had more than doubled between 2004-5 and 2008-9. Following the recommendations of the Committee on Taxation of Petroleum Products, the government decided to discontinue issuance of oil bonds with effect from 2009-10 and provide the subsidy directly from budgetary resources. However, the upstream oil companies continued to share the burden by providing crude oil to OMCs at discounted prices. As international oil prices remained high, budgetary subsidies to the petroleum sector increased from nearly ₹3000 crore in 2004-5 to ₹15000 crore in 2009-10 and further to ₹97,000 crore in 2012-13, accounting for 38 per cent of total subsidies. They fell to close to ₹85,000 crore in 2013-14.

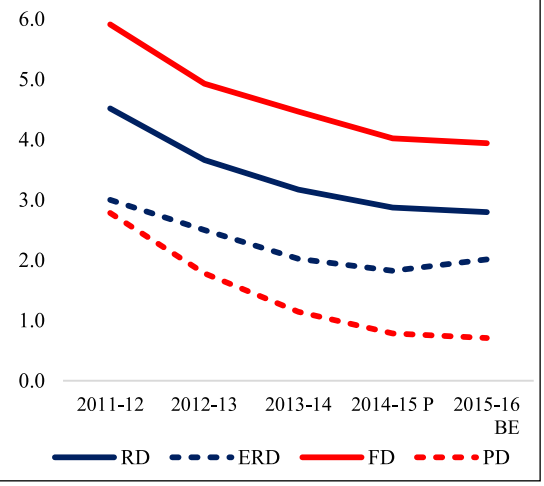
Following the recommendations of the Expert Group on A Viable and Sustainable System of Pricing of Petroleum Products, the government deregulated the prices of petrol with effect from June 2010. Similarly, OMCs were permitted to raise the prices of diesel oil in small doses (typically 40-50 paisa per litre per month) from January 2013. They were also allowed to sell diesel to bulk consumers at non-subsidized rates. Caps were imposed on the number of LPG cylinders that could be sold to domestic consumers at subsidized rates.

The under-recoveries of the OMCs started declining as a result of these measures and more so on account of a significant reduction in international prices of crude oil. The government announced the decision to decontrol the prices of diesel in October 2014, ending under-recoveries in diesel which formed the bulk of the under-recoveries. The continuing reduction in international prices of crude oil since the second half of 2014 has also had significant impact on the level of subsidies and overall public finance. As a result of these developments, subsidies on petroleum products declined to around ₹60,000 crore in 2014-15 and around ₹28,000 crore in April-December 2015.

Trends in Deficit and Financing of the Deficit

2.18 Budget 2015-16 sought to contain the fiscal deficit at ₹5.56 lakh crore (3.9 per cent of GDP) as against ₹5.13 lakh crore (4.1 per cent of GDP) in 2014-15 (RE). Revenue deficit (RD) was estimated at ₹3.94 lakh crore (2.8 per cent of GDP) in 2015-16 (BE) as against ₹3.62 lakh crore (2.9 per cent of GDP) in 2014-15 (RE) (Figure 2.13).

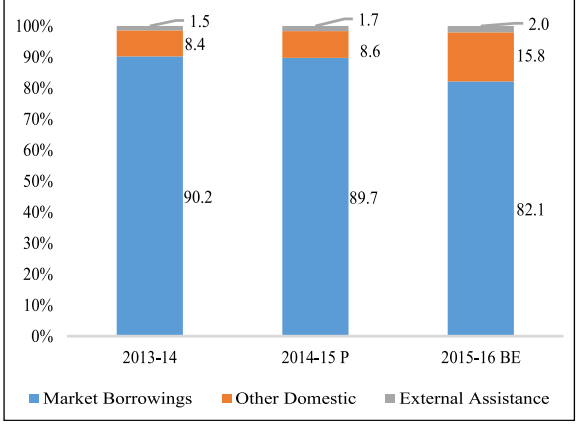
Figure 2.13: Trend in Deficits as per cent of GDP



Source: **Budget documents, CGA and CSO.**

2.19 Unlike some other countries, the financing of fiscal deficit in India is mostly from domestic sources. Domestic sources constitute roughly 98 per cent of the deficit financing, and approximately 84 per cent of domestic financing is from market borrowings (Figure 2.14).

Figure 2.14: Financing of Fiscal deficit



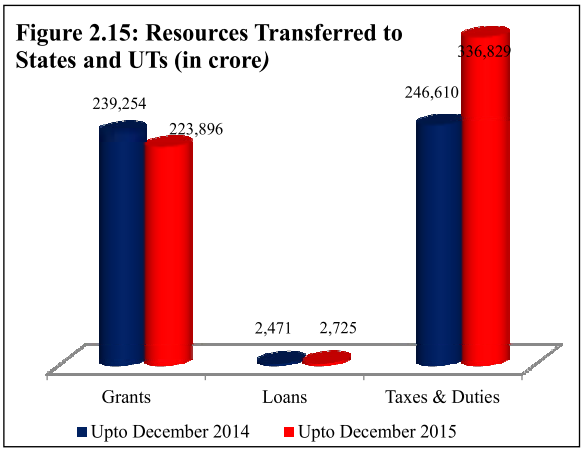
Source: **Budget documents and CGA.**

Provisional Outcome in 2015-16 (up to December) vis-à-vis BE 2015-16

2.20 The accounts for April-December 2015-16, released by the Controller General of Accounts show that the fiscal deficit of the union government at end-December 2015, as a percentage of BE, is lower than in the corresponding period of the last year (Table 2.6), but slightly higher than the average of the last five years, which was 82.3 per cent. This benign fiscal outcome so far in the year was due to improved tax buoyancy and prudent expenditure management with assistance from the decline in oil prices. The other notable highlights of the fiscal outcome in the current year till December 2015 included increased tax devolution to the states in line with the recommendations of the FFC, achieving the highest increase in capital expenditure in the last six years and decline in major subsidies.

2.21 The acceptance of the recommendations of the FFC for increased tax devolution has marked a watershed in India's cooperative federalism. In keeping with the changed rules for devolution, the taxes assigned to states/UTs were raised by 36.6 per cent in the current year so far. Hence, the growth so far in taxes net to the centre was less than the growth in GTR (Table 2.6). With the grants and loans to states/UTs declining by about 5.7 per cent, the total resources transferred to states/UTs (during April-December 2015) increased by about 15.4 per cent, as compared to April-December 2014 (Figure 2.15).

Figure 2.15: Resources Transferred to States and UTs (in crore)



2.22 The robust growth in GTR in the first three quarters of the year (Table 2.6) was aided by the 34.8 per cent growth in indirect taxes, with union excise duties growing by about 68 per cent. Excise collections may have been bolstered by improving dynamics of economic activity and also measures like increasing the excise duty on petrol and diesel in the backdrop of falling international prices of crude oil. Consequently, indirect tax collections as a ratio of BE at end-December 2015 stood at 71.3 per cent of BE, as compared to 54.8 per cent at end-December 2014. Direct taxes—both on personal income and corporate income--grew by more than 10 per cent during the period. While growth in non-tax revenue remained robust, disinvestment receipts (included in other capital receipts in Table 2.6) at end-December 2015, though higher than in the previous year, stood only at 18.5 per cent of the BE.

2.23 Most of the 33.5 per cent increase in capital expenditure was on the plan side. Revenue expenditure in April-December 2015 was only modestly higher; mainly on account of the 18.3 per cent decline in plan revenue expenditure largely reflecting the change in pattern of devolution to the states/ UTs. Grants-in-aid to states under this head

Table 2.6: Provisional Outcome for 2015-16 (Till December 2015)

		BE (₹crore)	April-December					
			Absolute number (₹crore)		Per cent of respective BE		Growth over last year (per cent)	
		2015-16	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16
1	Revenue receipts	1141575	693773	803808	58.3	70.4	9.4	15.9
	Gross tax revenue	1449490	795686	963229	58.3	66.5	7.0	21.1
	Tax (net to centre)	919842	545714	622248	55.8	67.6	5.4	14.0
	Non-tax revenue	221733	148059	181561	69.7	81.9	27.3	22.6
2	Capital receipts	635902	542615	510189	89.7	80.2	2.4	-6.0
	Recovery of loans	10753	8282	9138	78.7	85.0	3.0	10.3
	Other receipts	69500	1952	12866	3.1	18.5	-64.1	559.1
3	Total receipts	1777477	1236388	1313997	68.9	73.9	6.2	6.3
4	Non-Plan expenditure	1312200	883757	968019	72.4	73.8	8.8	9.5
	a) Revenue account	1206027	813270	895386	73	74.2	11.2	10.1
	Interest payments	456145	275220	302298	64.5	66.3	10.8	9.8
	Major subsidies	227388	212418	208759	84.5	91.8	12.5	-1.7
	Pensions	88521	68104	69467	83.1	78.5	26.4	2.0
	b) Capital account	106173	70487	72633	67	68.4	-13.4	3.0
5	Plan expenditure	465277	352631	345978	61.3	74.4	0.4	-1.9
	a) Revenue account	330020	282278	230656	62.2	69.9	3.0	-18.3
	b) Capital account	135257	70353	115322	57.9	85.3	-8.9	63.9
6	Total expenditure	1777477	1236388	1313997	68.9	73.9	6.2	6.3
	a) Revenue expenditure	1536047	1095548	1126042	69.9	73.3	9.0	2.8
	b) Capital expenditure	241430	140840	187955	62.1	77.9	-11.2	33.5
7	Revenue deficit	394472	401775	322234	106.2	81.7	8.2	-19.8
8	Effective revenue deficit	283921	303912	229446	144.6	80.8	10.4	-24.5
9	Fiscal deficit	555649	532381	488185	100.2	87.9	3.1	-8.3
10	Primary deficit	99504	257161	185887	246.9	186.8	-4.0	-27.7

Source: **CGA monthly account and Budget documents.**

declined from ₹2.05 lakh crore last year (April-December) to ₹1.50 lakh crore this year. However, non-plan grants to states increased from ₹0.35 lakh crore to ₹0.74 lakh crore during the period.

2.24 The 1.7 per cent decline in major subsidies was due to a near 44.7 per cent decline in petroleum subsidy (April-December) that occurred due to a steep decline in international crude oil prices. The other major subsidies—food and fertilizer—increased by 10.4 per cent and 13.7 per cent respectively during the period.

Performance of Departmental Enterprises of the Central Government

Department of Posts

2.25 The gross receipts of the Department of Posts in 2014-15 were placed at ₹11,636 crore. The gross and net working expenses during the year were ₹18,557 crore and ₹17,895 crore respectively, which resulted in a deficit of ₹6259 crore. In 2015-16, the gross receipts are expected to increase to ₹12,237 crore, with gross and net working expenses estimated at ₹20,185 crore and ₹19,540 crore respectively. The deficit is projected to be ₹7303 crore.

Railways

2.26 The key focus areas for Indian Railways include fast tracking of capacity augmentation, network modernization, improvement in asset utilization and productivity, modernization of rolling stock and maintenance practices, improving the quality and pricing of services and improving energy efficiency in operations. Investments are being prioritized in important areas like dedicated freight corridors, high speed rail, high-capacity rolling stock, last mile rail linkages and port connectivity. During 2014-15, the freight earnings, passenger earnings (including coaching earnings) and gross traffic receipts of the Railways grew by 12.7 per cent, 14.9 per cent and 12.3 per cent respectively over 2013-14. Gross traffic receipts of the Railways were estimated to increase to ₹1.84 lakh crore in BE 2015-16, as against ₹1.57 lakh crore in 2014-15. The operating ratio of the Railways, which stood at 91.3 per cent in 2014-15, and net revenue as a proportion of capital-at-charge, which was 7.0 per cent in the previous year, are also likely to see improvements in 2015-16.

Government Debt

2.27 The public debt management policy in India focuses on maintaining a long-run sustainable debt structure at lowest possible cost. Prolonged fiscal deficits lead to accumulation of debt beyond levels that are sustainable and can result in higher real and nominal interest rates, slower growth in capital formation and potentially lower rates of output growth. High and rising public debt levels may also impact public finances through debt servicing dynamics that worsen the government's fiscal position.

2.28 The total outstanding liabilities of the central government were ₹62.78 lakh crore at end-March 2015, accounting for 49.6 per cent of GDP and comprising 39.2 per cent public debt (internal debt plus external debt) and 10.3 per cent other liabilities (small savings, provident funds, etc.) (Table 2.7). Total outstanding liabilities were estimated at ₹68.94 lakh crore in BE 2015-16.

2.29 Figure 2.16A shows how robust GDP growth kept the increasing debt of the central government at sustainable levels, relative to the size of the economy. The figure also brings forth an issue of the temporal valuation of the external liabilities of the centre. The degree of external liability of the government, as shown in Figure 2.16 B, may change purely on account of currency movements, even without new borrowing. By any measure, however, external debt is only a small fraction of the total liabilities of the centre and is a declining proportion of GDP (Table 2.7).

Table 2.7: Total Outstanding Liabilities of the Central Government at end-March

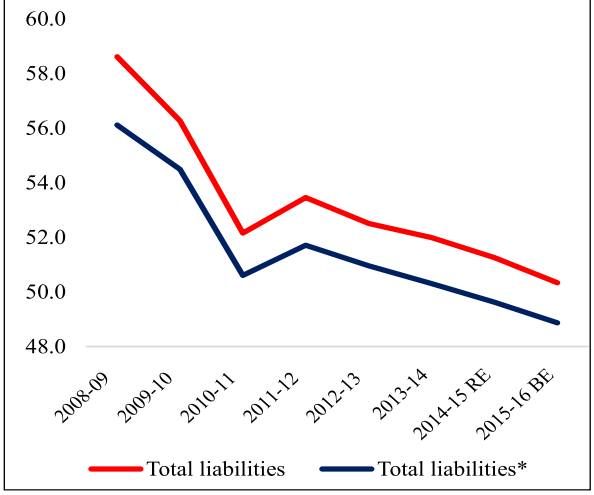
(as per cent of GDP)

	2011-12	2012-13	2013-14	2014-15 RE	2015-16 BE
1.Internal liabilities #	49.8	49.2	48.7	48.1	47.4
a)Internal debt	37.0	37.8	37.6	37.7	37.6
i)Market borrowings	28.8	30.0	30.5	30.8	30.9
ii)Others	8.2	7.8	7.1	7.0	6.7
b).Other internal liabilities	12.8	11.3	11.0	10.3	9.9
2.External debt(outstanding)*	1.9	1.8	1.6	1.5	1.5
3.Total outstanding liabilities (1+2)	51.7	51.0	50.3	49.6	48.9

Source: **Union budget documents and DMO.**

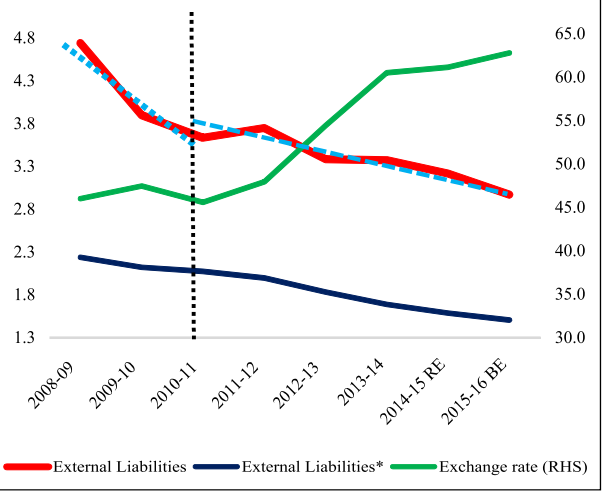
Notes: * External debt figures represent borrowings by central government from external sources and are based upon historical rates of exchange; # Internal debt includes net borrowing of ₹20,000 crore for 2015-16 (BE) under the Market Stabilization Scheme.

Figure 2.16 A: Central Government Total Liabilities as Per Cent of GDP



Source: **Union budget documents, Reserve Bank of India (RBI) and Debt Management Office (DMO).**

Figure 2.16 B: Central Government External Liabilities as Per Cent of GDP



Source: **Union budget documents, RBI and DMO.**

Notes: *** External liabilities at historical exchange rate otherwise it is at current exchange rate.**

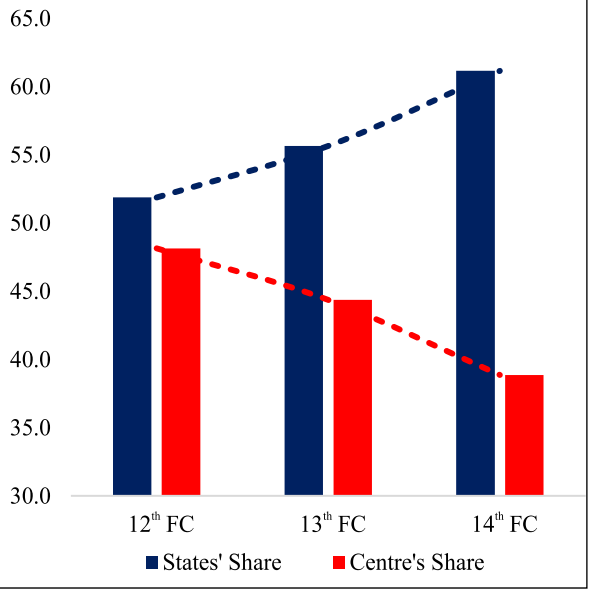
Fiscal Performance of the General Government

2.30 In the new regime of fiscal federalism, an analysis of the general government offers greater insights than a separate analysis of either the centre or the states, mainly for two reasons. First, since the implementation of the recommendations of the 12th Finance Commission, the share of states in national taxes has been increasing (Figure 2.17A); and, second, with the acceptance of the FFC recommendations, the transfer of untied resources from the centre to the states has increased considerably (Figure 2.17 B).

2.31 The general government (centre plus states) has been on the path of fiscal consolidation and fiscal discipline, as reflected in the debt dynamics (Figure 2.18). The fiscal deficit of general government is further expected to decline from 6.9 per cent of GDP in 2014-15 (RE) to 6.3 per cent of GDP in 2015-16 (BE) (Figure 2.19).

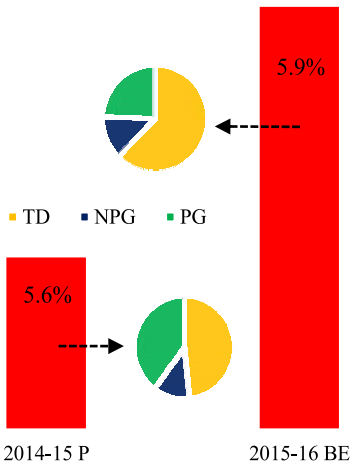
2.32 Based on the first eight months' data of the current year, it is observed that both the centre and the states have stuck to the plan of ensuring quality of expenditure and boosting public investment. The general government capital expenditure in first the eight months of 2015-16 increased by 26.9 per cent over the corresponding period of the previous year (Figure 2.20).

Figure 2.17A: Share of Centre and States in National Taxes (per cent)



Source: **Budget documents of centre and CAG.**

Figure 2.17B: Resources Transferred to States (% of GDP)

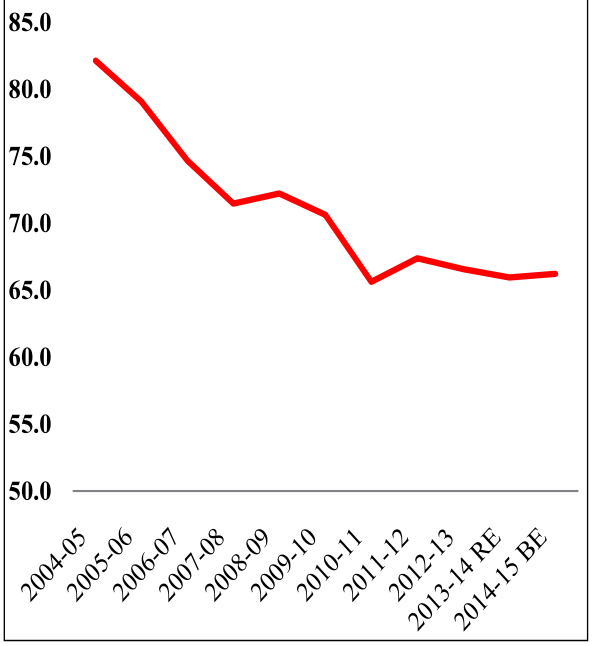


Source: **Budget documents of centre and CAG.**

TD= Tax devolution NPG= Non-plan grants PG=Plan grants

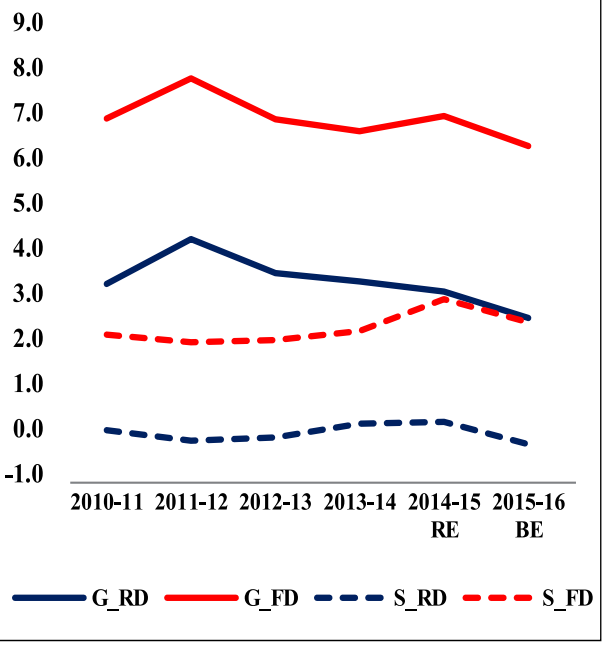
National taxes is sum of gross tax revenue of the Centre and States' own tax revenue. Period under 12th FC is 2005-10, 13th FC is 2010-15 and for 14th FC is 2015-16.

Figure 2.18: General Government Liabilities (per cent of GDP)



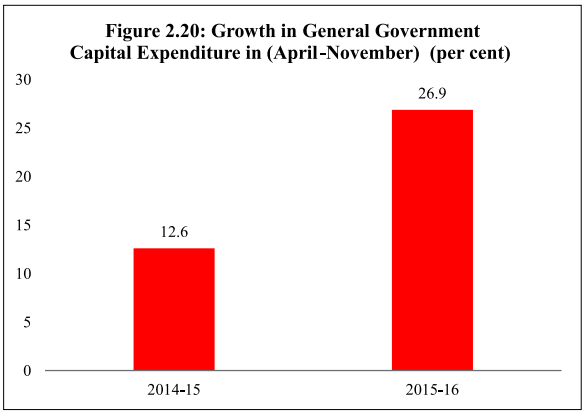
***Source*: RBI.**

Figure 2.19:General and State Government RD and FD (% of GDP)



***Source*: RBI.**

Notes: G_RD=General Government Revenue deficit. G_FD=General Government Fiscal deficit. S_RD=State Governments Revenue deficit. S_FD=State Governments Fiscal deficit.



Source: **CAG**

Outlook

2.33 Significant increase in revenue receipts, led by buoyant indirect tax collections, higher level of capital expenditure on the plan side, lower level of subsidies on petroleum products helped in a large measure by declining international prices of crude oil, and enhanced untied resources transferred to the states following the acceptance of the recommendations of the FFC are some of the salient developments of the fiscal performance in 2015-16 so far. Given the pattern of revenue and expenditure in the first nine months of the current financial year, in spite of the challenges posed by a lower than projected nominal GDP growth, the fiscal deficit target of 3.9 per cent of GDP seems achievable.

2.34 The coming year is expected to be a challenging one from the fiscal point of view. With global slowdown likely to persist, the chances of India's growth rate in 2016-17 increasing significantly beyond 2015-16 levels are not very high. Similarly, in contrast to the current year, the subsidy bill on petroleum products may not reap the advantages of steeply declining oil prices. The implementation of the Pay Commission recommendations and the One Rank One Pension (OROP) scheme will put additional burden on expenditure. Improving tax compliance through better tax administration, tapping new sources of revenue, etc. could help raise more revenue and keep the fiscal deficit at levels projected in the revised fiscal road map.

Monetary Management and Financial Intermediation

03
CHAPTER

With headline inflation falling, the Reserve Bank of India has been easing the monetary policy rates. Concerns about China's economic growth and financial markets, low levels of global commodity prices and divergent monetary policy stances of the key economies have been periodically rekindling volatility in the global financial markets. Investors by and large are becoming risk averse and prefer to flee to safe havens each time a fresh crisis looms over the markets. India like most other emerging market economies has not been immune. Yet the Indian equity market has been relatively resilient during this period compared to the other major emerging market economies. The market has rebounded time and time again, and it is hoped that as the global financial markets settle down, India can become the leading investment destination owing to its robust macroeconomic fundamentals. Banking sector gross credit deployment has been sluggish during the financial year. Increasing levels of gross non-performing assets have reduced the banking sector's capacity to lend. 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, while the Atal Pension Yojana is extending the reach of the New Pension Scheme.

Monetary Developments During 2015-16

3.2 The agreement on monetary policy framework signed between the Government and Reserve Bank of India (RBI) in February 2015 has shaped the monetary policy stance in 2015-16. The RBI further eased its monetary policy stance during the year 2015. Headline inflation based on the consumer price index (CPI) fell to below 6 per cent much ahead of the January 2016 target. The RBI reduced the statutory liquidity ratio by 0.50 per cent to 21.50 per cent in February 2015 and further eased the policy repo rate during the year to 6.75 per cent, in all making a substantial cut of 125 basis points (bps) between January

Table 3.1: 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)
09-08-2014	9.00	8.00	7.00	4.00	22.00
15-01-2015	8.75	7.75	6.75	4.00	22.00
07-02-2015	8.75	7.75	6.75	4.00	21.50
04-03-2015	8.50	7.50	6.50	4.00	21.50
02-06-2015	8.25	7.25	6.25	4.00	21.50
29-09-2015	7.75	6.75	5.75	4.00	21.50

Source **: RBI.**

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

Table 3.2: Year-on-Year Change in Monetary Aggregates as on December of Each Year (per cent)

	2015	2014	2013	2012	2011	2010
1. Currency in circulation	13.0	9.6	11.1	12.0	12.4	18.2
2.Cash with banks	11.0	15.6	8.3	17.3	12.8	31.5
3. Currency with the public	13.0	9.3	11.2	11.8	12.4	17.7
4. Bankers' deposits with the RBI	17.9	7.4	9.0	-15.3	12.1	35.3
5. Demand deposits	11.9	10.4	7.4	0.1	-0.1	22.4
6. Time deposits	10.6	10.9	16.3	12.6	19.2	18.4
7. Reserve money (M0) (1+4)	14.3	9.4	10.7	4.6	12.2	22.1
8. Narrow money(M1)(3+5)	12.8	10.0	9.8	6.8	6.7	19.6
9.. Broad money (M3) (6+8)	11.0	10.7	14.8	11.2	16.0	18.7

Source: **RBI.**

2015 and September 2015 (Table 3.1). In the bank's latest monetary policy review held on 2 February 2016, the policy repo rate remains unchanged.

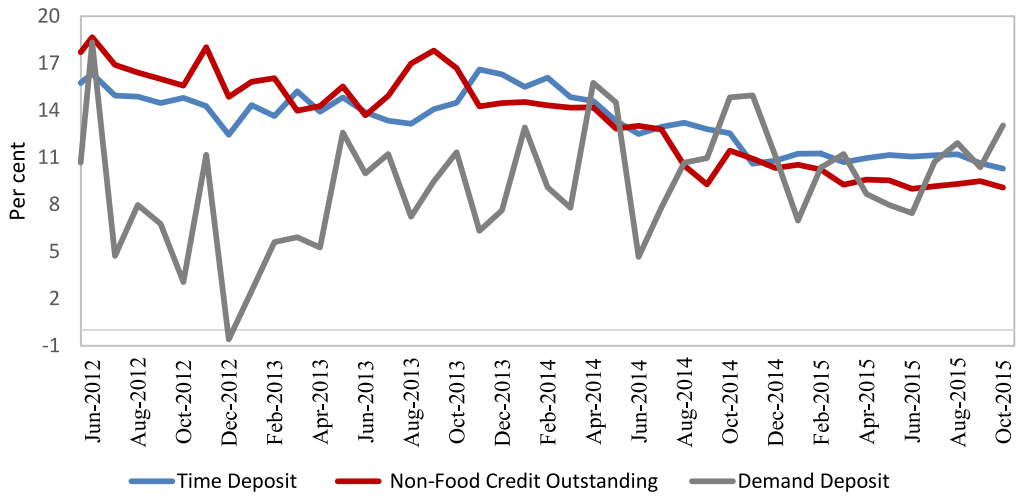
3.3 The easing of the policy repo rate has been accompanied by a pick-up in the growth rates of reserve money (M0) and narrow money (M1) in 2015.The growth in M0 has been higher owing to pickup in growth of currency in circulation and in bankers' deposit with the RBI, while the increase in M1 has been due to a higher rate of growth in demand deposits with banks. In terms of sources of reserve money, net foreign exchange assets (NFA) have been a major determinant of the growth, modulated by net domestic assets. There was a seasonal pick-up in M0 growth to above the 14 per cent mark to accommodate the festive demand at end-December 2015; it has since moderated to a 12 per cent level. However, the growth of broad money (M3) has not picked up (Table 3.2).

3.4 The year-on-year growth in time deposits fell to 10.6 per cent in December 2015. The real rate of interest on deposits turned positive in late 2013 after inflation dropped to below 9 per cent but time deposits have not picked up, partly because households savings are channelized to other avenues like gold and real estate. The slowdown in time deposits has been slowing the growth of bank credit as time deposits remain the most important source of bank funding. Time deposits are cheaper relative to other sources of funding and allow banks to afford higher interest rate spreads (Figure 3.1).

Liquidity Management

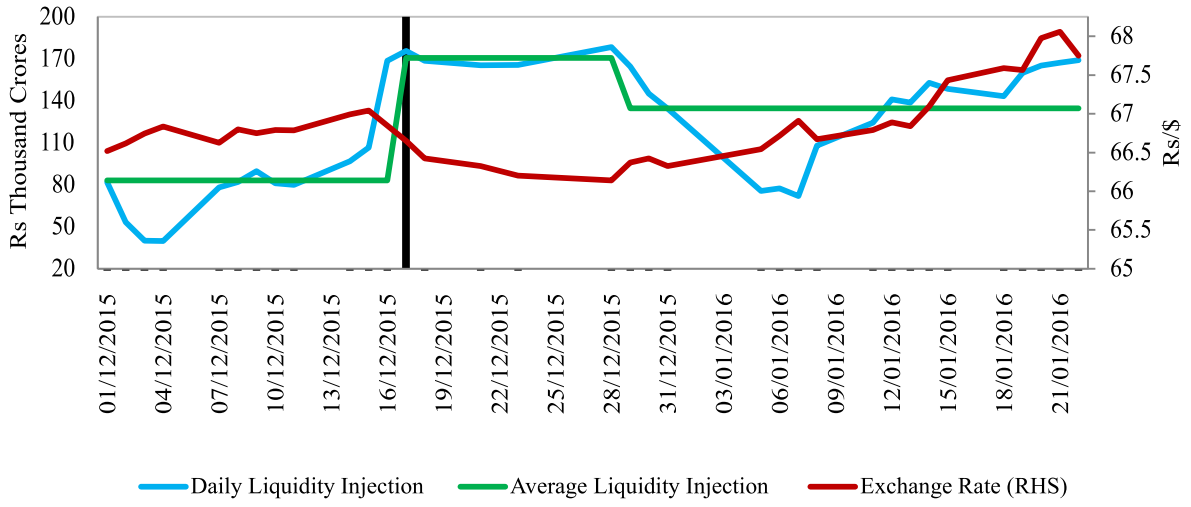
3.5 Liquidity conditions were generally tight during the first quarter (Q1) of 2015-16,

Figure 3.1: Y-o-Y Growth Rates of Selected Aggregates



Source: **RBI.**

Figure 3. 2: Liquidity Injection and Exchange Rate

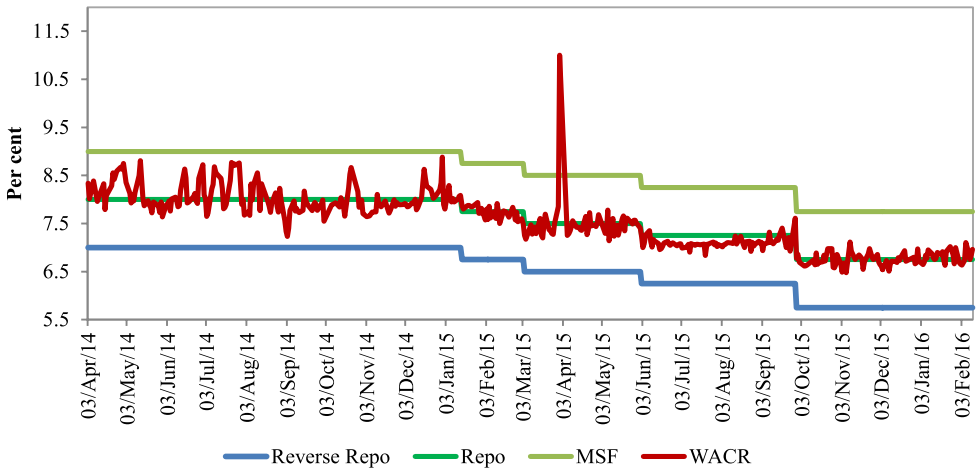


Source: **RBI.**

mainly due to slow government spending in the begining of the year. In the second quarter (Q2) of financial year (FY) 2015-16, however, liquidity conditions eased significantly as public expenditure picked up and deposits exceeded credit substantially. In the third quarter (Q3) of FY 2015-16, liquidity conditions tightened mainly due to the festive season currency demand. The RBI anchored its policy rate to achieve the domestic inflation target consistent with growth. The value of rupee also remained comparatively stable during this period. Figure 3.2 illustrates the value of rupee post the US Federal Reserve (Fed) rate hike of 17 December 2015. Average borrowing by banks have increased significantly in the immediate aftermath of the Fed rate hike compared to the pre-hike scenario, resulting in appreciation of the rupee. However, subsequent to easing of the liquidity conditions, the rupee started depreciating.

3.6 Consistent with the accommodative monetary policy stance since January 2015, the RBI has been actively managing monetary policy tools to ensure adequate liquidity in the system and accordingly the weighted average call rate (WACR),or the operating target of monetary policy, remained closely aligned to the policy repo rate. The RBI conducted variable rate repo and reverse repo (overnight and term) auctions in order to address the day-to-day liquidity requirements arising out of frictional factors, besides regular liquidity operations. The WACR declined by130 bps in response to the 125 bps cut in repo rate by the RBI since January 2015, pointing to perfect transmission at the first leg of the term structure. However, post the 29 September 2015 rate cut, call rate remained above repo rate for some time, implying tightening of liquidity conditions. Other short-term money market rates, in particular market repos and call money, also co-varied with the WACR. The revised liquidity management framework put in place by the RBI since 5 September 2014 has helped in containing volatility in the WACR. Under the new framework, the RBI used variable rate repo/ reserve repo auctions of varying tenors as well as outright open market operations, apart from the normal liquidity operations under the liquidity adjustment facility (LAF) to manage liquidity (Figure 3.3).

Figure 3.3: Policy Corridor and Call Rate



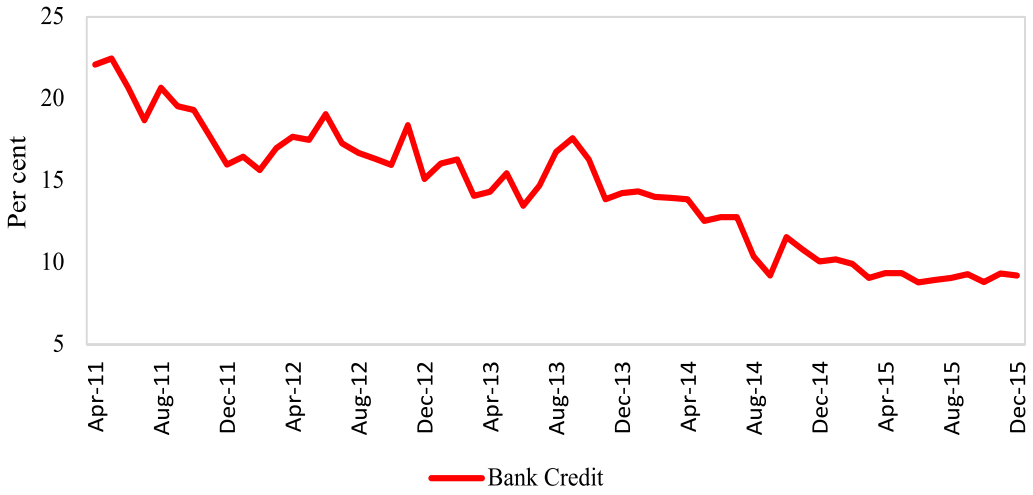
Source: **RBI.**

Bank Credit

3.7 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 (Figure 3.4).

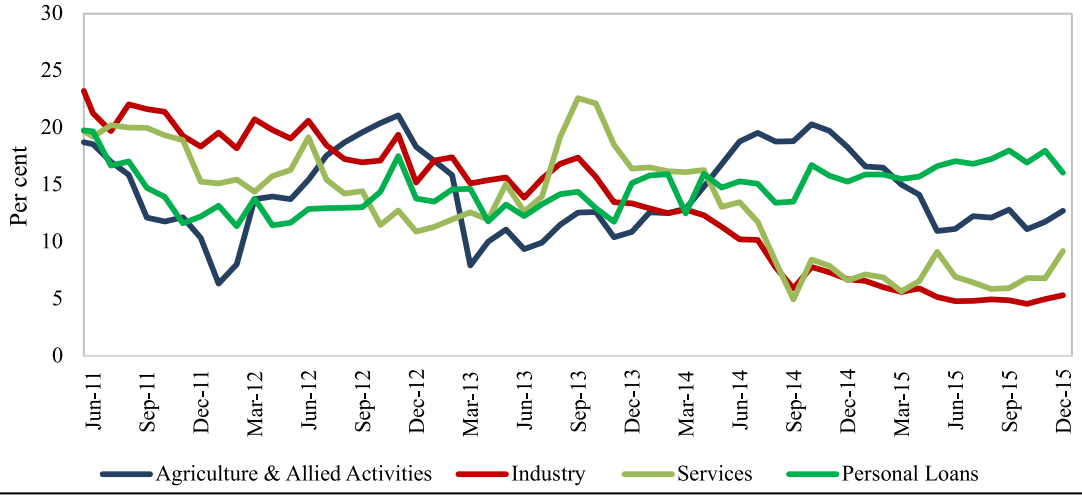
3.8 During the current financial year also, year-on-year growth in gross bank credit outstanding has remained around 10 per cent. The sluggish growth can be attributed to several factors: (a) incomplete transmission of the monetary policy as banks have not passed on the entire benefit to borrowers; (b) unwillingness of banks to lend credit on account of rising non-performing assets (NPA); (c) worsening of corporate balance sheets, forcing them to put their investment decisions on hold; (d) more attractive interest rates for borrowers in the bond market.

Figure 3.4:Growth in Bank Credit Outstanding



Source: **RBI.**

Figure 3.5: Sector-specific growth of NFC



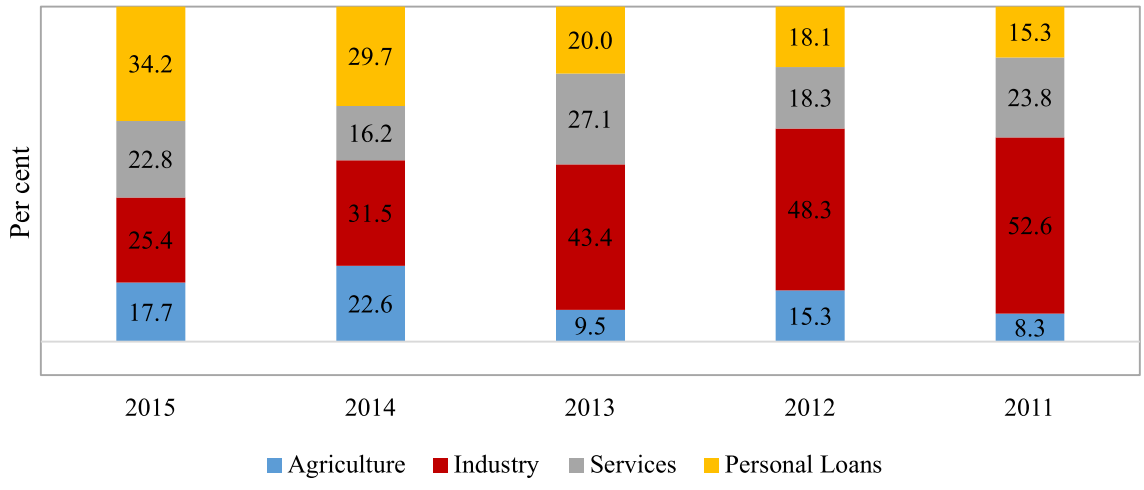
Source: **RBI.**

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. The deployment of gross bank credit to industry grew at 5.3 per cent year on year in December 2015. Gross bank credit to the services sector had been increasing at sub 7 per cent for the period May-November 2015. However, it picked up in December 2015 with an increase of 9.2 per cent. The agriculture sector too saw a downturn from November 2014. It was only the personal loans segment which could benefit from the repo rate cut and it showed an accelerating growth rate from January 2015. For the month of December 2015, it posted a healthy growth rate of 16.1 per cent (Figure 3.5).

An Analysis of Annual Variation in Non-Food Credit

3.10 Figure 3.6 shows the annual credit outstanding variation of non-food bank credits (NFC) since 2011.A careful look at the sector-wise break up (Figure 3.6) shows that, as compared to earlier years, the NFC issued in 2015 is indicative of the shift in sectoral share of credit off take; in particular, the share of personal loans has increased to 34.2

Figure 3.6: Sectoral Deployment of Non-Food Bank Credit



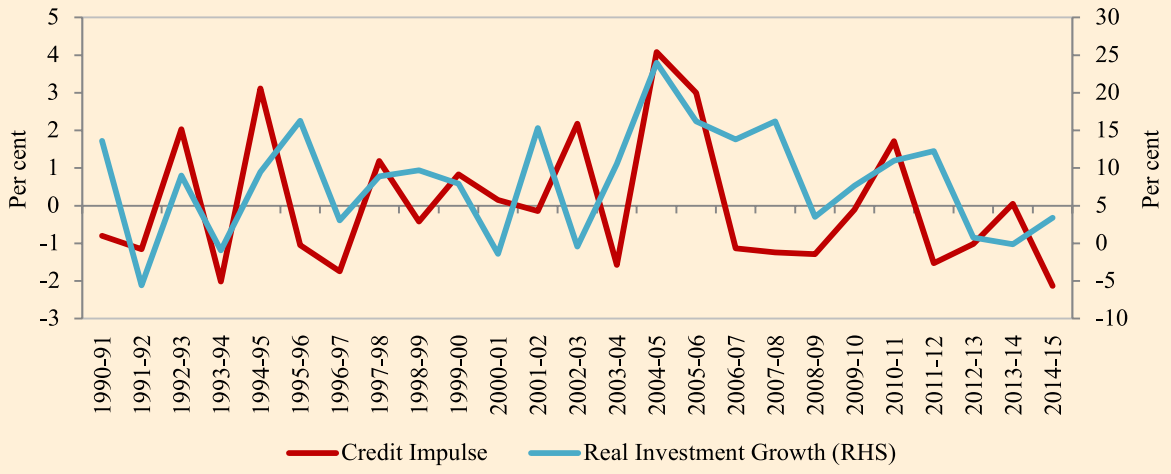
Source: **RBI.**

Box 3.1: Credit Impulse on the Rise

The concept of credit impulse was first introduced by Deutsche Bank economist Michael Biggs, in November 2008. The concept emphasizes that spending is a flow and as such it should be compared with net new lending, a flow, rather than credit outstanding, which is a stock. Credit impulse is measured as the change in new credit issued as a percentage of the gross domestic product (GDP). The studies, analysing credit flow data since 2008 covering several countries, have shown that investment growth is very closely correlated with credit impulse. Studies also show that credit impulse, in comparison with other credit variables, is better able to predict recoveries from a recession.

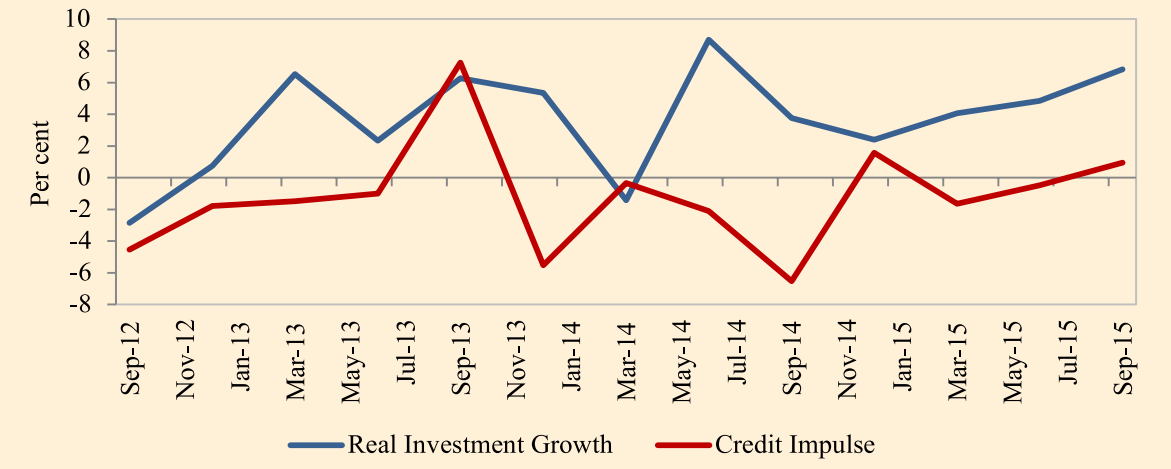
Figure 1 depicts the rate of credit impulse and investment in India post liberalization. The annual variation in gross bank credit outstanding has been used as a proxy for new lending. The figure 1 shows that both these variables have been moving in tandem, sharing similar troughs and peaks. The sharp increases in the credit impulse rate in the post-reform phase of the early 1990s, the peak economic growth phase of 2003-04 to 2007-08 and the credit boom of 2009-10 have been matched by high rates of investment.

Figure 1: Credit Impulse and real investment Growth



Credit impulse has shown a consistent rise since March 2015 and this is also reflected in the real investment growth rate. Given that there is a strong correlation between credit impulse and investment growth, the rise in credit impulse may help push the growth of real investment in the near future, though this may not be a conclusive indicator as several other factors also affect investment.

Figure 2: Credit Impulse and Growth of Investment



per cent in 2015 as compared to 15.3 per cent in 2011. Thus, consumption expenditure has been the key driver of the economy during the current financial year. However, it is a cause for concern that the share of industry has come down significantly from 53 per cent in 2011 to just 25 per cent in 2015. The decline reflects the muted market sentiments leading to slowdown in private investment demand and industrial growth, poor earnings growth of the corporate sector, and risk aversion on the part of banks in the background of rising gross NPAs.

3.11 Sub-sector-wise deployment of non-food credit shows that in the year 2015, ₹ 1.36 lakh crore was issued as new loans (as measured by annual variation in credit outstanding)to the industry sector, of which two sub-sectors, namely power and iron and steel, alone accounted for 58 per cent. The share of iron and steel jumped from just 9 per cent in 2014 to 19 per cent in 2015 whereas the share of the power sector increased from 29 per cent in 2013 to 39 per cent this year.

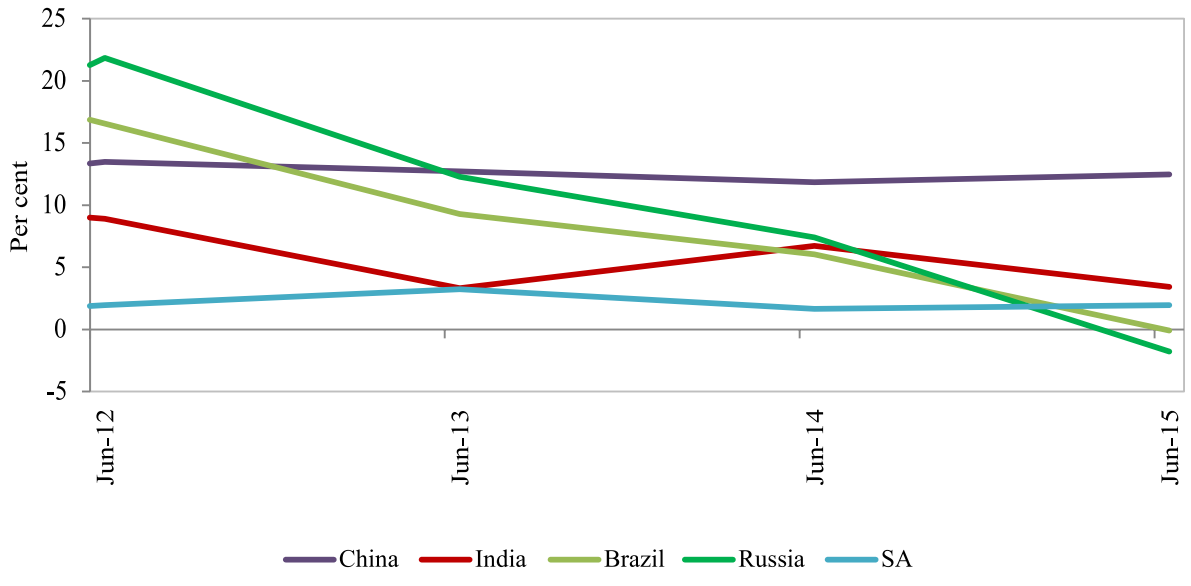
Comparative Credit Flow Trend in BRICS Economies

3.12 A comparative analysis of real credit flows among the BRICS (Brazil, Russia, India, China and South Africa) economies shows that bank credit growth has remained subdued in all but China. Credit flows declined to below 10 per cent in India, South Africa and Brazil. In the case of Russia, credit flow has seen a sharper decline (Figure 3.7).

Interest Rates of Scheduled Commercial Banks Excluding Regional Rural Banks

3.13 In response to the reduction in the policy repo rate by 125 bps since January 2015, scheduled commercial banks (SCB) reduced their median-term deposit rate by 72 bps and median base rate by 60 bps up to 15 December 2015 (Table 3.3). The weighted average lending rate (WALR) on fresh rupee loans sanctioned by banks declined by 60 bps, while that on outstanding rupee loans fell by 53 bps, during January-October 2015. The RBI in its Financial Stability Report of September 2015 has pointed out that full

Figure 3.7: Comparative Year-on-Year Growth of Real Bank Credit Outstanding



Source: **Bank of International Settlements and International Monetary Fund (IMF).**

pass-through has not happened owing to structural rigidities in the credit market. The key reasons for structural rigidities are: (a) mobilization of deposits at fixed rates with only about 20 per cent of term deposits getting re-priced during a year; (b) competition from small savings schemes where the interest rates are revised with considerable lags; (c) savings deposit rates of public sector banks remaining unchanged at 4 per cent despite deregulation in October 2011; and (d) base rate of banks being mostly determined on the basis of average cost rather than marginal cost.

Performance of SCBs

3.14 The performance of SCBs during 2015-16 remained subdued. The slowdown in growth in the balance sheets of banks witnessed since 2011-12 continued in 2015-16. The moderation in the growth of assets of SCBs can mainly be attributed to tepid growth (below 10 per cent) in loans and advances. Growth in investments also slowed down marginally. The decline in credit growth reflected the slowdown in industrial credit off take, poor earnings growth reported by the corporate sector and risk aversion on the part of banks owing to rising NPAs. Further, with the availability of alternative sources, corporate sector companies also switched part of their financing needs to other sources such as external commercial borrowings (ECB), corporate bonds and commercial papers.

3.15 During 2014-15, the capital to risk-weighted assets ratio (CRAR) of SCBs remained well above the stipulated minimum of 9.0 per cent. However, the CRAR of SCBs declined to 12.7 per cent from 13.0 per cent between March and September 2015.

Table 3.3: Deposit and Lending Rates of SCBs (Excluding RRBs)(per cent)

Items	Average Interest Rates					Variation (%ge points)
	Dec-14	Mar-15	Jun-15	Sep-15	Dec 15, 2015	Since end-Dec 2014
A. Domestic deposit rates of SCBs-all maturities	7.50	7.46	7.25	7.08	6.90	-0.60
(i) Public Sector Banks	7.56	7.52	7.15	6.93	6.65	-0.91
(ii) Private Sector Banks	7.50	7.48	7.26	6.99	6.81	-0.69
(iii) Foreign Banks	7.45	7.41	7.35	7.34	7.18	-0.27
Median Term Deposit Rate	7.55	7.50	7.22	7.02	6.83	-0.72
B. Base rate of all SCBs	10.14	10.09	9.96	9.89	9.71	-0.43
(i) Public Sector Banks	10.23	10.21	9.98	9.95	9.69	-0.54
(ii) Private Sector Banks	10.63	10.61	10.45	10.38	10.17	-0.46
(iii) Foreign Banks	9.85	9.77	9.72	9.62	9.49	-0.36
Median Base Rate	10.25	10.20	9.95	9.93	9.65	-0.60
C. WALR (Outstanding ₹ Loans)					Oct-15	
(i) Public Sector Banks	12.05	12.01	11.91	11.67	11.50	-0.55
(ii) Private Sector Banks	12.35	12.25	12.08	11.98	11.85	-0.50
(iii) Foreign Banks	12.01	11.84	11.69	11.57	11.39	-0.62
Scheduled Commercial Banks	12.11	12.06	11.94	11.73	11.58	-0.53
D. WALR (Fresh ₹ Loans)						
(i) Public Sector Banks	11.45	11.10	11.08	11.22	11.05	-0.40
(ii) Private Sector Banks	12.09	11.93	11.68	11.30	11.47	-0.62
(iii) Foreign Banks	10.69	10.50	10.33	10.18	9.76	-0.93
Scheduled Commercial Banks	11.57	11.23	11.15	11.13	10.97	-0.60

Source: **RBI.**

Note: **RRBs: regional rural banks; WALR: Weighted Average Lending Rate. Data on WALR is provisional.**

Given the deterioration in asset quality and gradual implementation of Basel III, banks will have to improve their capital positions to meet unforeseen losses in future. The estimated capital requirement (excluding internal generated profit) for the next four years up to FY 2018-19 is likely to be about ₹1,80,000 crore. Of this total requirement, the Government of India proposes to make ₹70,000 crore available out of budgetary allocations during the current and succeeding years. During 2015-16 the government has so far released a sum of ₹19,950 crore to 13 public sector banks (PSB).

3.16 The asset quality of SCBs have come under stress in recent times. Gross non-performing advances (GNPA) of SCBs as a proportion of gross advances increased to 5.1 per cent from 4.6 per cent between March and September 2015. Restructured standard advances as a proportion of gross advances declined to 6.2 per cent from 6.4 per cent in the same period, while the stressed advances to total gross advances ratio increased to 11.3 per cent from 11.1 per cent. PSBs had the highest level of stressed assets (gross plus restructured assets) at 14.0 per cent of the total, followed by private sector banks (PVB) at 4.6 per cent and foreign banks (FB) at 3.4 per cent at end-September 2015. The net non-performing advances (NNPA) as a proportion of total net advances for all SCBs increased to 2.8 per cent from 2.5 per cent during the period from March 2015 to September 2015. At the bank group level, the NNPA ratio of PSBs increased from 3.2 per cent to 3.6 per cent, whereas, in the case of PVBs and FBs, it remained unchanged at 0.9 per cent and 0.5 per cent respectively during the same period.

3.17 The contribution of five sub-sectors, namely mining, iron and steel, textiles, infrastructure and aviation (which together accounted for 24.2 per cent of the total advances of SCBs as of June 2015) to the total stressed advances was 53.0 per cent. Stressed advances in the aviation sector increased to 61.0 per cent in June 2015 from 58.9 per cent in March 2015, while stressed advances of the infrastructure sector increased to 24.0 per cent from 22.9 per cent during the same period. The performance of these sectors and their impact on the asset quality of banks continue to be a cause for concern.

Financial Inclusion

3.18 The number of new basic savings bank deposit accounts (BSBDAs) rose considerably during the year on account of the government's initiative under the Pradhan Mantri Jan Dhan Yojana (PMJDY). BSBDAs reached 441 million for the period ended September 2015 as against 398 million for the year ended March 2015. The total number of banking outlets went up from 553,713 as at end-March 2015 to 567,530 (517,328 branchless modes and 50,202 branches)as at end-September 2015. Business Correspondent–Information and Communication Technology (BC-ICT) transactions in BSBDAs showed steady progress with 359 million transactions during the April-September 2015 period, as against 477 million recorded for the year ended March 2015.

3.19 Brick-and-mortar branches are an integral component of financial inclusion and for increasing banking penetration. Hence, State Level Bankers Committee convenor banks have been advised in December 2015 to identify villages with population more than 5000 without an SCB branch. The opening of bank branches under a roadmap is scheduled to be completed by 31 March 2017. Box 3.2 discusses the Pradhan Mantri Mudra Yojana (PMMY), an initiative for providing finance to informal sector micro enterprises launched on 8 April 2015.

Non-Banking Financial Companies

3.20 Based on their liability structure, non-banking finance companies(NBFC) are classified into two broad categories: (a) deposit-taking NBFCs (NBFC-D), and (b)

Box 3.2: Pradhan Mantri Mudra Yojana

In pursuance of the announcement in the Union Budget 2015-16 of the setting up of a Micro Units Development Refinance Agency (MUDRA) to refinance last mile financers, the Pradhan Mantri Mudra Yojana (PMMY) has been launched on 8 April 2015. MUDRA seeks to offer refinance products having a loan requirement up to ₹10 lakh and support to micro finance institutions (MFI) by way of refinance. The products designed under the PMMY are categorized into three buckets of finance named Shishu (loan up to ₹50,000), Kishor (₹50,000 to ₹5 lakh) and Tarun (₹5 lakh to ₹10 lakh) based on the stage of growth/development of the micro business units, with about 60 per cent of the allocation to Shishu. The PMMY aims to provide formal bank credit to the more than 5.7 crore existing informal sector micro enterprises and many more aspiring micro entrepreneurs in the country. The total amount disbursed under the PMMY up to mid-January 2016 stood at ₹84,672.36 crore, of which ₹38,057.33 has been disbursed under Shishu, ₹28,359.87 under Kishor and ₹18,255.16 under Tarun. In all 2.19 crore borrowers have benefited so far, of which 1.62 crore are women, 77.12 lakh are new entrepreneurs and 1.10 crore belong to the scheduled caste/scheduled tribe/other backward classes category.

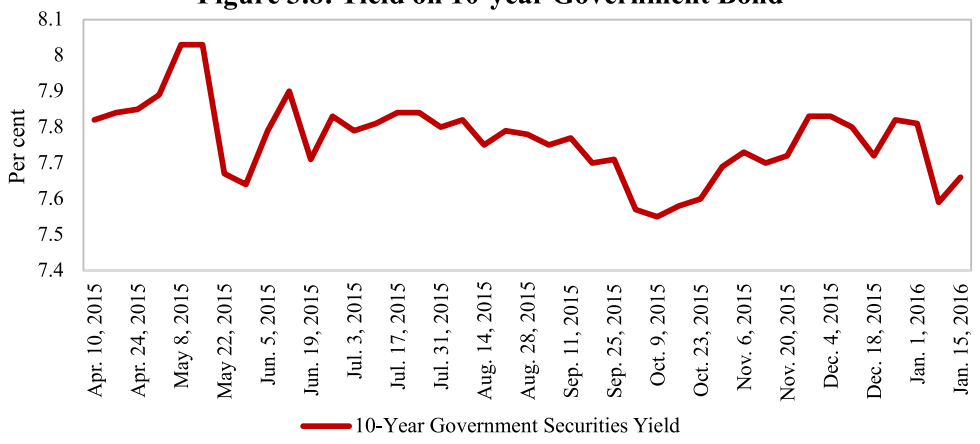
non-deposit taking NBFCs (NBFC-ND). As of 30 September 2015, there were 11,781 NBFCs registered with the RBI, out of which 212 were NBFCs-D and 11,569 were NBFCs-ND. NBFCs accounted for 14.8 per cent of SCB assets and 0.3 per cent of SCBs deposit as on 31 March 2015.

3.21 As at end-March 2015, the consolidated balance sheet of NBFCs-D expanded marginally by 2.1 per cent, year-on-year. On the liability side, borrowing from banks, which is the major source of funds, increased by 5.8 per cent. Notwithstanding the fact that the number of NBFCs-D declined during the year, the deposits mobilized by them increased by 5.8 per cent. On the asset side, loans and advances of NBFCs-D, which constituted close to three-fourths of their assets, increased marginally by 1 per cent at end-March 2015. The assets of systemically important non-deposit-taking NBFCs (NBFCs-ND-SI) expanded significantly by 15.9 per cent as at end-March 2015. Loans and advances, which formed the major part of their assets, grew by 15.5 per cent. Borrowing of NBFCs-ND-SI, which constituted more than two-thirds of their total liabilities, increased by 17.4 per cent as at end-March 2015. The NBFCs-ND-SI raised resources mainly by floating debentures, followed by borrowing from banks, commercial paper and inter-corporate borrowing.

Developments in the Government Securities Market

3.22 Ten-year government bonds reflect the long end of the yield curve and are also proxy for assessing the credit risk of the sovereign. The yields on government securities were affected by a number of factors in the current financial year. The benchmark 10-year yield started the year at 7.78 per cent, reached its highest level of 7.99 per cent on 12 May 2015, before falling to a two-year low of 7.48 per cent after a 50 bps rate cut by the RBI on 29 September 2015(Figure 3.8). The hardening bias on yields till early May 2015 was primarily on account of an increase in crude prices from their multi-year low level in mid-March 2015, a global rise in government bond yields including in advanced countries, turbulence witnessed by global financial markets and a depreciating rupee. It saw a return to some stability post the announcement of a new 10-year paper on 19 May 2015 and continued positive developments on the inflation front. The market witnessed another round of volatility in August 2015, caused by developments in China. The new ten-year benchmark paper breached the 7.91 per cent level towards August end. Subsequently, the RBI's policy repo rate cut by 50 bps on 29 September 2015 and announcement of a medium-term framework (MTF) for staggered increase

Figure 3.8: Yield on 10-year Government Bond



Source: **RBI.**

of foreign portfolio investment (FPI) limits in debt securities increased buoyancy in the market. However, the market continued to lose some of its gains after mid-October, owing to fresh concerns on global cues, as well as some domestic concerns.

Developments in the Capital Market

Primary Market

3.23 In 2015-16 (April-December), resource mobilization through the public and right issues has surged rapidly as compared to the last financial year. During 2015-16 (April-December), 71 companies have accessed the capital market and raised ₹51,311 crore, compared to ₹11,581 crore raised through 61 issues during the corresponding period of 2014-15.

3.24 The small and medium enterprises (SME) platform of the stock exchange is intended for small and medium sized companies with high growth potential, whose post issue paid-up capital is less than or equal to ₹ 25 crore. During 2015-16 (April-December), 32 companies were listed on the SME platform, raising a total amount of ₹278 crore as compared to ₹229 crore raised through 28 issues in the corresponding period of 2014-15.

3.25 Resources mobilized by mutual funds during April-December 2015 also increased substantially to ₹1,61,696 crore from ₹87,942crore mobilized during the same period of the previous year. Table 3.4 provides a picture of resource mobilization in the primary market.

Table 3.4: Resource Mobilization in the Primary Market (₹ crore)

	2013-14	2014-15	2014-15 April-December	2015-16 April-December
Debt	42383	9713	7348	30421
Equity	13269	9789	4233	20890
of which IPOs	1236	3039	1420	12259
Private placement of corporate bonds	276054	404137	269245	341420

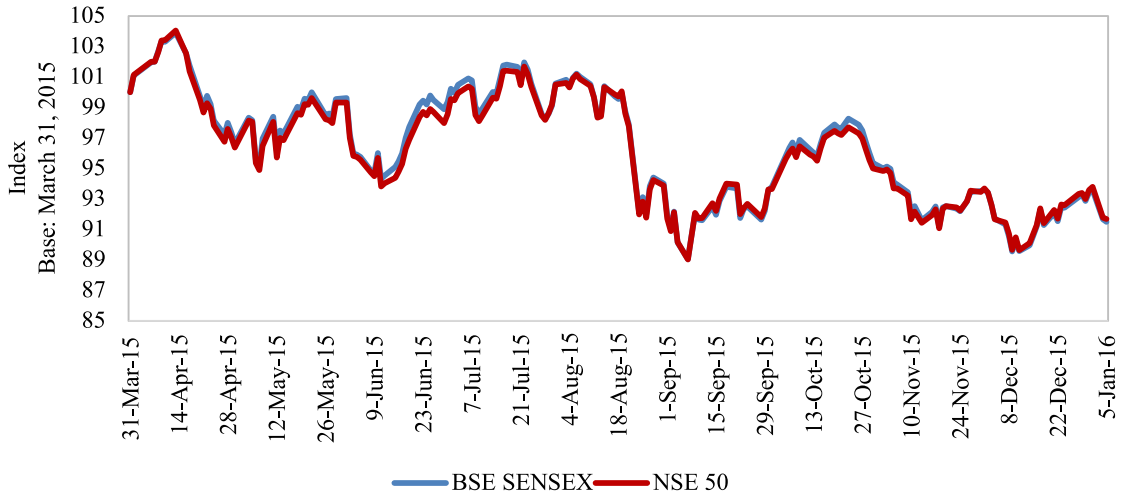
Source : Securities and Exchange Board of India (SEBI).

Note: **IPO stands for initial public offering.**

Secondary Market

3.26 During 2015-16 so far, the Indian securities market has remained subdued (Figure 3.9). The Bombay Stock Exchange (BSE) Sensex declined by 8.5 per cent (up to 5 January 2016) over end-March 2015, mainly on account of turmoil in global equity markets in August 2015 following slowdown in China and its currency devaluation and slump in stocks. On 4 January 2016, weak Chinese manufacturing data again led to a global sell-off which caused the BSE Sensex also to decline by 538 points (2.1

Figure 3.9: Movement in BSE Sensex and Nifty 50



Source: **SEBI**

per cent). The downward trend in the Indian stock market was also guided by mixed corporate earnings for Q1 and Q2 of 2015-16, FPIs' concern over minimum alternative tax (MAT), weakening of the rupee against the US dollar, investor concern over delay in passage of the Goods and Services Tax (GST) Bill, uncertainty over interest rate hike by US Fed and selling by FPIs. However, the Indian equity market has been relatively resilient during this period compared to the other major EMEs. The Indian stock market withstood the US Fed increase in interest rates in December 2015.

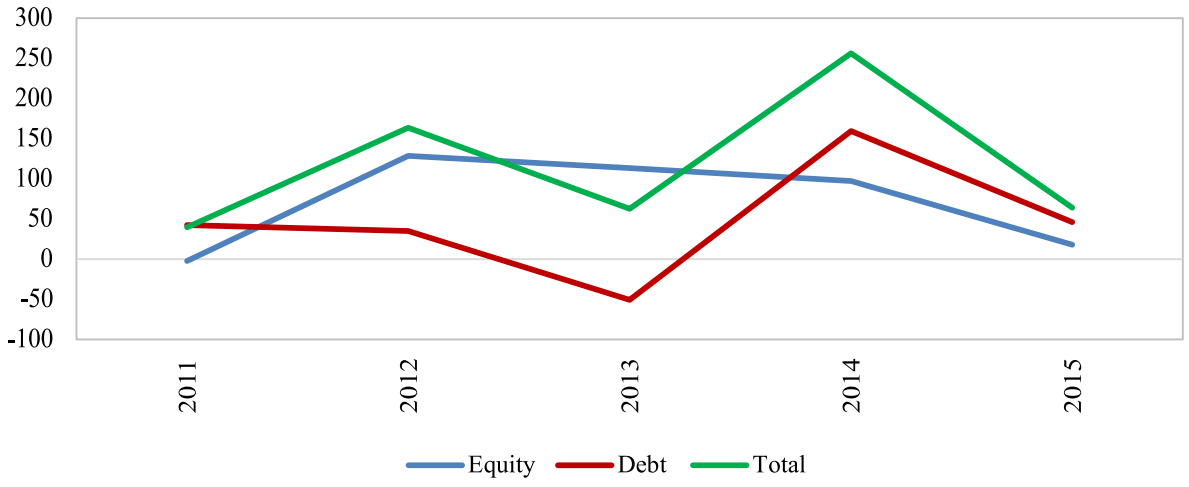
Box 3.3: New Gold Investment Schemes

Government had launched Sovereign Gold Bonds and Gold Monetisation Schemes on 5th November, 2015. The main objectives of the schemes are to reduce the demand for physical gold and shift a part of the gold imported every year for investment purposes into financial savings.

Sovereign Gold Bonds: These are issued by RBI on behalf of the Government of India in rupees and denominated in grams of gold and restricted for sale to the resident Indian entities only both in demat and paper form. The minimum and maximum investment limits are two grams and 500 grams of gold per person per fiscal year respectively. The rate of interest for the year 2015-16 is 2.75 per cent per annum, payable on a half yearly basis. The tenor of the Bond is for a period of 8 years with exit option from 5th year onwards. KYC norms are the same as that for gold. Exemption from capital gains tax is also available. Redemption is made in the rupee value equivalent to the price of gold at the time of maturity. In the first two tranche of SGB total subscription of 3788 kilograms of gold amounting to ₹ 993 crore were received from about 3.90 lakh applications.

Gold Monetisation Scheme: Bureau of Indian Standards (BIS) certified Collection, Purity Testing Centres (CPTC) collect the gold from the customer on behalf of the banks. The minimum quantity of gold (bullion or jewellery) which can be deposited is 30 grams and there is no limit for maximum deposit. Gold Saving Account can be opened with any of the designated bank and denomination in grams of gold for short-term period of 1-3 years, a medium-term period of 5-7 years and a long-term period of 12-15 years .The CPTCs transfer the gold to the refiners. The banks will have a tripartite / Bipartite Legal Agreement with refiners and CPTCs. For the year 2015-16 interest rates has been fixed as 2.25 percent and 2.5 percent for the medium and long term respectively. Redemption is made in cash/gold for short term and in cash for medium and long term deposits. Tax exemption are same as those available under GDS 1999.The difference between the current borrowing cost for the Government and the interest rate paid by the Government under the medium/long term deposit shall be credited to the Gold Reserve Fund. As of 2 February 2016, a total of 1030.2 kilo grams of gold have been mobilized through the scheme

Figure 3.10: Net FII Investment (in Rs. crore)



Source: **SEBI**

Institutional Investments

3.27 The net investment by FPIs/ foreign institutional investor (FII) in Indian markets has been to the tune of ₹ 63,663 crore in 2015 as compared to ₹2,56,213 crore in 2014.Net FII investment from 2011 to 2015 is shown in Figure 3.10.

3.28 With the objective of putting in place a more predictable regime for investment by FPIs, the MTF for FPI limits in debt securities has been laid out. The limits for FPI investment in debt securities will henceforth be announced/fixed in rupee terms. The limits for FPI investment in central government securities will be increased in phases to 5 per cent of the outstanding stock by March 2018. In aggregate terms, this is expected to open up room for additional investment of ₹1200 billion in central government securities (G-sec) by March 2018 over and above the existing limit of ₹1,535 billion. The existing requirement of a minimum residual maturity of three years for investments being made in G-sec will continue to apply to all categories of FPIs. Aggregate FPI investments in any central government security would be capped at 20 per cent of the outstanding stock of the security.

3.29 In order to facilitate rupee-denominated borrowing from overseas, the government decided to put in place a framework for issuance of rupee-denominated bonds overseas within the overarching ECB policy. The minimum maturity period of these bonds will be five years and the all-in-cost of such borrowings should be commensurate with prevailing market conditions. No end-use restrictions are envisaged except for a negative list which includes investment in real estate and capital markets. Withholding tax of 5 per cent will be applicable on interest income from these bonds, but the capital gains arising in case of appreciation of the rupee will be exempted from tax.

3.30 The RBI in consultation with the Ministry of Finance has put in place a revised ECB framework from 2 December 2015. The new ECB framework is more attuned to the current economic and business environment and is also more simplified and streamlined. From a regulatory perspective, three main clear-cut categories/buckets have been created which include medium-term foreign currency-denominated ECB, long-term foreign currency-denominated ECB (with minimum average maturity of 10 years) and Indian rupee-denominated ECB. The new

Box 3.4: Reforms in the Financial Sector

During 2015, the government has initiated a number of reform measures in the financial sector. The Forwards Markets Commission (FMC) has been merged with the Securities and Exchange Board of India (SEBI) with effect from 28 September 2015 to achieve convergence of the regulation of the securities and commodity derivatives markets and increase the economies of scope and scale for exchanges, financial firms and other stakeholders. A Monetary Policy Agreement has been signed between the government and the RBI in February 2015. Going forward, the government intends to deepen such reforms including amendment of the RBI Act for providing a statutory Monetary Policy Framework and Monetary Policy Committee, strengthening and upgrading the Securities Appellate Tribunal to the Financial Sector Appellate Tribunal and creation of a Resolution Corporation to enable faster dispersal of deposit insurance as well as orderly resolution of financial service providing companies.

As announced in the budget speech of the Finance Minister in 2014-15, for providing an entrepreneur-friendly legal bankruptcy framework for India, the Insolvency and Bankruptcy Code 2015 has been introduced in the Parliament on 21 December 2015. The bill seeks to consolidate and amend the laws relating to reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time-bound manner for maximization of the value of assets of such persons, to promote entrepreneurship and availability of credit, to balance the interests of all the stakeholders including alteration in the order of priority of payment of government dues and to establish an Insolvency and Bankruptcy Fund, and for matters connected therewith or incidental thereto.

Financial Stability and Development Council

With a view to strengthening and institutionalizing the mechanism for maintaining financial stability, enhancing inter-regulatory coordination and promoting financial sector development, the Financial Stability and Development Council (FSDC) under the chairmanship of union Finance Minister was set up by the government as the apex-level forum in December 2010. The council maintains macro prudential supervision of the economy, including functioning of large financial conglomerates, and addresses inter-regulatory coordination and financial sector development issues, including those relating to financial literacy and financial inclusion. During 2015-16, the Council held three meetings up to January 2016. The meetings assessed issues related to macroeconomic financial stability and discussed important matters such as corporate bond market development, building effective deterrence in bank frauds, NPAs of banks, corporate sector balance sheet stress, report of activities under the Financial Stability Board (FSB) and Financial Action Task Force (FATF) and follow up on the recommendations of the special investigation team (SIT) on black money.

The FSDC sub-committee set up under the chairmanship of the Governor of the RBI held two meetings in 2015-16.The meetings discussed global and domestic factors impinging on financial stability, the Financial Stability Report, standards and protocol for setting up account aggregation for financial assets, allowing insurance companies and mutual funds as protection sellers in credit default swaps (CDS), corporate bond market development, etc.

framework has an expanded list of recognized lenders comprising overseas regulated financial institutions, sovereign wealth funds, pension funds, insurance companies, etc. and has an exhaustive list of permissible end-users with only a small negative list for long-term foreign currency-denominated ECB and INR-denominated ECB.

Insurance Sector

3.31 The total insurance premium generated by the insurance sector increased from ₹3,94,235 crore in 2013-14 to ₹4,15,252 crore in 2014-15. During this period, life insurance premium registered a growth of 4.4 per cent whereas the general insurance business grew by 9 per cent.

3.32 Insurance penetration, which is premium volume as a ratio of GDP, was 2.71 per cent in 2001 and 3.3 per cent in 2014. Insurance density, which is measured as the ratio of premium to population (per capita premium), increased from US$11.5 in 2001 to US$55 in 2014. Globally, insurance penetration and density were 3.4 per cent and US$368 respectively for the life segment

Box 3.5: New Insurance and Pension Schemes

Three schemes were launched in 2015 in the insurance and pension sectors for creating a universal social security system for all Indians, especially the poor and underprivileged. These were the Pradhan Mantri Suraksha Bima Yojana (PMSBY), the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and the Atal Pension Yojana (APY) and they were launched on a pan-India basis on 9 May 2015. The salient features of the three schemes are as follows:

1. The PMSBY offers a renewable one-year accidental-death-cum-disability cover to all subscribing bank account holders in the age group of 18 to 70 years for a premium of ₹12 per annum per subscriber. The risk coverage available will be ₹ two lakh for accidental death and permanent total disability and ₹ one lakh for permanent partial disability, for a one-year period stretching from 1 June to 31 May. As on 1 January 2016, cumulative gross enrolment by banks under the PMSBY is over 9.28 crore. Over 2200 claims were registered under this scheme, out of which more than 1200 have been paid so far.
2. The PMJJBY offers a renewable one-year term life cover of ₹ two lakh to all subscribing bank account holders in the age group of 18 to 50 years. As on 1 January 2016, cumulative gross enrolment by banks under the PMJJBY is over 2.93 crore. Over 11,600 claims were registered under the PMJJBY, out of which more than 9300 have been settled.
3. The APY was launched in May 2015 and it provides a defined pension, depending on the contribution and its period. The subscribers to the APY will receive a minimum pension of ₹ 1000, 2000, 3000, 4000 or 5000 per month, from the age of 60 years, depending on their contributions, which are themselves based on the age of joining the scheme. The scheme is open to all bank account holders. The central government co-contributes 50 per cent of the total contribution subject to a maximum of ₹ 1000 per annum, to each eligible subscriber's account, for a period of five years, i.e. from FY 2015-16 to FY 2019-20, who joined the APY between 1 June 2015 and 31March 2016 and who is not a member of any statutory social security scheme and is not an income tax payer.

in 2014 and 2.7 per cent and US$294 respectively for the non-life segment.

3.33 An analysis of the claims-position for the life insurance sector during the period 1 April 2014 to 31 March 2015 indicates an increase in settlement ratio to 96.97 per cent from 96.75 per cent in the previous year for individual claims and a decrease to 96.15 per cent from 96.22 per cent in the previous year for group claims. The repudiation ratio during the same period has been 2.08 per cent and 0.76 per cent for individual claims and group claims respectively. Box 3.5 lists the new insurance and pension schemes launched by the government.

Pension Sector

3.34 The 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.

3.35 Till 31December 2015, a total of 112.82 lakh members/ subscribers, inclusive of the 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 33 per cent from ₹80,855 crore on 31 March 2015 to ₹1, 07,802 crore on 31 December 2015. The APY has a total of about 18 lakh subscribers and a corpus of ₹262 crore as on 31 December 2015. As on 31 December, 2015, 351 banks are registered as APY service providers which include PSBs, PVBs, FBs, and RRBs, district commercial banks, SCBs, urban commercial banks and the Department of Post.

04 CHAPTER

External Sector

A pick-up in growth in some large advanced economies, along with lower global commodity prices and relative financial stability amidst periodic turbulence, marked the external sector environment in 2015-16. The muted global growth recovery and outlook owed largely to a decline in emerging economies for the fifth consecutive year and particularly to rebalancing in the Chinese economy. Reflecting the weak global demand and trends, India's exports have been declining since December 2014. With imports falling in level due to lower global commodity prices, merchandise trade deficit continued at moderate levels in 2015-16 and, net surplus in the invisibles account remaining on an even keel, current account deficit was at 1.4 per cent of gross domestic product in April-September 2015.While the periodic global financial market turbulences led to some outflows under portfolio investment, the other capital/financial flows remained by and large supportive, leading to net reserve accretion of US$10.6 billion in the first half of this fiscal. The rupee remained resilient in the recent turmoil, testifying to a strong macroeconomic outlook for the country.

Global Economic Environment

4.2 One important positive outcome in 2015 was the modest pick-up in growth in some of the advanced economies. It might be recalled that after falling in 2009 due to the 2008 global financial crisis, growth in emerging and developing economies rebounded in 2010 and 2011. While advanced economies also exhibited a recovery in 2010 thanks to the large stimuli, global growth continued to be tepid relative to the average of the decade ending 2006, largely on account of the slowdown in advanced economies. Spillover effects of the crisis may have been large, prolonged and bi-directional, given that the global integration is far greater than in the prior decade. This has made the task of projecting global economic outlook arduous. This uncertainty has led to the International Monetary Fund (IMF) revising the global growth outlook in its World Economic Outlook (WEO) four times a year since 2009.

4.3 In its latest WEO Update, published on 19 January 2016, the IMF has projected growth in the global economy to go up from 3.1 per cent in 2015 to 3.4 per cent in 2016 and further to 3.6 per cent in 2017, slightly lower than the projection published in October 2015. Growth in advanced economies is revised by 0.2 percentage points in 2016 to 2.1 per cent, to continue through 2017. Growth in the US is expected to remain resilient owing to strengthening of the housing and labour markets. Growth in the euro area, is expected to increase due to stronger private consumption supported by

lower oil prices and easy financial conditions is expected to outweigh the weakening in net exports. Growth in Japan is also expected to consolidate in 2016, on the back of fiscal support, lower oil prices, accommodative financial conditions, and rising incomes.

4.4 Overall global economic activity remained subdued in 2015, as growth in emerging market and developing economies (EMDE) declined for the fifth consecutive year and recovery in advanced economies was modest. This is also attributable to the changing composition of the global economy and relative point contributions to global growth. The fall in the contribution of the EMDEs is not being made good by the advanced economies. A recent feature is that the Chinese economy is gradually slowing down and is transitioning from investment demand to consumption demand and from manufacturing to services. The concern over the spillovers of subdued global growth to other economies through trade channels and weaker commodity prices is manifest in diminishing confidence and increasing volatility in financial markets. In addition, a dual monetary policy--a gradual tightening in monetary policy in the US in the backdrop of its resilient recovery and easy monetary policy in several other major advanced economies--has led to continued uncertainties and poses challenges for the year ahead. In the case of EMDEs, growth remained subdued at 4 per cent in 2015, but is projected to increase to 4.3 per cent in 2016 and 4.7 per cent in 2017. The slowdown and rebalancing of the Chinese economy, lower commodity prices, and strains in some large emerging market economies will continue to weigh on growth prospects in 2016–17. Assessments indicate that mixed inflation developments in EMDEs reflect the conflicting implications of weak domestic demand and lower commodity prices versus marked currency depreciations over the past year.

4.5 The 19 January WEO Update also indicated that India and the rest of emerging Asia are bright spots, albeit with some countries facing strong headwinds from China's economic rebalancing and global manufacturing weakness. The IMF's growth forecast for India is 7.5 per cent in 2016 and 2017 and this surpasses the projection of 6.3 per cent and 6.0 per cent respectively for China. The level of global economic activity has a significant and direct bearing on the growth prospects of the emerging economies through trade channels. As per the Update, world trade volume growth projections have been placed at 3.4 per cent and 4.1 per cent respectively for 2016 and 2017--lower by 0.7 percentage points to 0.5 percentage point respectively from WEO, October 2015. The World Bank's Report on Global Economic Prospects (January 2016) also estimated that India will grow by a robust 7.8 per cent in 2016 and 7.9 per cent in the following two years. Compared to other major developing countries, the report maintained that India is well positioned to withstand near-term headwinds and volatility in global financial markets due to reduced external vulnerabilities, a strengthening domestic business cycle, and a supportive policy environment.

India's Merchandise Trade

4.6 The rapid and over threefold rise in India's merchandise exports from less than US$100 billion prior to 2005-6 to over US$300 billion in 2011-12 was composed of a rather high growth in exports of petroleum, oil and lubricants (POL) as well as non-POL exports. Imports grew in the same period at a faster clip and the levels of merchandise trade deficit went up particularly precipitously in 2011-12 and 2012-13. A large part of the widening owed to global commodity price rise even in a milieu of tepid global economic growth. India's greater integration with the world economy was reflected by the trade openness indicator, merchandise trade to gross domestic product (GDP), which

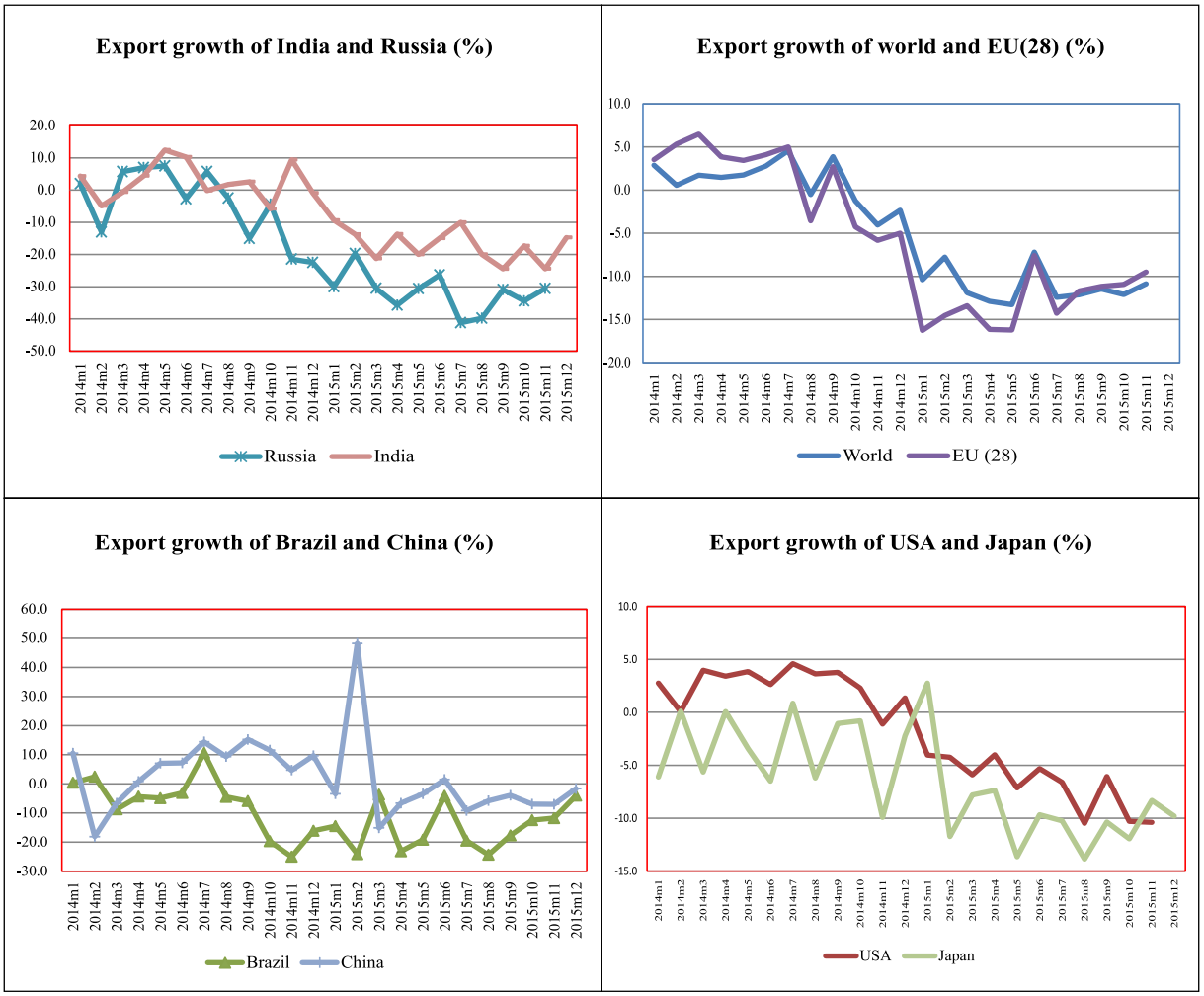
increased from 13.9 per cent in 1991-92, to 27.0 per cent in 2004-5 and further to 41.0 per cent in 2013-14. However, it moderated to 37.1 per cent in 2014-15 as a result of subdued exports and imports.

4.7 Since late 2014-15 (December 2014), India's merchandise exports have been declining continuously. Both developed and developing countries are also witnessing a fall in exports as a result of subdued economic conditions and a downward spiral in crude oil prices. Since the latter half of 2014, there has been a southward movement in the growth of exports from India and major countries of the world and export growth of different countries moves in tandem with the world economic situation (Figure 4.1).

4.8 During the current financial year (April-January), growth in India's exports declined year-on-year by 17.6 per cent and they stood at US$217.7 billion. The decline owed to sluggish global demand and low global commodity prices, particularly of petroleum. A decomposition of the decline indicates that it is POL exports which contributed to it by as much as 55.0 per cent and engineering goods by 24.0 per cent.

4.9 Again in keeping with the global trend and the slowdown in nominal terms of domestic economic activity, imports have declined by 15.5 per cent in the current financial year (April-January) to US$324.5 billion. Lower levels of POL imports were the main reason for the decline in total imports

Figure 4.1 Export growth of world and some select countries



Source: **World Trade Organisation (WTO).**

this year so far. POL imports declined by 41.4 per cent to US$ 73.1 billion in 2015-16 (April-January) as against US$ 124.8 billion in 2014-15 (April-January), as a result of the steep fall in international crude oil prices. Correspondingly, non-POL imports at US$251.4 billion were 3.0 per cent lower than non-POL imports of US$259.1 billion. Gold and silver imports increased by 5.1 per cent to US$32.9 billion in 2015-16 (April-January) as compared to US$31.3 billion in the corresponding period of 2014-15. It may be instructive to note that this level of gold and silver imports appropriately indicates the market dynamics as even last year gold import restrictions were in place for about six months. During 2015-16 (April-January), trade deficit decreased to US$106.8 billion as compared to US$119.6 billion in the corresponding period of 2014-15.

Composition of Trade

4.10 Factor endowments, trade policies, technology, and movements in global commodity prices have had a strong bearing on the composition of India's trade over time. The global financial crisis of 2008 in conjunction with commodity price shocks significantly affected the composition. There was a rebound in 2010-11 in terms of robust global growth, relatively stable global commodity prices and a pick-up in trade. A comparison of the current composition with respect to 2010-11 may, therefore, be apposite. The top eight export sectors—petroleum products, gems and jewellery, textiles, chemicals and related products, agriculture and allied sector, transport equipment, base metals and machinery--continue to dominate India's export basket, accounting for nearly 86.4 per cent of total exports in 2014-15 (as compared to 78.1 per cent in 2010-11). Petroleum, crude and products occupy top position among the top eight export sectors with an 18.3 per cent share of total exports in 2014-15 (as against 14.6 per cent in 2010-11). The share of gems and jewellery exports declined from 17 per cent in 2010-11 to 13.3 per cent in 2014-15 (Table 4.1). The shares of agriculture and allied exports, chemicals and related products and transport equipment in total exports have increased from 7.1 per cent, 8.3 per cent and 6.6 per cent respectively in 2010-11 to 9.7 per cent, 10.2 per cent and 8.6 per cent in 2014-15.

4.11 Overall export growth declined by 1.3 per cent in 2014-15, but this was a mixed bag of a decline in exports of petroleum products, gems and jewellery and agriculture and allied products, which constituted 41.3 per cent of India's total exports in 2014-15, as against growth in exports of transport equipment, base metals and machinery which exhibited growth rates of 20.2 per cent, 10.6 per cent and 12.2 per cent respectively in 2014-15. Low growth rates of 0.5 per cent and 3.0 per cent were exhibited by exports of textiles and chemical and related products. Although the share of marine products and leather and leather manufactures is low in India's total exports, they registered high growth rates of 9.8 per cent and 8.3 per cent respectively in 2014-15. Data available on commodity wise performance this year (April-December 2015) indicates that the decline in export was broad-based.

4.12 Similarly imports into India declined by 0.5 per cent to US$448.0 billion in 2014-15 as compared to US$450.2 billion in 2013-14, on account of a fall in POL imports by 16.0 per cent. The decline in POL imports owed to a fall in international crude oil prices (Indian basket) from US$105.5 per barrel in 2013-14 to US$ 84.2 per barrel in 2014-15. Petroleum, crude and products, chemicals and related products, gold, electronic goods and machinery accounted for 62.5 per cent of India's total imports in 2014-15. Major items of imports like chemicals and related

Table 4.1: Sector wise share and growth rate of exports

	Share				Growth rate			
	2013-14	2014-15	2014-15 (Apr-Dec)	2015-16 (Apr-Dec)	2013-14	2014-15	2014-15 (Apr-Dec)	2015-16(P) (Apr-Dec)
Plantation	0.5	0.5	0.5	0.6	-11.7	-7.5	-6.1	3.4
Agri & allied products	10.5	9.7	9.6	9.2	0.9	-8.5	-4.4	-21.5
Marine products	1.6	1.8	1.8	1.9	44.8	9.8	15.4	-14.8
Ores & minerals	1.1	0.8	0.8	0.7	-2.6	-32.7	-30.1	-22.0
Leather & leather manufactures	1.8	2.0	2.0	2.1	17.2	8.3	13.5	-11.3
Gems & jewellery	13.2	13.3	13.0	14.6	-3.7	-0.3	1.4	-8.1
Chemicals & related products	9.8	10.2	9.9	12.2	6.5	3.0	5.6	0.3
Plastic & rubber articles	2.2	2.1	2.2	2.5	11.0	-3.6	1.7	-7.1
Base metals	7.1	8.0	7.7	7.3	4.2	10.6	13.8	-22.5
Electronics items	2.4	1.9	1.9	2.1	-5.2	-21.3	-21.7	-9.8
Machinery	5.6	6.3	6.1	7.2	5.8	12.2	15.1	-4.5
Transport equipment	7.0	8.6	8.5	8.1	15.2	20.2	28.4	-21.6
Textiles & allied products	11.8	12.0	11.4	13.6	12.4	0.5	4.3	-1.7
Petroleum crude & products	20.1	18.3	20.2	12.2	3.8	-10.1	1.1	-50.6
Others	5.3	4.5	4.4	5.8	-0.6	-16.0	-15.6	7.5
Total exports	**100.0**	**100.0**	**100.0**	**100.0**	**4.7**	**-1.3**	**3.5**	**-18.0**

Source: **Calculated from Directorate General of Commercial Intelligence and Statistics (DGCI&S), Kolkata data.**
Note: **Growth rate is in US dollar terms: P stands for provisional.**

products, electronic goods and gold registered growth rates of 8.2 per cent, 13.8 per cent and 19.9 per cent respectively in 2014-15 (Table 4.2). Imports of petroleum crude and products, transport equipment and pearls, precious and semi-precious stones witnessed a decline in growth rates by 16.0 per cent, 5.4 per cent and 5.8 per cent respectively.

4.13 During 2015-16 (April-December), total imports declined by 15.9 per cent to US$295.8 billion as against US$351.6 billion in 2014-15 (April-December). Detailed commodity breakup shows that imports of electronic goods, agriculture and allied products and fertilizers registered growth rates of 11.5 per cent, 6.9 per cent, and 19.4 per cent respectively. Machinery, an important item of capital goods import, registered low growth of 0.8 per cent while transport equipment imports witnessed negative growth of 12.6 per cent in 2015-16 (April-December).

Direction of Trade

4.14 The slowdown in terms of global economic growth and trade volumes was also manifest in the direction of trade statistics. The share of advanced economies that were adversely affected by the global slowdown in total Indian exports fell significantly. The shares of Europe (consisting of the EU, the European Free Trade Association [EFTA] and other European countries) and America (consisting of North America and Latin America) declined from 23.6 per cent and 20.1 per cent respectively in 2004-05 to 18.1 per cent and 19.0 per cent respectively in 2014-15. The share of the CIS & Baltics, which was 1.3 per cent in 2004-05, declined marginally to 1.1 per cent in 2014-15 while there was marginal increase in the share of Asia from 47.9 per cent in 2004-05 to 49.6 per cent in 2014-15. The export share of Africa in India's total exports increased from 6.7 per cent in 2004-05 to 10.6 per cent in 2014-15.

Table 4.2: Sector wise share and growth rate of imports

	Share				Growth rate			
	2013-14	2014-15	2014-15 (Apr-Dec)	2015-16 (Apr-Dec)	2013-14	2014-15	2014-15 (Apr-Dec)	2015-16(P) (Apr-Dec)
Plantation	0.2	0.2	0.2	0.2	3.5	-3.8	-3.2	-14.8
Agri & allied products	3.0	4.2	4.2	5.4	-19.6	40.9	46.4	6.9
Ores & minerals	5.5	6.0	5.7	5.3	-5.4	9.4	9.5	-21.0
of which								
coal, coke & briquittes, etc.	3.6	4.0	3.7	3.4	-3.5	8.5	6.4	-21.9
Gems & jewellery	13.0	13.9	13.6	15.2	-30.3	6.7	3.7	-5.7
of which								
Pearls, precious & semi-precious stones	5.3	5.0	5.1	4.9	5.7	-5.8	-2.1	-18.2
Gold	6.4	7.7	7.4	9.0	-46.7	19.9	10.7	2.4
Silver	1.0	1.0	1.0	1.1	129.9	-0.4	-7.7	-7.5
Chemicals & related products	7.9	8.6	8.6	9.9	-4.8	8.2	9.9	-3.4
of which								
Fertilizer	1.4	1.7	1.7	2.4	-28.5	18.1	8.1	19.4
Organic chemicals	2.5	2.5	2.6	2.6	9.6	2.5	9.4	-17.1
Plastic & rubber articles	2.8	3.2	3.2	3.6	2.1	12.2	18.3	-5.3
Base metals	4.8	6.0	5.8	6.5	-19.3	25.4	25.9	-6.7
Electronics items	7.2	8.2	7.9	10.4	-1.5	13.8	12.1	11.5
Machinery	6.9	7.1	6.8	8.1	-12.9	3.0	2.1	0.8
Transport equipment	3.6	3.4	3.1	3.2	-8.5	-5.4	-10.4	-12.6
Petroleum crude & products	36.6	30.9	33.1	23.1	0.4	-16.0	-4.6	-41.5
Others	8.5	8.1	7.7	9.0	5.9	-4.9	-2.4	-1.4
Total imports	**100.0**	**100.0**	**100.0**	**100.0**	**-8.3**	**-0.5**	**3.7**	**-15.9**

Source : **Calculated from DGCI&S data**
Note : **Growth rate is in US dollar terms: P stands for provisional.**

4.15 Exports to America grew by 8.9 per cent and Africa by 5.2 per cent in 2014-15 over the previous year while exports to some other destinations declined, for example Europe (by 3.5 per cent), Asia (by 1.0 per cent) and the CIS & Baltics (by 2.7 per cent). During 2015-16 (April-December), on the other hand, there was a broad-based decline in exports to all the five regions. In terms of major countries, India's exports to the USA, the UAE and Hong Kong (with shares of 13.7 per cent, 10.6 per cent and 4.4 per cent in India's total exports) increased by 8.4 per cent, 8.2 per cent and 6.8 per cent respectively in 2014-15. On the contrary, India's exports to China (3.8 per cent share), Saudi Arabia (3.6 per cent share), Singapore (3.2 per cent share) and the UK (3.0 per cent share) witnessed negative growth of 19.6 per cent, 8.7 per cent, 21.6 per cent and 4.8 per cent respectively in 2014-15. These seven countries together account for 42.3 per cent of India's total exports in 2014-15. During 2015-16 (April-December), all seven major destinations witnessed negative growth.

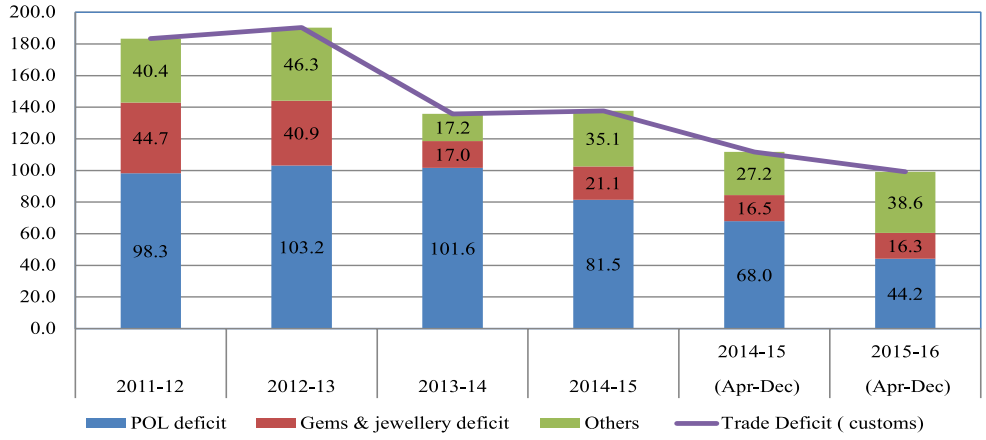
4.16 Similarly, India's import sources have also undergone change over time. India's imports from Europe (share) declined from 23.0 per cent in 2004-05 to 16.5 per cent of total imports in 2014-15. On the other hand, the import shares of Africa, America and

Asia in India's total imports increased during the same period. India's imports from Europe and Africa increased by 4.1 per cent and 5.5 per cent respectively in 2014-15 over the previous year, while imports from America and Asia declined by 2.7 per cent and 3.4 per cent respectively. Among the top countries for India's imports, China with a share of 13.5 per cent in total imports, registered a positive growth rate of 18.4 per cent in 2014-15. Imports from Switzerland, Indonesia and Korea, with shares of 4.9 per cent, 3.4 per cent and 3.0 per cent also registered positive growth rates of 14.6 per cent, 1.7 per cent and 8.5 per cent respectively in 2014-15. However, India's imports from Saudi Arabia (6.3 per cent share), the UAE (5.8 per cent share) and the USA (4.9 per cent share) declined by 22.8 per cent, 9.9 per cent and 3.1 per cent respectively in 2014-15. Imports from all five major regions (including CIS & Baltics) declined in 2015-16, with imports from America registering the highest decline (April-December). India's imports from China registered positive growth of 2.5 per cent in 2015-16 (April-December), while imports from other major countries registered negative growth rates.

Trade Deficit

4.17 India's trade deficit increased almost steadily from US$28.0 billion in 2004-05 to US$118.6 billion in 2010-11. It grew exponentially to reach unsustainable levels of US$183.4 billion and US$190.3 billion respectively in the next two years. However, it moderated to US$135.8 billion in 2013-14 as a result of measures taken by the government to contain trade and current account deficits. In 2014-15, the trade deficit was marginally higher at US$137.7 billion. Trade deficit continued to be at a lower level due to the decline in the value of POL imports by 16.0 per cent, caused by a fall in international oil prices by 20.2 per cent. Trade deficit can be decomposed into POL deficit and non-POL deficit. POL deficit (POL exports minus POL imports), the major component of trade deficit, which was hovering at around US$100 billion from 2011-12 to 2013-14, declined to US$81.5 billion in 2014-15 and to US$44.2 billion in 2015-16 (April-December) (Figure 4.2). Within non-POL deficit, gems and jewellery deficit (net exports of pearls, precious and semi-precious stones, gold, silver and other gold jewellery) declined sharply from US$40.9 billion in 2012-13 to US$17.0 billion in 2013-14, reflecting restrictions placed on these imports, but subsequently increased to US$21.1 billion in 2014-15. Trade policy has focused on promoting exports and thereby moderate the levels of trade deficit. The moderation in the levels of trade deficit had a salutary effect on sustaining the moderation in the overall balance-of-payments outcome in the current fiscal.

Figure 4.2: Decomposition of trade deficit (US$ billion)



Source: **DGCI&S.**

Box 4.1: Salient Features of the FTP 2015-2020

Merchandise Export from India Scheme: The six different schemes of the earlier FTP (Focus Product Scheme, Market Linked Focus Product Scheme, Focus Market Scheme, Agriculture Infrastructure Incentive Scrip, Vishesh Krishi and Gram Udyog Yojana and Incremental Export Incentive Scheme) which had varying sector-specific or actual user only conditions attached to their use have been merged into a single scheme, namely the Merchandise Export from India Scheme (MEIS). Notified goods exported to notified markets will be incentivized on realized FOB value of exports. Countries have been grouped into three categories--namely Category A: traditional markets, Category B: emerging & focus markets and Category C: other markets--for grant of incentives. The government has expanded the coverage of the MEIS on 29 October 2015 by adding 110 new items. The incentive rate/country coverage of 2228 items has been enhanced.

Service Export from India Scheme: The Served from India Scheme (SFIS) has been replaced with the Service Export from India Scheme (SEIS). The SEIS applies to 'service providers located in India' instead of 'Indian service providers'. Thus it provides for incentives to all service providers of notified services who are providing services from India, regardless of the constitution or profile of the service provider. The rates of incentivization under the SEIS are based on net foreign exchange earned. The incentive issued as duty credit scrip, will no longer carry an actual user condition and will no longer be restricted to usage for specified types of goods but be freely transferable and usable for all types of goods and service tax debits on procurement of services/goods.

Incentives (MEIS & SEIS) to be available for SEZs: FTP 2015-20 extends the benefits of the MEIS and SEIS to special economic zones (SEZ) as well, which will give a new impetus to the development and growth of SEZs.

Duty credit scrips are freely transferable and usable for payment of custom duty, excise duty and service tax: All scrips issued under the MEIS and SEIS and the goods imported against these scrips are fully transferable. Scrips issued under these schemes can be used for the following:

(a) Payment of customs duty on import of inputs / goods including capital goods, except items listed in Appendix 3A.

(b) Payment of excise duty on domestic procurement of inputs or goods, including capital goods as per notification of Department of Revenue (DoR).

(c) Payment of service tax on procurement of services as per DoR notification. Basic customs duty paid in cash or through debit under duty credit scrip can be taken back as duty drawback as per DoR rules, if inputs so imported are used for exports.

Other measures

(a) Under the Export Promotion Capital Goods (EPCG) scheme, in case capital goods are procured from indigenous manufacturers, specific export obligation has been reduced to 75 per cent. This is designed to help the indigenous capital goods manufacturing industry.

(b) Under the MEIS, export items with high domestic content and value addition have generally been provided higher levels of incentives.

(c) Hard copies of applications and specified documents which were required to be submitted earlier for incentive schemes and duty exemption schemes have now been dispensed with.

(d) Landing documents of export consignments as proof for notified market can now be digitally uploaded as specified.

(e) There will be no need to submit copies of permanent records/documents repeatedly with each application, once the same are uploaded in the exporter/importer profile.

(f) Dedicated e-mail addresses have been provided for faster and paperless communication with various committees of the Directorate General of Foreign Trade (DGFT), e.g. Norms Committee and Exim Facilitation Committee.

Trade Policy

Trade policy measures

4.18 In the wake of declining exports, the government took various measures to boost exports in the Union Budget 2015-16 and a new Foreign Trade Policy (FTP). A new FTP for the period 2015-20 was announced on 1 April 2015, with a focus on supporting both manufacturing and services exports and

improving the 'Ease of Doing Business'. The new FTP aims to increase India's exports to US$900 billion by 2019-20. Its salient features are given in Box 4.1. It also provides the road map adopted by the government to align it with the 'Make in India' and 'Digital India' programmes and to ease trade. Box 4.2 lists some important trade facilitation measures undertaken by the government to improve ease of doing business.

Box 4.2: Recent Measures for Trade Facilitation

(a) The government has reduced the number of mandatory documents required for exports and imports to three each, which is comparable with international benchmarks. The trade community can file applications online for various trade-related schemes. Online payment of application fees through credit/debit cards and electronic funds transfer from 53 banks has been put in place.

(b) Customs single window initiative: The Union Budget 2014-15 announced an Indian Customs Single Window Project to facilitate trade. This project envisages that importers and exporters will electronically submit their customs clearance documents at a single point with customs. Any permissions required from other regulatory agencies (such as animal quarantine, plant quarantine, drug controller and textile committee) could be obtained online without the importer/exporter having to separately approach these agencies. The single window will thus provide importers/exporters a single point interface for customs clearance of import and export goods, thereby reducing personal interface with governmental agencies, dwell time and cost of doing business. With effect from 1 April 2015, an electronic exchange facility has been established between customs and the Food Safety and Standards Authority of India (FSSAI), the Department of Plant Protection, Quarantine and Storage (PQIS) at the Jawaharlal Nehru Port Trust (JNPT) (Nhava Sheva), inland container depot (ICD), Tughlakabad and ICD, Patparganj, for online message exchange, including no objection certificates (NOC) with/from these agencies. Other regulatory agencies such as animal quarantine, the textile committee, the drug controller of India and wildlife authorities are also being brought within the ambit of single window customs clearance.

(c) 24x7 customs clearance: With effect from 31 December 2014, the facility of 24x7 customs clearance for specified imports, namely goods covered under 'facilitated' bills of entry, and specified exports, namely factory stuffed containers and goods exported under free shipping bills, have been made available at 18 seaports. Similarly, the facility of 24x7 customs clearance for specified imports, namely goods covered by facilitated bills of entry and all exports, namely goods covered by all shipping bills has been extended at 17 air cargo complexes. This will help in faster clearance of such import and export goods, reduce dwell time and lower the transaction cost.

(d) One of the major objectives of the new FTP is to move towards a paperless 24x7 working environment. A new facility has been created to upload documents in exporter/importer profile so that exporters are not required to submit documents repeatedly.

(e) Attention has also been paid to simplifying various 'aayat niryat' forms, bringing in clarity in different provisions, removing ambiguities and enhancing electronic governance.

(f) The Directorate General of Foreign Trade (DGFT) has launched a new-look website, making it more user-friendly and easy to navigate. The DGFT website has a large dynamic component whereby the trade community can file applications online for importer exporter code (IEC) and various other schemes of the DGFT. Exporters can also see the status of their electronic bank realization certificates almost in real time. The website is rich in content with all documents related to FTP along with a responsive online grievance redressal system.

(g) The DGFT launched a 'DGFT' mobile application in June 2015. The application allows exporters/importers to access foreign trade policy and other related documents in an easy-to-use searchable format and check status of transmission of various authorizations and shipping bills, etc.

(h) Training/outreach programmes for exporters:

- The Niryat Bandhu Scheme has been galvanized to achieve the objectives of Skill India. Outreach activities are being organized at MSME (micro, small and medium enterprises) clusters with the help of export promotion councils (EPCs) and other willing 'industry partners' and 'knowledge partners'. More than 20,000 entrepreneurs have been given exposure by DGFT regional offices under the Niryat

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Bandhu Scheme. In September 2015, the DGFT in collaboration with the Indian Institute of Foreign Trade (IIFT) has launched 'Niryat Bandhu at Your Desktop', an online certificate programme in export import business. The programme has elicited very good response. Four programmes have been completed.

- An ambitious outreach programme has been launched by the Department of Commerce (DoC) for exporters located in the major export clusters/cities. The programme focuses on:
  - Training exporters to utilize free trade agreements (FTA).
  - Taking inputs from exporters on FTAs under negotiation, for example the Regional Comprehensive Economic Policy (RCEP).
  - Promoting awareness about the contents of the www:indiantradeportal.in launched by the DoC.

(i) **Other important measures**

- A Council for Trade Development and Promotion has been constituted in July 2015 to ensure continuous dialogue with the governments of states/ union territories (UT) on measures for providing an international trade-enabling environment and for making the states active partners in boosting India's exports. The first meeting of the council was held on 8 January 2016.
- The state/UT governments have been requested to develop their export strategy, appoint export commissioners, address infrastructure constraints restricting movement of goods, facilitate refund of value-added tax (VAT)/octroi/state-level cess, address other issues relating to various clearances and build capacity of new exporters in order to promote exports. States and UTs have also been issued user-ids and passwords to facilitate access to the foreign trade database maintained by the Directorate General of Commercial Intelligence & Statistics (DGCI&S) to extract the export data relating to their states.

WTO Negotiations and India

4.19 The Tenth Ministerial Conference of the WTO was held in Nairobi, Kenya during 15-19 December 2015. This was the first such meeting to be hosted by an African nation. The outcomes of the Conference, referred to as the 'Nairobi Package' include Ministerial Decisions on agriculture, cotton and issues related to least developed countries (LDCs). These cover public stockholding for food security purposes, a Special Safeguard Mechanism (SSM) for developing countries, a commitment to abolish export subsidies for farm exports particularly from the developed countries and measures related to cotton. Decisions were also made regarding preferential treatment to LDCs in the area of services and the criteria for determining whether exports from LDCs may benefit from trade preferences.

4.20 The divergence in viewpoints as regards the fate of the Doha Round continued during the Conference. The Nairobi Ministerial Declaration reflects divergence amongst the WTO membership on the relevance of reaffirming the Doha Development Agenda (DDA) as the basis of future negotiations. This was despite the fact that India, along with many other developing countries, from groups such as the G-33, LDCs, and the Africa Group, wanted a reaffirmation of the mandate of the Doha Round. India pointed this out in a written submission to the Director General, WTO and the Chair of the Tenth Ministerial Conference, the Kenyan foreign minister as well as in a statement at the closing ceremony on 19 December 2015. While reflecting that there are divergences, the Ministerial Declaration also notes the "strong commitment of all Members to advance negotiations on the remaining Doha issues." It records that WTO work would maintain development at its centre. It also reaffirms that provisions for special and differential treatment shall remain integral.

4.21 As regards the introduction of other new issues for discussion, the Declaration acknowledges the differences in views and states that any decision to launch negotiations multilaterally on such issues would need to be agreed by all Members. As the future of the Doha Round appeared in doubt, India sought and succeeded in obtaining a re-affirmative Ministerial Decision on Public Stockholding for Food Security Purposes honouring both the Bali Ministerial and General Council Decisions. The decision commits members to engage constructively in finding a permanent solution to this issue. Similarly, a large group of developing countries has long been seeking a SSM for agricultural products. In order to ensure that this issue remains on the agenda of future discussion in the WTO, India negotiated a Ministerial Decision which recognizes that developing countries will have the right to have recourse to an SSM as envisaged in the mandate. Members will continue to negotiate the mechanism in dedicated sessions of the Committee on Agriculture in Special Session. The WTO General Council has been mandated to regularly review progress of these negotiations.

4.22 WTO Members also agreed to the elimination of agricultural export subsidies subject to the preservation of special and differential treatment for developing countries such as a longer phase-out period for transportation and marketing export subsidies for exporting agricultural products. Developed countries have committed to removing export subsidies immediately, except for a few agricultural products, and developing countries will do so by 2018. Developing countries will keep the flexibility to cover marketing and transport subsidies for agriculture exports until the end of 2023, and the LDCs and net food-importing developing countries would have additional time to cut such export subsidies. The Ministerial Decision contains disciplines to ensure that other export policies are not used as a disguised form of subsidies. These disciplines include terms to limit the benefits of financing support to agriculture exporters, rules on state enterprises engaging in agriculture trade, and disciplines to ensure that food aid does not negatively affect domestic production. Developing countries, such as India, will have a longer implementation period. One of the Decisions adopted extends the relevant provision to prevent 'evergreening' of patents in the pharmaceuticals sector. This decision would help in maintaining an affordable and accessible supply of generic medicines. India supported outcomes on issues of interest to LDCs including enhanced preferential rules of origin for LDCs and preferential treatment for LDC services providers. India already offers duty-free, quota-free access scheme to all LDCs, which provides a comprehensive coverage with simple, transparent and liberal rules of origin. India has also recently made available substantial and commercially meaningful preferences in services to LDCs.

4.23 Another area under negotiation in Nairobi dealt with the rules on fisheries subsidies. Several countries, such as China, Egypt, South Africa, Korea and Saudi Arabia, were opposed to disciplining rules on fisheries subsidies due to the lack of clarity. The overwhelming opposition to this item on the agenda was in tune with India's position. There was no outcome in this area of the negotiations. On the issue of rules on Anti-dumping, India strongly opposed a proposal that would give greater power to the WTO's Anti-Dumping Committee to review Members' practices. There was no convergence in this area and, hence, no outcome was achieved. At the Ministerial Conference, a group of 53 WTO members, including both developed and developing countries, agreed on the timetable for implementing a deal to eliminate tariffs on 201 Information Technology products. Duty-free market access to the markets of the members

eliminating tariffs on these products will be available to all WTO members. Though not a party to the Agreement, India can also avail of such duty-free market access.

Bilateral and Regional Cooperation

4.24 Multilateral trade agreements are the first best solutions for deepening global trade and development as they are founded on the core principles of non-discrimination. Regional trade agreements (RTAs) are efforts by nations aimed at deepening economic relations, usually with neighbouring countries, and tend to be largely political in nature. With the multilateral trade negotiations process under the WTO being a painfully slow one requiring broad-based consensus, RTAs have progressively assumed greater importance and a growing share in international trade. While RTAs are broadly compliant with WTO mandates and remain broadly supportive of the WTO process, they remain second-best solutions that are discriminatory in nature against non-members and are inefficient as low cost producing non-members lose out to members. While bilateral RTAs have no equity considerations, mega-regional trading groups may not necessarily be equitable if membership is diverse and small countries may lose out either way—if they are part of it they may not have much say and if they are not, they may stand to lose. India has always stood for an open, equitable, predictable, non-discriminatory and rule-based international trading system and views RTAs as building blocks in the overall objective of trade liberalization as well as complementing the multilateral trading system under the WTO. The Trans-Pacific Partnership (TPP) agreement is one new mega-regional block that has become a reality and has implication for India.

4.25 The 12 Pacific Rim nations (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the US and Vietnam) signed the TPP agreement on 5 October 2015. It is likely to set higher standards for goods and services trade. It is considered a mega regional FTA which can be a pioneer in many ways. The TPP is likely to be a game-changer for the world economy and global trade. The 12 members of the TPP account for around 40 per cent of global GDP and around 60 per cent of merchandise trade. In terms of economic size, the TPP is larger than the existing North America Free Trade Area (NAFTA). The TPP trade agreement is very comprehensive and not only encompasses the scope of tariff-eliminating mega regional trade pacts, but also aims at setting higher global standards for international trade through lower benchmarks for non-tariff barriers, more stringent labour and environment regulation, higher intellectual property rights (IPR) protection, greater transparency in government procurement and limiting advantages to state-owned enterprises (SOE) and transparency in health care technology, competitiveness and supply chains. It includes new and emerging trade issues and cross-cutting concerns such as internet and digital economy and participation of SOEs in global trade and investment. In the short run, the trade impact of the TPP may not be seriously adverse but careful analysis is required for adapting and responding to the challenges in the long run. Many institutional analyses have focused on the implications for India, and the results are summarized in Box 4.3.

4.26 So far, India has signed 10 FTAs and six preferential trade agreements (PTAs) and these FTAs/PTAs are already in force. The net impact of the RTAs on export performance and trade outcome is a mixed bag and requires detailed analysis. A gradual approach of widening the process of negotiating 19 FTAs (including review) is under way. An update of the progress of RTAs is given in Box 4.4.

Box 4.3: The TPP and Its Implication for India

Bergsten (2015) estimated that India could experience huge export gains of more than US$500 billion per year--a 60 per cent increase--from joining an expanded TPP or participating in a comprehensive Free Trade Area of the Asia Pacific (FTAAP), now being considered by the Asia-Pacific Economic Cooperation (APEC), and Indian national income would expand by 4 per cent (over US$200 billion). The estimates show that India's exports would rise by around US$5.3 billion annually; however, imports into India would rise by US$10.4 billion, leaving a net deficit in balance of trade of US$5.1 billion (Banga and Sahu 2015). India is most competitive in services trade and reduction of trade barriers in services among TPP members will result in growth in India's services exports (Kumar and Das 2015).

The possible risks of not joining the TPP are difficult to quantify, but some of the research has highlighted the possibility of trade diversion and raised concerns about erosion of India's share in exports to the US and Europe. The TPP is expected to make around 11,000 tariff lines duty free for its members, which may result in loss of competitiveness of Indian exports in these markets. This will lower India's export share to the US and the EU, shifting it to the TPP developing countries instead. Some of the export sectors such as textiles and clothing industry are likely to face stiff competition from Vietnam, and it may lead to trade diversion. However, the implementation of stringent non-tariff measures is likely to increase the cost of production and will erode the competitiveness of exports of TPP member countries which will reduce the extent of trade diversion from India (RIS Report 2015 and Das 2015). There is also the concern of investment diversion, particularly as countries like Vietnam would offer more robust investor protection.

Some analysts have cautioned that India has to give due consideration to the costs if it is desirous of joining the TPP, as it will be required to comply with provisions relating to tariffs, SoEs, agriculture and IPR protection. Some of the major concerns are as follows:

Openness of market: TPP economies on average are more open than the Indian economy. The average applied most favoured nation (MFN) tariff rate in TPP economies is 4.5 per cent, which is lower than the Organisation for Economic Co-operation and Development (OECD) average of 5.7 per cent. The service trade restriction index of the World Bank indicates that the TPP economies are less stringent about entry of services than India with a score of about 65.7 in 2008-10, which is 2.5 times greater than the TPP economies' average score of 25.1. India needs to work significantly in terms of openness of market as its tariff rates are significantly higher than those in the TPP countries (Kumar and Das 2015).

Import competition: Domestic industries will face severe import competition due to tariff elimination on some of the products. Indian industry is already battling infrastructure deficiency and implementation of stringent measures may raise the cost of production, threatening the survival of domestic manufacturing.

SoEs: Membership of the TPP would prevent the government from using SoEs and government procurement as vehicles for achieving social and economic objectives, including employment generation. India would have to compromise on the Make in India policy (Das 2015, RIS Report 2015, Kumar and Das 2015 and Palit 2015).

IPRs: The TPP agreement on IPRs does not prevent a party from taking measures to protect public health and, in particular, to promote access to medicines for all. However, the prices of pharmaceutical products can be expected to rise due to implementation of IPR agreements which will give more protection to patented medicine and may lead substantially to elimination of generic drugs from the market. Nobel laureate Joseph Stiglitz has expressed concern that 'the efforts to raise drug prices in the TPP take us in the wrong direction. The whole world may come to pay a price in the form of worse health and unnecessary deaths'. Implementation of patent term adjustment rules significantly delays entry of generic medicines and restricts access to affordable medicines.

Government procurement: Apart from stressing non-discriminatory, fair and transparent procurement procedures, the TPP specifies timely publication of complete information on the procuring entity, the specific procurement, the time frame for submission of bids, and a description of conditions for participation of suppliers. As the agreement curtails the flexibility available to signatory countries to impose export restrictions on food, it will jeopardize India's endeavour to ensure food security (USTR 2015, RIS Report 2015 and Das 2015).

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Labour standards: The RIS in World trade and Development Report 2015 on 'Mega Regionals, WTO and New Issues' indicated that the TPP has gone beyond core labour standards to include 'acceptable conditions of work' within its ambit. These bind the members to adopt and maintain laws and practices governing acceptable conditions of work relating to minimum wages, hours of work, and occupational health and safety determined by each party (RIS Report 2015 and USTR 2015). These labour standards may increase the labour cost in the developing countries as they raise the issue of enforceable commitments which require the member countries to pass legislation in line with the TPP labour standard and put effective implementation agencies in place.

Environment standard in TPP agreement: The TPP agreement goes beyond the provisions in other FTAs to include new ones that will address wildlife trafficking, illegal logging and illegal fishing practices. The TPP members acknowledge that inadequate fisheries management, fisheries subsidies that contribute to overfishing and overcapacity, and illegal, unreported and unregulated (IUU) fishing can have significant negative impacts on trade, development and the environment and 'thus recognize the need for individual and collective action to address the problems of overfishing and unsustainable utilization of fisheries resources'. This is in contradiction to India's current policy of subsidizing the fishery industry. It may severely affect special governmental assistance programmes for around 15 million poor fishermen in India. Fishery subsidies rule has been incorporated for the first time in an FTA agreement and this will set the standard for other countries in the WTO arena. Hence these TPP rules are likely to affect the multilateral process and impact India, independently of whether it joins the TPP or not (Meltzer, 2015).

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Box 4.4: India's Proposed new RTAs: A progress update

India-Thailand Comprehensive Economic Cooperation Agreement (CECA): Early Harvest Scheme has been implemented on 82 items. So far 29 rounds of India-Thailand Trade Negotiation Committee (ITTNC) meetings have been held. The 29th round was held in Bangkok in June 2015.

India- New Zealand FTA/CECA: Ten rounds of negotiation have been held so far. The 10th Round was held in New Delhi on 17-18 February 2015.

India--SACU (South Africa, Botswana, Lesotho, Swaziland and Namibia) PTA: Five rounds of negotiations have been held so far. The Ninth Joint Ministerial Commission (JMC) meeting was held at Durban on 19 March 2015.

BIMSTEC (Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal) FTA: Twenty meetings of the Trade Negotiating Committee (TNC) have taken place. The 20th meeting was held during 07-09 September 2015 in Khon Kaen Province, Thailand.

India-Canada FTA: Nine rounds of negotiation on the India-Canada Comprehensive Economic Partnership Agreement (CEPA) have so far been held. The ninth round was held in Ottawa, Canada on 1 March 2015.

India--Australia CECA: Nine rounds of negotiations have been held so far. The ninth round was held between 21 and 23 September 2015 in New Delhi, India.

Regional Comprehensive Economic Partnership (RCEP) Agreement among ASEAN + Six 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 comprehensive economic partnership between the 10 ASEAN member states and its six FTA partners commenced in May 2013. Ten rounds of negotiations have so far been held. The 10th round was held from 8 to16 October 2015 in Busan, Korea. The negotiations cover a number of areas like trade in goods, services, investment, intellectual property, economic and technical cooperation, competition, e-commerce and legal and institutional issues.

Balance of Payments Developments

Overview of Balance of Payments

4.27 The external sector outcome in 2014-15 and the first half (H1) of 2015-16 indicates continued moderation in levels of trade and current account deficits with broadly adequate financing. This owed largely to the fall in global crude oil and commodity prices. The sluggish global growth not only adversely impacted merchandise exports but also caused the invisibles surplus to grow only marginally during this period. Under the capital/finance account of balance of payments (BoP), foreign investment reached a peak level of US$73.5 billion in 2014-15. Adjusting for the exceptional special swap facility offered by the government to finance the current account deficit (CAD) in 2013-14, the level of net NRI deposits in 2014-15 is broadly comparable to the peak normal level of 2012-13. Capital/finance flows (net) were US$88.2 billion in 2014-15, driven largely by investment flows. Higher capital/financial flows with low CAD resulted in large accretion to reserves (US$61.4 billion) in 2014-15.

4.28 During H1 of 2015-16, despite a decline in merchandise exports the India's external sector situation remained comfortable. Some of the salient external sector developments were as follows: (i) lower trade deficit and modest growth in invisibles resulted in lower CAD; (ii) the increase in FDI inflows and NRI deposits continued; and (iii) there was net outflow of portfolio investment. Although there was a net outflow under portfolio investment, capital/financial flows were in excess of CAD and their absorption by the Reserve Bank of India (RBI) led to an accretion in reserves.

Current account developments in 2014-15 and the H1 of 2015-16

4.29 Merchandise exports (on BoP basis) declined by 0.6 per cent and 17.6 per cent respectively in 2014-15 and H1 of 2015-16. Decline in POL exports was the major reason for the overall decline in exports. POL exports declined by 10.2 per cent in 2014-15 and 50.0 per cent in H1 of 2015-

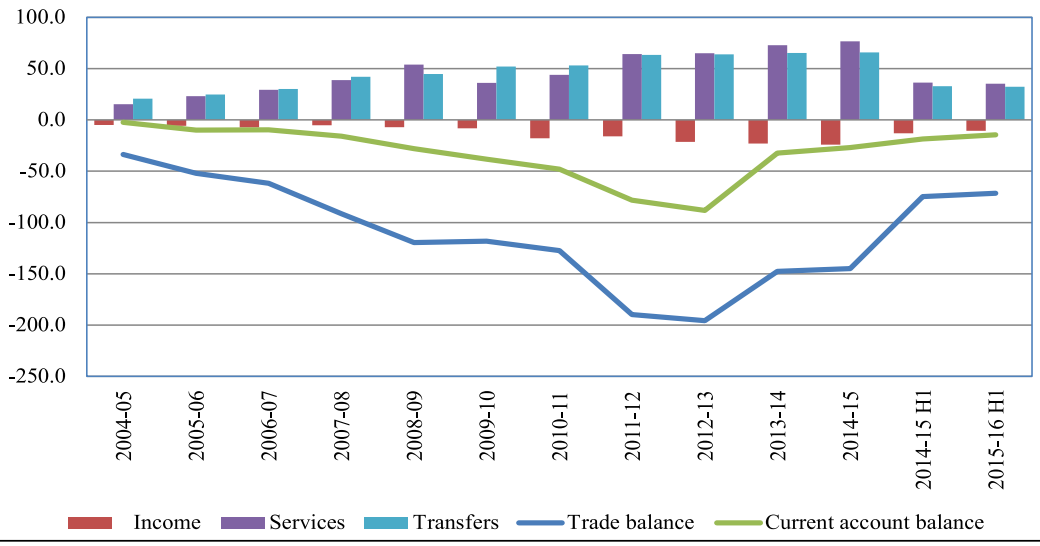
16 on account of a fall in the international prices of petroleum crude products by 20.2 per cent in 2014-15 and 46.6 per cent in H1 of 2015-16. Similarly, merchandise imports also declined year on year by 1.0 per cent and 13.4 per cent respectively in 2014-15 and H1 of 2015-16. Here again, lower levels of POL imports were the main reason for the decline in total imports. POL imports fell by 16.0 per cent in 2014-15 and 41.5 per cent in H1 of 2015-16. As a result of decline in both exports and imports, trade deficit fell from US$147.6 billion in 2013-14 to US$144.9 billion in 2014-15 and US$71.6 billion in the first half of 2015-16. As a proportion of GDP, the trade deficit was 7.1 per cent in 2014-15, the lowest since 2006-7. During the first half of 2015-16, trade deficit as a proportion of GDP was 7.2 per cent as against 7.5 per cent in the first half of 2014-15.

4.30 On the invisibles account, services exports grew by 4.0 per cent to US$157.7 billion in 2014-15. During H1 of 2015-16, services exports increased by 0.7 per cent to US$77.0 billion as against US$76.5 billion in H1 of 2014-15. Services imports grew by 3.3 per cent to US$81.1 billion in 2014-15. They grew by 4.2 per cent to US$41.7 billion in H1 of 2015-16 as against US$40.0 billion in H1 of 2014-15. Net services exports, which act as a cushion to moderate the trade deficit, increased from US$73.0 billion in 2013-14 to US$76.6 billion in 2014-15. However, net services exports declined to US$35.3 billion in H1 of 2015-16 as against US$36.5 billion in H1 of 2014-15, mainly due to lower growth of services exports than that of services imports.

4.31 Net income, which is the net outgo on account of the interest/dividend of the stock of capital flows that have come to India, has been increasing steadily from US$8.0 billion in 2009-10 to US$24.1 billion in 2014-15. During the first half of 2015-16, it moderated to US$10.5 billion as against US$13.0 billion in the first half of 2014-15. As a result of subdued global growth and falling crude oil prices, net private transfers, mostly in the form of remittances, increased marginally by US$0.8 billion to US$66.3 billion in 2014-15. During the first half of 2015-16, they declined marginally to US$32.7 billion as compared to US$33.1 billion in the corresponding period of the previous year.

4.32 Net invisibles surplus has increased by around US$3.0 billion to US$118.1 billion in 2014-15. As compared to the first half of

Figure 4.3: Components of current account balance (US$ billion)



Source: **RBI**

2014-15, net invisibles increased marginally by around US$1.0 billion to US$57.2 billion in the first half of 2015-16. Moderate growth in the invisibles surplus, coupled with lower trade deficit, resulted in lower CAD of US$26.8 billion (1.3 per cent of GDP) in 2014-15 and US$14.4 billion (1.4 per cent of GDP) in H1 of 2015-16 (Figure 4.3).

4.33 The RBI has presented BoP numbers in both the revised format provided in the IMF's Balance of Payment Manual 6 (BPM6) and in the old format. There is some difference in the level of CAD in the two sets. For the sake of understanding and comparison, the salient features of BoP developments from 2011-12 to 2014-15 and the first half of (H1) of 2014-15 and 2015-16, are given in Table 4.3 according to the old format.

Table 4.3: Balance of Payments: Summary

(US$ billion)

		2011-12	2012-13	2013-14	2014-15 (PR)	2014-15 H1 (Apr-Sept 2014) (PR)	2015-16 H1 (Apr-Sept 2015) (P)
I	**Current Account**						
i	Exports	309.8	306.6	318.6	316.5	164.6	135.6
ii	Imports	499.5	502.2	466.2	461.5	239.4	207.2
iii	Trade Balance	-189.8	-195.7	-147.6	-144.9	-74.7	-71.6
iv	Invisibles (net)	111.6	107.5	115.2	118.1	56.3	57.2
	A. Services	64.1	64.9	73.0	76.6	36.5	35.3
	B. Transfers	63.5	64.0	65.3	65.7	32.8	32.4
	C. Income	-16.0	-21.5	-23.0	-24.1	-13.0	-10.5
	Current Account Balance	-78.2	-88.2	-32.4	-26.8	-18.4	-14.4
II	**Capital Account**						
i	External Assistance	2.3	1.0	1.0	1.7	0.7	0.2
ii	ECBs	10.3	8.5	11.8	1.6	0.8	-0.9
iii	Short-term Debt	6.7	21.7	-5.0	-0.1	-1.4	-1.2
iv	Banking Capital of which:	16.2	16.6	25.4	11.6	-0.5	18.3
	Non-Resident Deposits	11.9	14.8	38.9	14.1	6.5	10.1
v.	Foreign Investment	39.2	46.7	26.4	73.5	37.3	7.9
	A. FDI	22.1	19.8	21.6	31.3	15.1	16.7
	B. Portfolio Investment	17.2	26.9	4.8	42.2	22.2	-8.7
vi.	Other Flows	-7.0	-5.1	-10.8	1.0	-0.4	1.0
	Capital Account Balance	67.8	89.3	48.8	89.3	36.4	25.4
III	**Errors and Omissions**	-2.4	2.7	-0.9	-1.1	0.1	-0.4
	Capital Account Balance (including errors & omissions)	65.3	92.0	47.9	88.2	36.5	24.9
IV	**Overall Balance**	-12.8	3.8	15.5	61.4	18.1	10.6
V	**Reserves Change** (-) indicates increase, (+) indicates decrease	12.8	-3.8	-15.5	-61.4	-18.1	-10.6

Source: **RBI**

Capital/finance account developments in 2014-15 and the first half of 2015-16

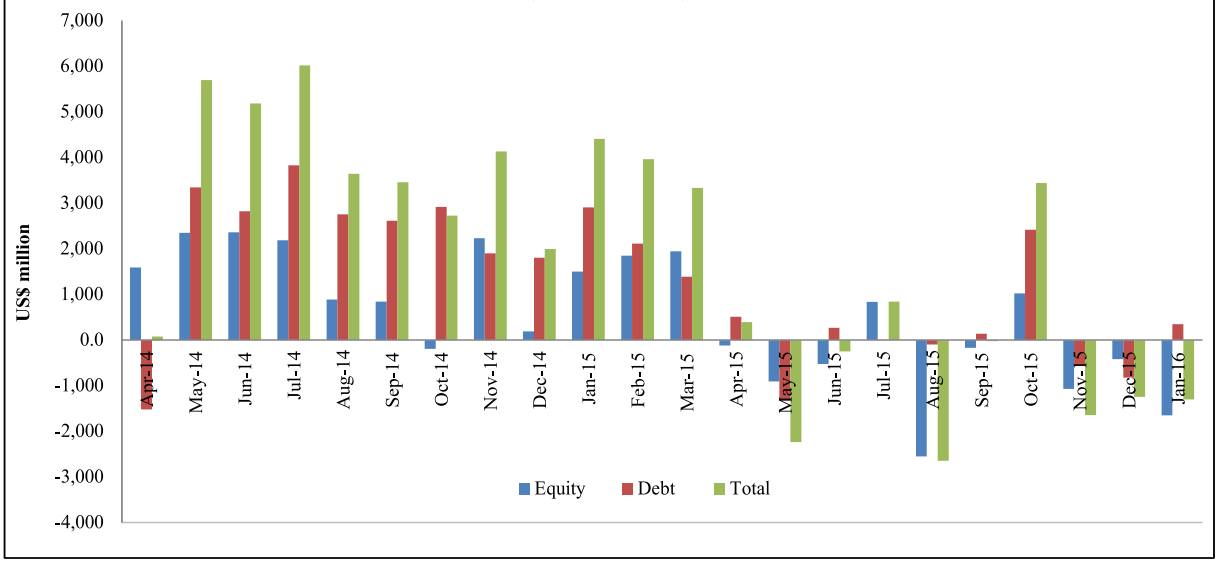
4.34 Under the capital/finance accounts of the BoP, foreign investment is an important component which consists of foreign direct investment (FDI) and portfolio investment. During 2014-15, there was huge surge in net foreign investment to US$73.5 billion as compared to US$26.4 billion in 2013-14.

4.35 The huge increase in foreign investment was due to increase in both FDI and portfolio investment. In gross terms, inflows under FDI were at US$35.2 billion in 2014-15. Net FDI (Net FDI into India and net outward FDI) reached an all-time high of US$31.3 billion in 2014-15 (US$22.4 billion in 2008-09). Similarly, net portfolio investment also reached their highest level so far of US$42.2 billion in 2014-15 (US$32.4 billion in 2009-10). During the first half of 2015-16, net foreign investment fell to US$7.9 billion as against US$37.3 billion in the first half of 2014-15, mainly due to outflows of portfolio investment. Net portfolio investment logged an outflow of US$8.7 billion in H1 of 2015-16 as against net inflow of US$22.2 billion in H1 of 2014-15. Foreign institutional investor (FII) investment is the major component of portfolio investment and Figure 4.4 shows month-wise movements of FII. It might be instructive to note that notwithstanding frequent bouts of volatility and risk aversion, flows have remained bi-directional. Net FDI reached US$16.7 billion in H1 of 2015-16 as against US$ 15.1 billion in H1 of 2014-15.

4.36 External commercial borrowings (ECB) are another item of capital/finance account and are relatively less volatile than foreign investment. Net ECBs were US$1.6 billion in 2014-15 as compared to US$11.8 billion in 2013-14. During H1 of 2015-16, net ECBs logged an outflow of US$0.9 billion. Non-resident Indian (NRI) deposits reached a peak level of US$38.9 billion in 2013-14, on account of the special swap facility of the RBI as an exceptional measure to boost capital flows. NRI deposits moderated to US$14.1 billion in 2014-15. During H1 of 2015-16, they reached US$10.1 billion as against US$6.5 billion in H1 of 2014-15.

4.37 Net capital flows in 2014-15 were at their second highest ever at US$88.2 billion. The highest was US$107.9 billion in 2007-08. Net capital inflows were 4.3 per cent

Figure 4.4 : Trend in FII investment from April 2014 to January 2016 (US$ million)



Source: **SEBI**

of GDP during 2014-15 (as against 2.6 per cent during 2013-14). During the first half of 2015-16, net capital/finance flows were US$24.9 billion as against US$ 36.5 billion in H1 of 2014-15. Low levels of CAD, coupled with a huge surge in capital inflows, resulted in high accretion of US$61.4 billion in foreign exchange reserves in 2014-15. This briefly continued through the initial parts of the current fiscal before the onset of global financial market turbulence on concerns over China's economic, financial sector and currency developments and outlook. Thus in H1 of 2015-16 too there was an accretion in foreign exchange reserves of US$10.6 billion.

Foreign Exchange Reserves

4.38 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 RBI. As is evident from Table 4.4, which shows the break-up of changes in foreign exchange reserves, with the exception of the crisis-hit years of 2008-09 and 2011-12, forex reserves have been in accumulation mode, reflecting excess of financial flows over the requirements of current account. In H1 of 2015-16, India's foreign exchange reserves increased by US$10.6 billion on BoP basis (i.e. excluding valuation effect) while in nominal terms (i.e. including valuation effect), the increase was only to the tune of US$8.7 billion. The valuation loss mainly reflects the appreciation of the US dollar against major currencies and fall in international prices of gold.

4.39 Among the major economies with CAD, India is the second largest foreign exchange reserve holder after Brazil. India's foreign exchange reserves at US$351.5 billion as on 5 February 2016 mainly comprised foreign currency assets amounting to US$328.4 billion, which accounted for about 93.4 per cent of the total. Gold at US$17.7 billion was the second largest component of foreign exchange reserves. Special drawing rights (SDR) and the reserve tranche position in the IMF were at US$4.0 billion and US$1.3 billion, respectively. With increase in reserves in 2015-16 (H1), all traditional reserve-based external sector vulnerability indicators have improved. For instance, the ratio of short-term external debt to reserves has declined marginally from 25.0 per cent at end-March 2015 to 24.6 per cent as at end-September 2015. The reserves cover for imports also

Table 4.4: Summary of Changes in Foreign Exchange Reserves (US$ billion)

S. No.	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
1	2006-07	199.2	47.6	36.6	11.0
2	2007-08	309.7	110.5	92.2	18.3
3	2008-09	252.0	-57.7	-20.1	-37.6
4	2009-10	279.1	27.1	13.4	13.7
5	2010-11	304.8	25.8	13.1	12.6
6	2011-12	294.4	-10.4	-12.8	2.4
7	2012-13	292.0	-2.4	3.8	-6.2
8	2013-14	304.2	12.2	15.5	-3.3
9	2014-15	341.6	37.4	61.4	-24.0
10	End-Sept. 2015	350.3	8.7	10.6	-1.9

Source: **RBI**

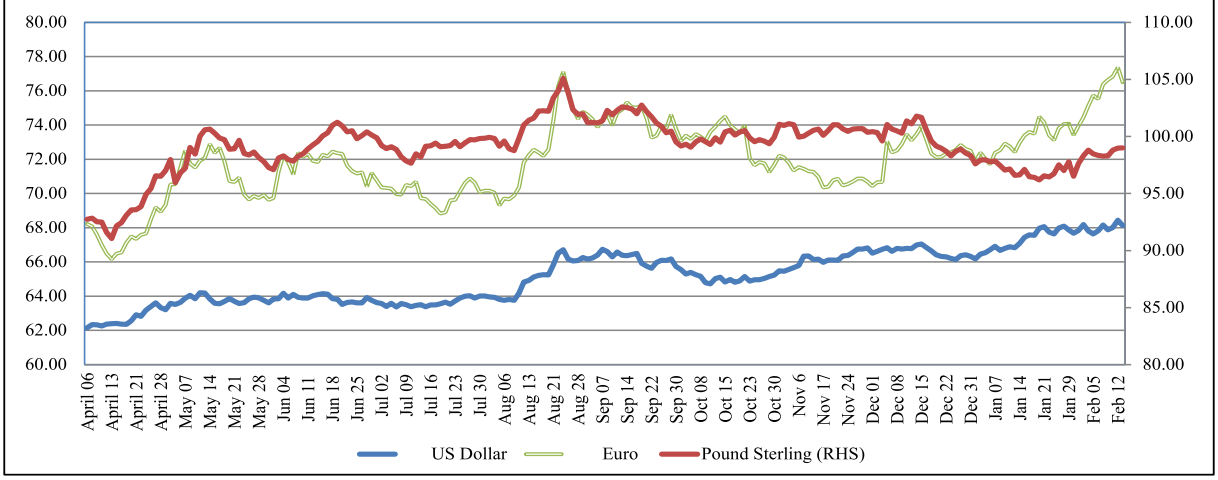
increased from 8.9 months at end-March 2015 to 9.8 months as at-end September 2015.

Exchange Rate

4.40 The average annual exchange rate of the rupee depreciated sharply from ₹54.4 per US dollar in 2012-13 to ₹60.5 in 2013-14 and was broadly stable at ₹61.1 per US dollar in 2014-15. The rupee had depreciated to its lowest level of ₹68.4 per US dollar on 28 August 2013. In 2014-15, although the rupee declined in value against the dollar by 1.0 per cent, it became stronger against other currencies. It appreciated, for example, against the Japanese yen and the euro by 8.2 per cent and 4.7 per cent respectively.

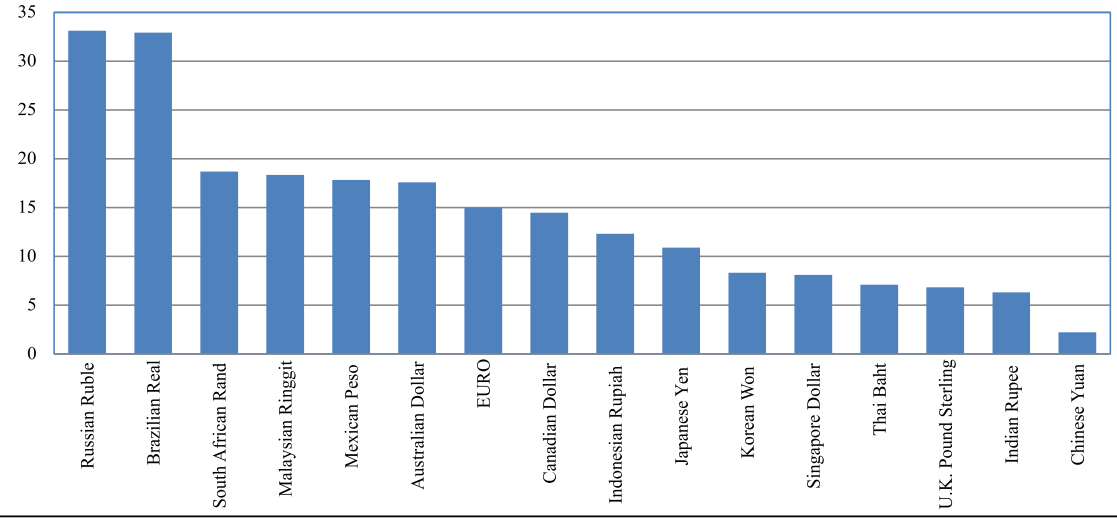
4.41 During 2015-16 (April-January), the average exchange rate of the rupee depreciated to ₹65.04 per US dollar as compared to ₹60.92 per US dollar in 2014-15 (April-January). The Indian rupee depreciated against the dollar as the dollar strengthened against all the major currencies owing to stronger growth in the USA and also because China's growth and currency developments this year deteriorated, impacting the outlook on other emerging market and developing economies (EMDE) owing to risk aversion perceptions of global investors. The rupee witnessed bouts of volatility, taking cues from a combination of domestic and global developments which included contraction in exports; portfolio outflows on concerns about outlook and other concerns; and the gradual process of normalization of monetary policy in the US and global bond market sell-off. The rupee remained in a narrow range of ₹62.16 to ₹64.17 per US dollar till early August 2015. However, it came under pressure, breaching the level of ₹65 per US dollar by mid-August to rise above ₹66 per US dollar by end-August, triggered by devaluation of the Chinese RMB on 11 August and the Chinese stock-market meltdown on 24 August. The rupee stabilized in September 2015 and traded in a narrow range but again depreciated in October to December 2015. In fact, the rupee slumped to as low as ₹68.44 per dollar on 12 February 2016, its lowest since end-August 2013. Thus, during 2015-16, the general tendency of appreciation of the US dollar against major currencies and uncertainty and volatility in the international financial market resulted in depreciation of the rupee-dollar exchange rate. However, the rupee appreciated against the euro and the pound sterling from September 2015 onwards (Figure 4.5). It is also instructive to note that in 2015-16 so far, the rupee has performed

Figure 4.5: Movements of Rupee against US Dollar, Euro and Pound Sterling during 2015-16



Source: **RBI**

Figure 4.6: Depreciation of currencies against US dollar in 2015-16 (April-January) over 2014-15 (April-January)



Source: **IMF**

better than the currencies of most of the other emerging market economies (except the Chinese yuan) (Figure 4.6).

4.42 The real effective exchange rate (REER) is an important indicator of export competitiveness as it takes into account the level of inflation differences across countries apart from the basket of nominal exchange rates of partners.

Box 4.5: Impact of Exchange Rate Volatility on some Select Sectors

Empirical evidence on the effects of the exchange rate and exchange rate volatility on trade in India from some recent research studies is at best ambiguous. In fact, research results which find positive, negative or no effect of exchange rate volatility on the volume of international trade are based on varied underlying assumptions and only hold in certain cases.

However, there is some evidence that volatility in exchange rate has impact on different sectors and firms at different levels. Dhasmana (2013) used the industry-specific real exchange indices to study the impact of real exchange rate changes on the performance of Indian manufacturing firms from 2000 to 2012. The main findings of the study are that real exchange rate changes affect firm-level performance through the import cost channel but not the export competitiveness channel in the short run. The fact that the import cost channel is dominant in the short run indicates that episodes of real depreciation are likely to result in a contraction in real output growth at least in the short run. This study also calculated the elasticity of output growth with respect to real exchange rate for different industries. A positive sign of elasticity of output indicates a decrease in output growth in response to a real depreciation on account of increased cost of imported inputs. The study observed that the chemicals industry has the highest elasticity of output growth with respect to real exchange rate (a 1 per cent real depreciation causing output growth to decline by 12.5 basis points for an average firm) while the footwear industry has the smallest elasticity (0.38). The elasticity of output of some other sectors as per the study were: rubber (9.8), textile (4.8), plastic (5.4), and metal and metal products (5.1).

Movement in exchange rate has different impact on different sectors. High-import-intensity sectors like petroleum products (86.2 per cent imported raw materials consumed), and chemical and chemical products (77.4 per cent) are more impacted by rupee depreciation as a weaker rupee increases the value of imported inputs. Low-import-intensity sectors remain in an advantageous position especially in price-sensitive international markets.

An RBI working paper (2014) titled 'Impact of Real Exchange Rate Volatility on Use-Based Industrial Production in India' found that components of the index of industrial production (IIP) like the capital goods, basic goods, and intermediate goods sectors are adversely affected by significant movements in the 36 country REER. The impact of real exchange rate volatility on the basic goods sector is small. Moreover, the consumer goods sector,

Contd....

with items such as passenger cars, apparel, antibiotics and sugar having large weights in the group, is also not much affected by REER volatility due to low import content and production supported by sufficiency of domestic demand. On the other hand, capital goods are dependent on imports and therefore are more impacted by unexpected changes in both exchange rate and relative prices. Thus, periodic review of the 'neutral' (or equilibrium) REER is an imperative.

References

Dhasmana, Anubha (2013) 'Transmission of Real Exchange Rate Changes to the Manufacturing Sector Performance', Working Paper No. 435, IIMB.

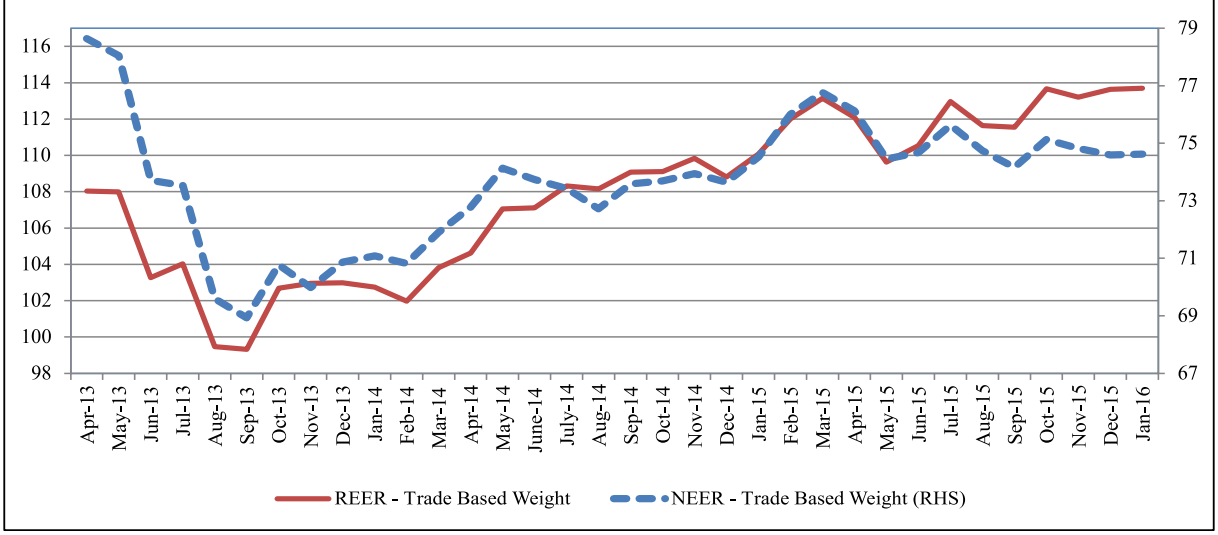
RBI Working Paper series no WPS (DEPR) 05 / 2014, ' Impact of Real Exchange Rate Volatility on Use-Based Industrial Production in India'.

4.43 During 2015-16 (April-January), NEER (Trade weighted--36 currencies) and REER (Trade weighted--36 currencies) appreciated by 1.7 per cent and 3.7 per cent respectively over 2014-15 (April-January). The rupee in real effective terms appreciated continuously from the early 2014 onwards and the movement in nominal effective terms does not exhibit any noticeable upward or downward pattern (Figure 4.7). REER is also a common measure of the alignment of a currency to its true value which is usually indicated by excess or shortfall by +/- 5 per cent of base year level of the index (Box 4.5).

External Debt

4.44 In a globalized economic environment, India's prudent external debt policies and management with emphasis on sustainability, liquidity and solvency have successfully limited the rise in magnitude of external debt to a modest level. The composition of external debt also reflects a well-maintained longer maturity profile and broad balance in terms of sources. On financial-year basis, India's aggregate external debt stock at end-March 2015 stood at US$475.2 billion, showing a rise of US$29.2 billion (6.5 per cent) over end-March 2014. The increase in external debt at end-March 2015 was due to higher levels of commercial borrowings, particularly commercial bank loans and securitized borrowings, and NRI deposits. ECBs have been a crucial determinant of the magnitude of India's external debt and its single largest

Figure 4.7: Movements in the indices of NEER and REER (Trade Based-36 currencies)



Source: **RBI**

component. The trend in ECBs can be ascribed significantly to the recent policy changes. These include an increase in access to rupee denominated borrowings, liberalization of the process of allocation of limits, steps taken by the RBI to monitor unhedged currency exposure, the RBI's issuance of guidelines on capital and provisioning requirements for exposure to entities with unhedged foreign currency exposure and simplification of the procedure for ECBs. Long-term external debt at US$389.7 billion at end-March 2015 registered an increase of 10.0 per cent over the end-March 2014 level while short-term debt declined by 6.7 per cent. Appendices 8.4(A) and 8.4(B) present the disaggregated data on India's external debt outstanding in Indian rupee and US dollar terms respectively.

4.45 In the current financial year as per latest data available, India's external debt stock increased by US$8.0 billion (1.7 per cent) to US$483.2 billion at end-September 2015 over the end-March 2015 level. The rise in external debt during the period was again on account of long-term external debt particularly commercial borrowings and NRI deposits. However, on a sequential basis, total external debt at end-September 2015 declined by US$291 million from the end-June 2015 level. The maturity pattern of India's external debt shows the predominance of long-term borrowings. At end-September 2015, long-term debt accounted for 82.2 per cent of India's total external debt, as against 82.0 per cent at end-March 2015. The proportion of short-term debt to total external debt decreased from 18.0 per cent at end-March 2015 to 17.8 per cent at end-September 2015. The composition of India's external debt is given in Table 4.5.

4.46 The currency composition of India's total external debt indicates that the proportion of US-denominated debt in total external debt continued to be the highest at 57.7 per cent at end-September 2015, followed by Indian rupee-denominated debt (28.3 per cent), SDRs (5.8 per cent), Japanese yen (4.0 per cent), and euro (2.4 per cent). The currency pattern of government (sovereign) debt shows the dominance of SDR-denominated debt (31.7 per cent) which is ascribed to borrowing from the International Development Association (IDA), the soft loan window of the World Bank under the multilateral category and SDR allocations by the IMF. At end-September 2015, government

Table 4.5: Composition of India's External Debt

(Per cent to total external debt)

Sl. No.	Component	March 2013	March 2014 PR	March 2015 PR	September 2015 QE
1	**2**	**3**	**4**	**5**	**6**
1	Multilateral	12.6	12.0	11.0	11.0
2	Bilateral	6.1	5.5	4.6	4.5
3	IMF	1.5	1.4	1.2	1.2
4	Export credit	4.3	3.4	2.7	2.4
5	Commercial borrowings	34.2	33.5	38.0	37.7
6	NRI deposits	17.3	23.3	24.2	25.2
7	Rupee debt	0.3	0.3	0.3	0.2
8	**Long-term debt (1 to 7)**	**76.4**	**79.4**	**82.0**	**82.2**
9	**Short-term debt**	**23.6**	**20.6**	**18.0**	**17.8**
10	**Total external debt (8+9)**	**100.0**	**100.0**	**100.0**	**100.0**

Notes: **PR: Partially Revised; QE: Quick Estimates.**
Source: **Ministry of Finance and RBI**

(sovereign) external debt stood at US$88.8 billion. The share of government debt in total external debt at end-September 2015 was 18.4 per cent as compared to 18.9 per cent at end-March 2015. Non-government external debt stood at US$394.3 billion at end-September 2015.

4.47 Over the years, the composition of India's external debt stock has undergone structural transformation. The proportion of concessional debt in total external debt came down from an average of 42.9 per cent during 1991-2000 to 28.1 per cent in 2001-10 and further to 12.4 per cent during 2011-14. It stood at 8.7 per cent at end-September 2015 as compared to 8.8 per cent at end-March 2015. Non-government external debt has been predominant in total external debt and its proportion has been going up over the years. Non-government debt went up from 45.3 per cent of total external debt in the 1990s to 65.6 per cent in the decade of 2000s. In the last five years it has been at an annual average of 79.0 per cent and at end-September 2015, it stood at 81.6 per cent. The main external debt indicators are given in Table 4.6.

4.48 India's foreign exchange reserves provided a cover of 72.5 per cent to total external debt stock at end-September 2015 vis-à-vis 71.9 per cent at end-March 2015. The ratio of short-term external debt to foreign exchange reserves was 24.6 per cent at end-September 2015 as compared to 25.0 per cent at end-March 2015. The ratio of concessional debt to total external debt decreased steadily and stood at 17.8 per cent at end-September 2015 as against 18.0 per cent at end-March 2015.

4.49 India's external debt has remained in safe limits as shown by the external debt to GDP ratio of 23.7 per cent and debt service ratio of 7.5 per cent in 2014-15. The prudent external debt policy of the Government of India has resulted in external debt remaining within safe and comfortable limits and in containing its rise. The external debt management policy followed by the Government of India continues to emphasize monitoring of long- and short-term debt, raising sovereign loans on concessional terms with long-term maturities, regulating ECBs through end-use and all-in-cost restrictions and

Table 4.6: India's Key External Debt Indicators

(per cent)

Year	External Debt (US$ billion)	Total External Debt to GDP	Debt Service Ratio	Concessional Debt to Total External Debt	Foreign Exchange Reserves to Total External Debt	Short term External Debt* to Foreign Exchange Reserves	Short term External Debt to Total Debt
1	2	3	4	5	6	7	8
2011-12	360.8	20.5	6.0	13.3	81.6	26.6	21.7
2012-13	409.4	22.3	5.9	11.1	71.3	33.1	23.6
2013-14 PR	446.0	23.6	5.9	10.4	68.2	30.1	20.6
2014-15 PR	475.2	23.7	7.5	8.8	71.9	25.0	18.0
End-September 2015 QE	483.2	-	-	8.7	72.5	24.6	17.8

Notes: **PR: Partially Revised; QE: Quick Estimates**

- : Not worked out for the part of the year

*** Short term debt is based on original maturity.**

Debt –Service Ratio is the proportion of gross debt service payments to external current receipts (net of official transfers)

Source: **Ministry of Finance and RBI.**

rationalizing interest rates on NRI deposits.

International Comparison

4.50 Cross-country comparison of external debt based on the World Bank's 'International Debt Statistics 2016', which contains data on external debt for the year 2014, indicates that India continues to be among the less vulnerable countries on this account. India's key external debt indicators compare well with those of other indebted developing countries. The ratio of India's external debt stock to gross national income (GNI) at 22.7 per cent was the fourth lowest. In terms of the cover provided by foreign exchange reserves to external debt, India's ranked fifth at 65.5 per cent. (Further details can be accessed at http://www.finmin.nic.in/reports/ind_Ext_debt.asp)

Prices, Agriculture and Food Management

05
CHAPTER

Weakening of global commodity prices continued in 2015-16. Prices of crude oil, metals and even cereals declined across the globe not-withstanding a few short spells of rebound. The significant decline in the price of the Indian basket of crude oil, through direct and second round effects, contributed partly to the decline in general inflation for the second successive year. Headline inflation, based on the consumer price index (combined) series, dipped to 4.9 per cent during April-January 2015-16 as against 5.9 per cent in 2014-15. The astute food supply management policy of the government has been successful in containing food inflation despite the below-average monsoon this year and the resultant sporadic spurts in the prices of pulses and a few other essential commodities in the second half of the year. Consumer price index-based core inflation (non-food non-fuel) also remained range bound, inching up marginally from 4.2 per cent in March 2015 to 4.7 per cent in January 2016. The easing of inflationary pressures paved the way for reduction in policy repo rates by 125 basis points during 2015 by the Reserve Bank of India.

The declining growth in agriculture owing to two consecutive drought years, and with decline in production and area sown of major crops, agriculture sector needs a transformation to ensure sustainable livelihoods for the farmers and food security for the population. The transformation in agriculture has to be steered by raising productivity in agriculture, by investing in efficient irrigation technologies, and efficient use of all inputs.

> *"Few scientists think of agriculture as the chief, or the model science. Many indeed do not consider it a science at all. Yet it was the first science - the mother of all sciences; it remains the science which makes human life possible; and it may be that, before the century is over, the success or failure of science as a whole will be judged by the success or failure of agriculture."* ***--T.W. Schultz***

Overall Trends in Inflation

5.2 Persistent and elevated levels of inflation, in particular food inflation, were a major concern of the government during the period 2010-11 to 2013-14. During this high-inflation phase, average wholesale price index (WPI) inflation was 8.0 per cent and average inflation based on the consumer price index for industrial workers [CPI (IW)] was way above comfort level at 9.7 per cent. CPI (IW)-based food inflation touched double digits and likewise WPI-based food inflation rose to a high of 9.3 per cent during the same period. The rising trend reversed from

Table 5.1: Headline inflation based on different indices (in per cent)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16* (Apr-Dec)
WPI	9.6	8.9	7.4	6.0	2.0	-3.0
CPI (combined)	-	-	10.2	9.5	5.9	4.8
CPI (IW)	10.4	8.4	10.4	9.7	6.3	5.6
CPI (AL)	10.0	8.2	10.0	11.6	6.6	4.2
CPI (RL)	10.0	8.3	10.2	11.5	6.9	4.4

Source: **Department of 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).**

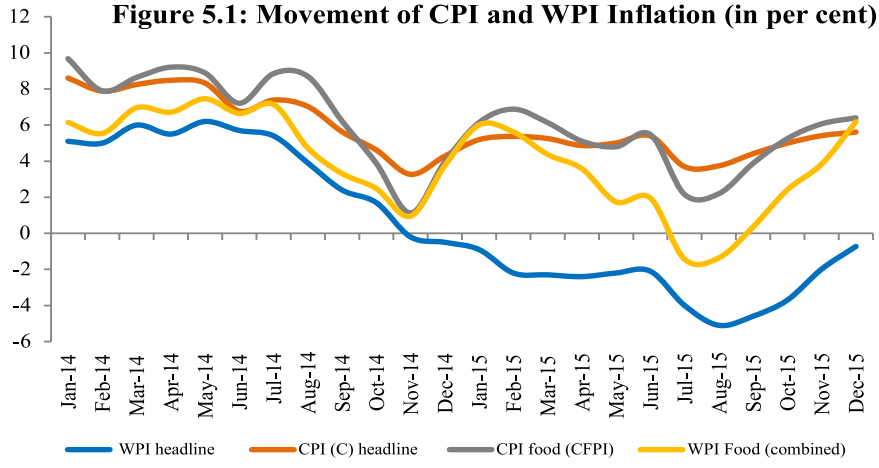
Notes: ***WPI and CPI (Combined) figures are provisional; AL stands for agricultural labourers and RL stands for rural labourers.**

2014-15 onwards and the economy has been experiencing sustained moderation in general inflation ever since. A comparative picture of inflation based on the major series of the price indices for the last five years is given in Table 5.1.

5.3 The new monthly CPI (combined), with base 2012=100, is now taken as the measure of headline inflation and is tracked by the Reserve Bank of India (RBI) to anchor its monetary policy. Headline inflation declined from 5.9 per cent in 2014-15 to 4.8 per cent in April-December 2015-16. It has, however, been ticking upwards lately and has touched 5.6 per cent in December 2015 owing to build up in food group inflation and adverse base effect. There has been upward pressure at wholesale and retail level in the prices of pulses, edible oils, onions, etc. Figure 5.1 shows the comparative trends of CPI and WPI inflation from January 2014 onwards.

5.4 Within the various subgroups of the CPI (combined), the decline in inflation was broad based and mainly driven by the decline in the inflation in food articles and items under non-food non-fuel category. The decline in CPI core inflation was largely on account of decline in the inflation of housing (rent), transport, communication, education and other services. Inflation measured for the fuel and light subgroup increased from 4.2 per cent in 2014-15 to 5.5 per cent in April-December 2015-16 (Table 5.2), partly due to rise in the price of firewood and dung cakes and partly on account of the low weight of diesel in the CPI fuel basket. Figure 5.2 shows the point contributions of the various groups to CPI inflation.

Figure 5.1: Movement of CPI and WPI Inflation (in per cent)



Source: **DIPP and CSO**

Table 5.2: Inflation in CPI (Combined) Broad Groups (in per cent)

	Weights	Weights	2012-13	2013-14	2014-15	2015-16 (Apr-Dec) P
Base	2010	2012	2010	2010	2012	2012
Headline	**100.0**	**100.0**	**10.2**	**9.5**	**5.9**	**4.8**
Food and beverages	47.6	45.9	11.9	11.2	6.5	4.9
Fuel and light	9.5	6.8	8.5	7.4	4.2	5.5
Non-food non-fuel (core)	42.9	47.3	8.8	8.1	5.6	4.5
Food (CFPI*)	42.7	39.1	12.2	11.3	6.4	4.6

Source: **CSO**

Notes: *** Consumer Food Price Index; P: Provisional**

5.5 The largest impact of the decline in crude oil prices during 2014-15 and 2015-16 has been on the WPI basket (Box 5.1). The WPI inflation for the fuel and power subgroup, which had been hovering in double digits during the period 2012-13 and 2013-14, fell sharply to - 0.9 per cent in 2014-15 and further to - 12.6 per cent in April-December 2015-16. The decline in global commodity prices has resulted in a drop in the WPI-based core inflation from 2.9 per cent in 2013-14 to 2.4 per cent in 2014-15 and further to - 1.5 per cent in April-December 2015 (Table 5.3).

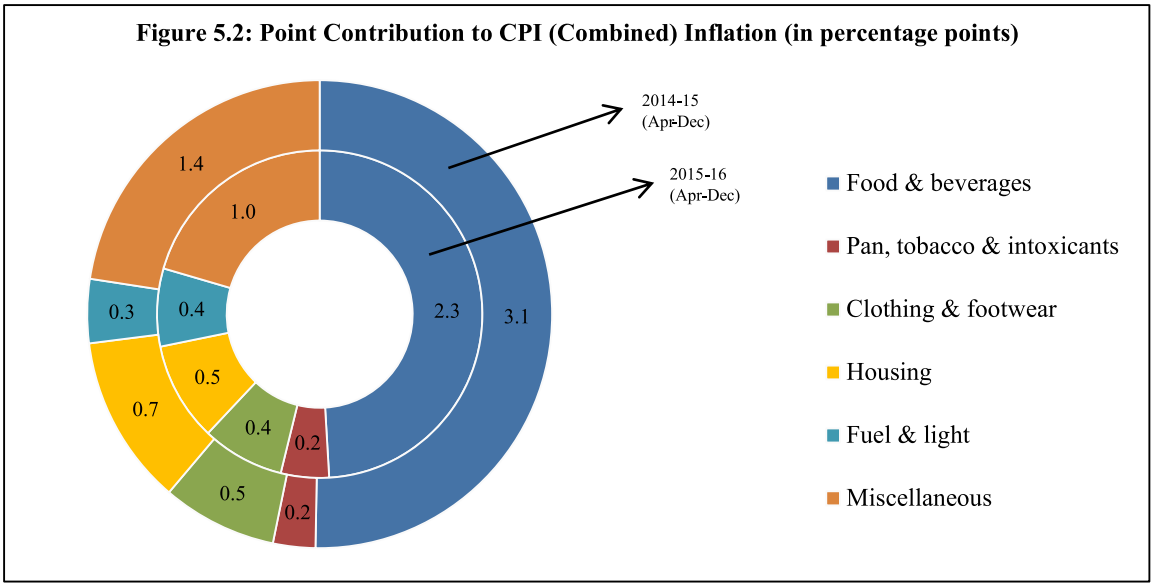
Table 5.3: Inflation in WPI Broad Groups (in per cent) (Base:2004-05)

	Weights	2012-13	2013-14	2014-15	2015-16 (Apr-Dec)P
Headline	**100.0**	**7.4**	**6.0**	**2.0**	**-3.0**
Primary articles	20.1	9.8	9.8	3.0	-0.5
Fuel and power	14.9	10.3	10.2	-0.9	-12.6
Manufactured products	65.0	5.4	3.0	2.4	-1.3
Non-food manufactured (core)	55.0	4.9	2.9	2.4	-1.5
All food	24.3	9.3	9.4	4.9	1.9

Source: **Office of Economic Adviser, DIPP.**

Note: **P: Provisional.**

Figure 5.2: Point Contribution to CPI (Combined) Inflation (in percentage points)

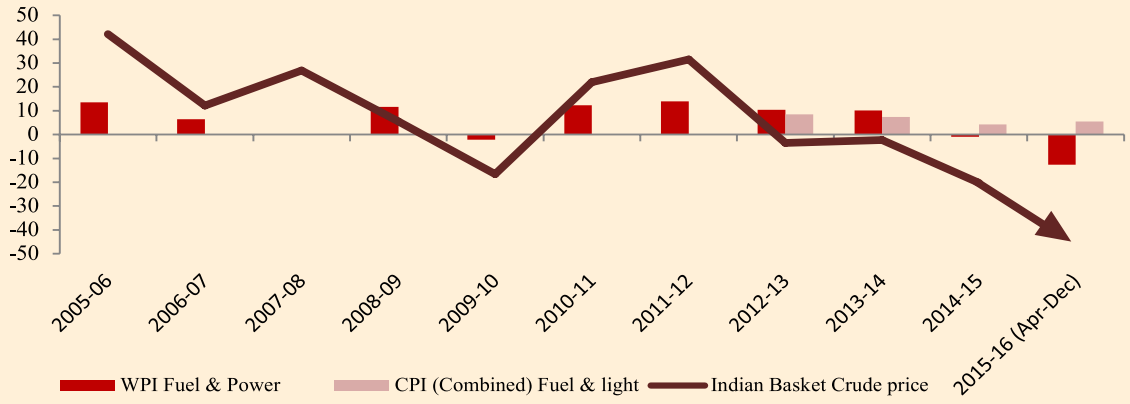


Source: **CSO**

Box 5. 1: Impact of Fall in Crude Price on Inflation

Since India is dependent on import of crude oil to meet about 80 per cent of its crude requirement, global fluctuation in crude oil prices has significant impact on domestic inflation. Price of the Indian basket of crude oil declined by 46 per cent in April-December 2015. Earlier the decline in crude oil prices had helped India deregulate diesel prices. Deregulation has reduced the subsidy burden, thereby helping reduce fiscal deficit. Post deregulation, decline in diesel prices has resulted in reduction in overall inflation.

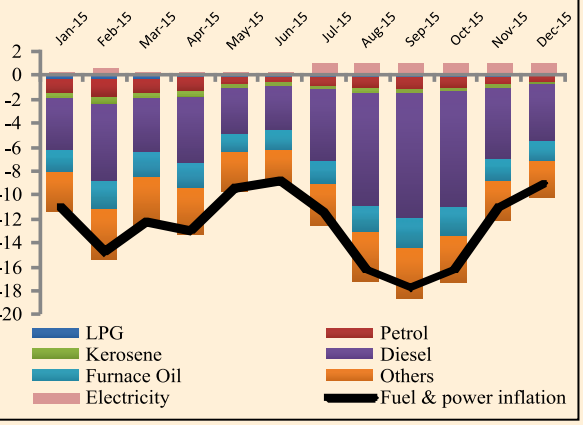
Figure 1: Growth in crude price vis-à-vis WPI & CPI Fuel inflation (in per cent)



Source: **M/o Petroleum & Natural Gas, DIPP and CSO**

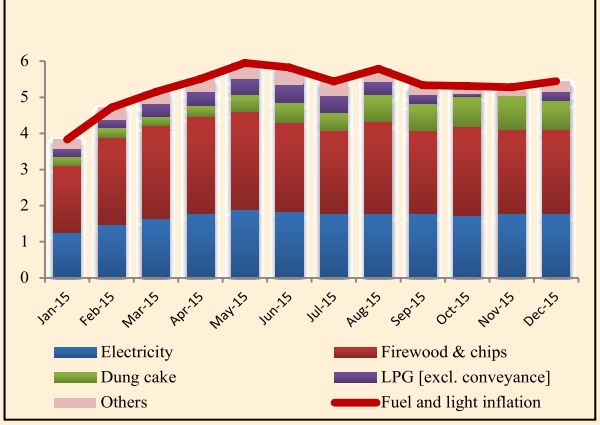
Although fall in crude prices has impacted WPI fuel and power inflation significantly, the impact on CPI fuel & light is minimal. This is mainly due to difference in the commodities and their weights included in the CPI and WPI fuel baskets. Diesel and petrol whose prices are directly linked to global crude prices constitute around 40 per cent of the WPI fuel & power basket. The decline in the prices of these products played a major role in pulling down WPI fuel and power inflation into negative territory (Figure 2). Petroleum products have negligible weight in CPI fuel & light group. The main contributors to CPI fuel & light inflation in the current year were three items namely firewood & chips, electricity and dung cake which form around 70 per cent of the CPI (combined) fuel & light basket. (Figure 3).

Figure 2: Point contribution to WPI Fuel & Power inflation (in percentage points)



Source: **DIPP**

Figure 3: Point contribution to CPI (Combined) Fuel & light inflation (in percentage points)



Source: **CSO**

Note: **1. Others in CPI (combined) fuel & light include kerosene, coke, coal, charcoal and other fuel.**

2. Others in WPI fuel & power include coal, ATF, naptha, bitumen and lubricants.

Food Inflation

5.6 The consumer food price index (CFPI) basket comprises various categories such as cereals, pulses, vegetables, fruit, milk and eggs, meat and fish. Food inflation remained high during 2010-11 to 2013-14. Supply-side constraints have been causing inflationary spurts from time to time, in particular in pulses, edible oils and vegetables. With deft and astute food management by the government, there has been significant moderation in wholesale and retail food inflation since 2014-15.

5.7 CFPI-based inflation averaged 11.8 per cent during 2012-13 to 2013-14 and thereafter declined sharply to 6.4 per cent in 2014-15 and further eased to 4.6 per cent in April-December 2015-16. Cereal inflation declined significantly from 13.2 per cent in 2013-14 to 5.2 per cent in 2014-15 and 1.7 per cent in 2015-16 (Table 5.4). The prices of most protein-based food commodities such as egg, meat, fish, milk too eased significantly during April-December 2015-16. The only exception was the pulses and products category, with an average price rise of 29.6 per cent during the current year. The spike in pulse prices was mainly due to shortfall in production of tur and gram. In order to avoid further spikes in prices of pulses, the government has decided to build a buffer by procuring tur and urad and has initiated action to ensure timely imports. The prices of potato and onion were volatile during 2014-15 and 2015-16, yet overall inflation in vegetables remained low.

5.8 Both WPI-based food inflation and the CPI-based food inflation have been moving in tandem. In comparison with the CPI, the WPI series assigns less weight (24.3 per cent) to food items (food articles and food products) in its basket. Inflation in WPI food articles, which was ruling high at 12.8 per cent in 2013-14 declined significantly to 6.1 per cent in 2014-15 and further to 3.0 per cent in April-December 2015-16 (Table 5.5).

5.9 The decline in food articles inflation during 2015-16 so far was mainly on account of a fall in the prices of cereals, vegetables, fruits, milk, egg, fish and meat. However, a spike in the prices of pulses on account of low domestic production kept foodgrain prices high. On the other hand, inflation in

Table 5.4: Inflation in CPI (Combined) Food Groups (in per cent)

	Weights	Weights	2012-13	2013-14	2014-15	2015-16 (Apr-Dec) P
Base	2010	2012	2010	2010	2012	2012
Food (CFPI)	**42.7**	**39.1**	**12.2**	**11.3**	**6.4**	**4.6**
Cereals and products	14.6	9.7	10.5	13.2	5.2	1.7
Meat and fish	2.9	3.6	12.2	12.1	6.3	5.9
Egg*	-	0.4	-	-	3.2	1.2
Milk and products	7.7	6.6	10.4	8.7	10.3	5.7
Oils and fats	3.9	3.6	16.6	1.8	2.4	3.9
Fruits	1.9	2.9	7.5	11.2	13.9	2.3
Vegetables	5.4	6.0	20.6	26.0	3.4	1.0
Pulses and products	2.7	2.4	12.3	4.2	7.9	29.6
Sugar and confectionery	1.9	1.4	12.5	-0.7	-0.4	-9.5
Spices	1.7	2.5	3.1	7.2	8.6	9.5

Source: **CSO.**

Notes: **P: Provisional; *Egg, which was part of the subgroup 'egg, fish and meat' in the 2010 series, has been treated as a separate subgroup in the 2012 series.**

Table 5.5: Inflation in WPI Food Groups (in per cent) (Base:2004-05)

	Weights	2012-13	2013-14	2014-15	2015-16 (Apr-Dec)P
All food	**24.3**	**9.3**	**9.4**	**4.9**	**1.9**
Food articles	***14.3***	***9.9***	***12.8***	***6.1***	***3.0***
Foodgrains	4.1	14.6	9.1	4.0	6.7
Cereals	3.4	13.4	12.8	3.6	-0.3
Pulses	0.7	19.6	-5.5	5.9	39.5
Vegetables	1.7	17.2	40.2	-6.1	-4.3
Fruits	2.1	1.3	7.5	19.0	1.1
Milk	3.2	7.2	6.0	10.0	3.7
Egg, meat & fish	2.4	14.1	12.8	2.4	0.9
Condiments & spices	0.6	-11.8	17.2	21.7	14.8
Food products	***10.0***	***8.1***	***3.2***	***2.4***	***-0.4***
Sugar	1.7	11.3	-2.4	-0.3	-13.2
Edible Oils	3.0	9.1	-0.8	-1.3	2.6

Source: **Office of Economic Adviser, DIPP.**

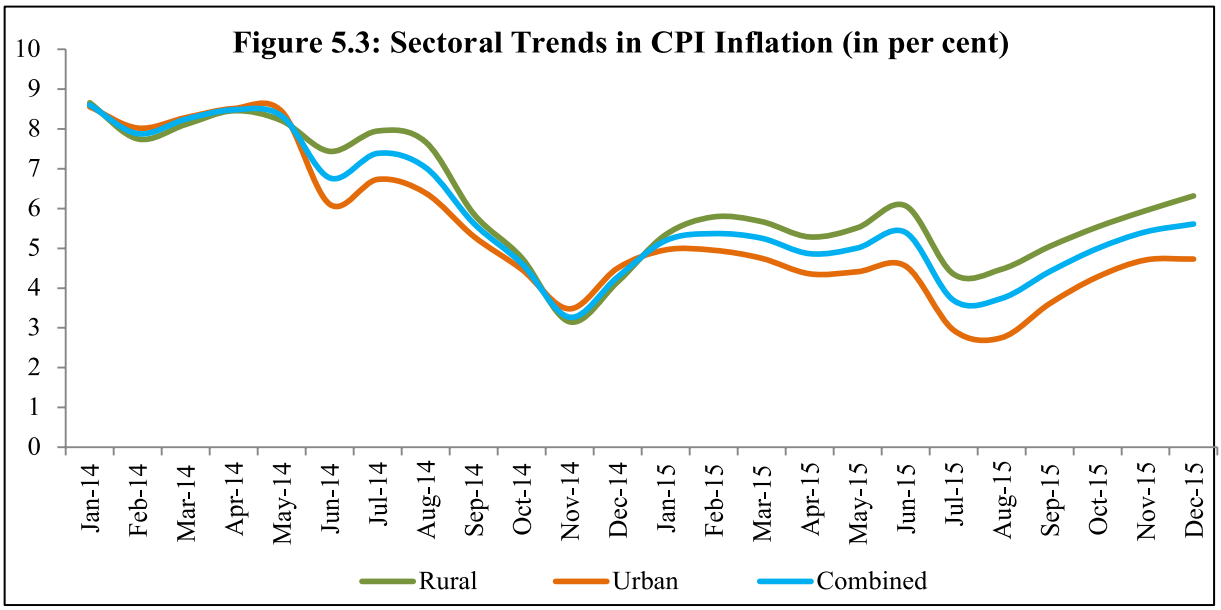
Note: **P : Provisional.**

manufactured food products, which was low at 3.2 per cent in 2013-14, moderated even further to - 0.4 per cent in April-December 2015-16.

Urban and Rural Sector Inflation

5.10 The general inflation measured separately for the urban and rural segments of the CPI have been widening in recent months (Figure 5.3). The urban CPI basket has been experiencing lower inflation as compared to the rural consumer expenditure-based basket. The global commodity prices meltdown has pulled down prices of fuel products and other tradeables and has benefited urban consumers. Headline inflation for the urban sector stood at 4.7 per cent in December 2015, whereas

Figure 5.3: Sectoral Trends in CPI Inflation (in per cent)



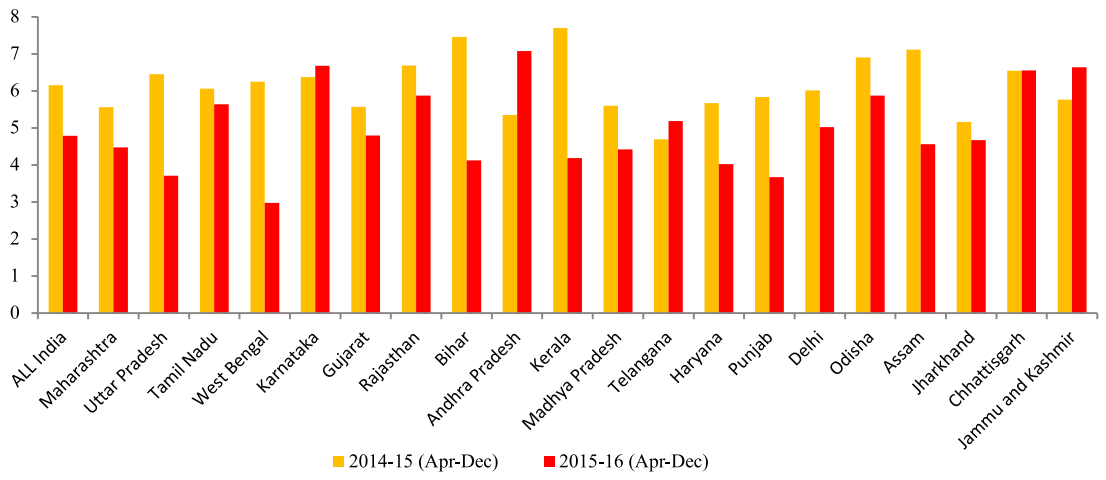
Source: **CSO**

the corresponding figure for the rural sector was 6.3 per cent. The gap between rural and urban inflation in India has increased from the beginning of the year 2015. The difference is partly owing to variation in the weights of items in the two baskets. The rural basket of the CPI assigns significantly larger weights to cereals, vegetables, meat and fish and pulses. Prices of these commodities have been experiencing volatility due to supply-side constraints and lack of a seamless common market for agri-products in the country.

State-wise Inflationary Trend

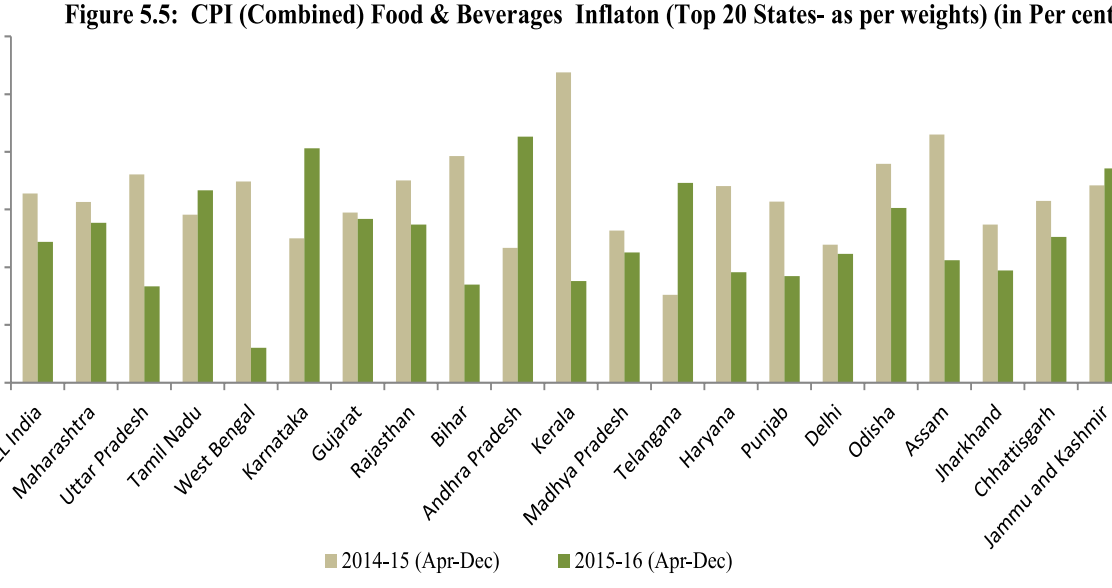
5.11 State-wise analysis of inflation shows that CPI-based general and food inflation has declined during the current year in most of the states (Figures 5.4 and 5.5). Yet there are exceptions. Karnataka, Andhra Pradesh, Telangana and Jammu and Kashmir experienced higher inflation during April-December 2015 as compared to the corresponding period of the previous year. The reason for rising inflation in these states has been higher food inflation. West Bengal has experienced the lowest inflation during

Figure 5.4: CPI (Combined) General Inflation (Top 20 States- as per weights) (in Per cent)



Source: **CSO**

Figure 5.5: CPI (Combined) Food & Beverages Inflaton (Top 20 States- as per weights) (in Per cent)



Source: **CSO**

the current year so far. Food inflation follows a similar trend. In all 15 out of the top 20 states (in terms of weights) witnessed lower food inflation in April-December 2015.

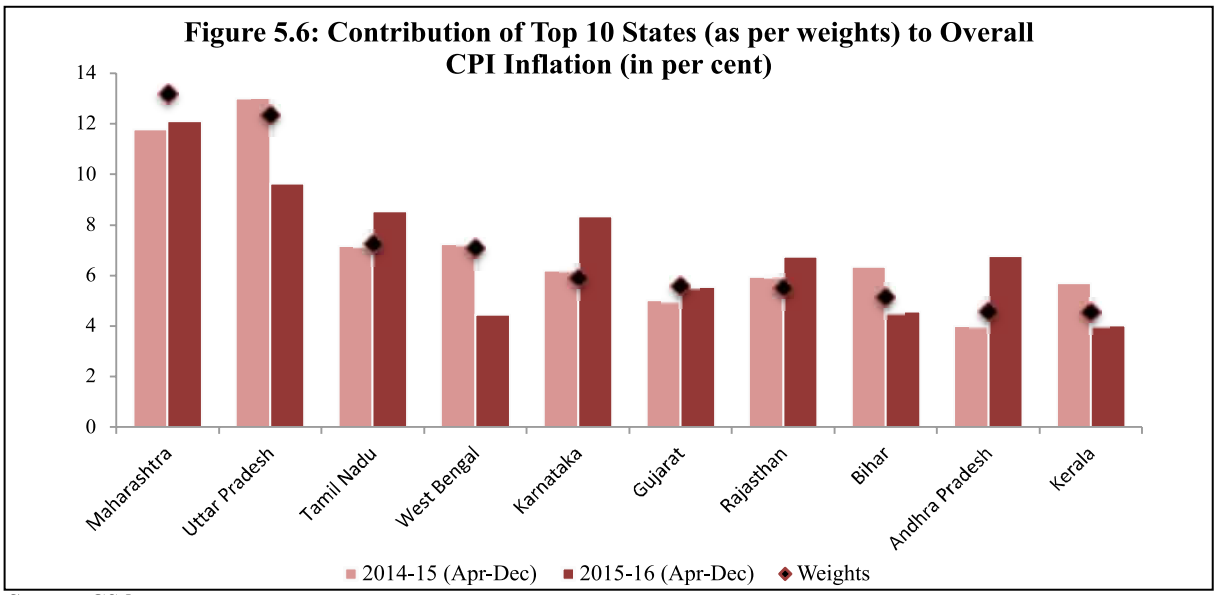
5.12 The top ten states [as per weights in CPI (combined)], with a combined weight of 71 per cent, have been the main contributors to CPI inflation in the current year. Among the top ten states, the contribution of four, Tamil Nadu, Karnataka, Rajasthan and Andhra Pradesh, was higher than their respective weights in the CPI (combined) basket. The contribution of Uttar Pradesh, West Bengal, Bihar and Kerala to overall inflation has been lower during the current year in comparison to the previous year (Figure 5.6).

Wedge between CPI and WPI

5.13 The widening gap in the inflation based on CPI and WPI series is often a cause for concern for users not conversant with the scope, structure and purpose of these indices. The wedge between CPI- and WPI-based inflation during the current financial year has been significantly wide. While WPI-based inflation continues to be in the negative zone for fourteen months in a row from November 2014 to December 2015, CPI-based inflation averaged 4.8 per cent during the same period. The gap between the two inflation estimates was as high as 9 per cent in September 2015 (Figure 5.7).

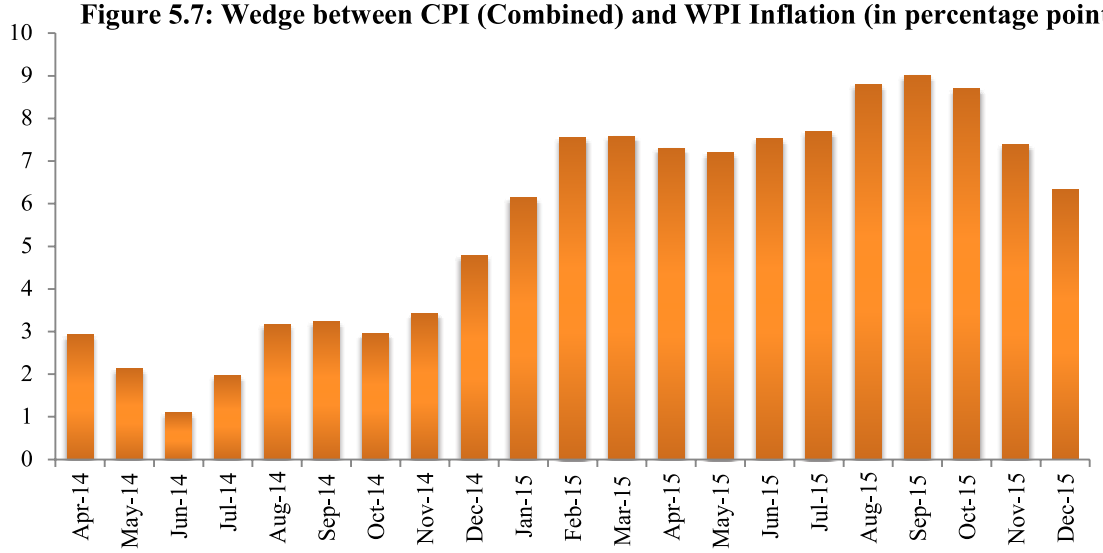
5.14 The WPI series mainly tracks the movement of producer and bulk transaction prices and its weights are based on the value of output in different sectors of the economy. The series is akin to producer price indices compiled in other countries. The CPI basket is based on consumer expenditure estimates and tracks inflation at retail level or the prices consumers pay. The base years of the two series are eight years apart as WPI base revision is long overdue. The weighting diagrams of the two series vary significantly. The weight of total food items in the WPI is 24.3 per cent as compared to 45.9 per cent in the CPI series. The weakness in global commodity prices, in particular crude prices, during the last one and half years has been the cause of decline in the WPI. Tradable commodities have 55 per cent weight and fuel and power products about 15 per cent in the basket. On the other hand, the CPI basket consists of commodities as well as services like health and education which are not included in the WPI basket. The CPI has negligible crude price pass through owing to negligible weight of petroleum products.

Figure 5.6: Contribution of Top 10 States (as per weights) to Overall CPI Inflation (in per cent)



Source: **CSO**

Figure 5.7: Wedge between CPI (Combined) and WPI Inflation (in percentage points)



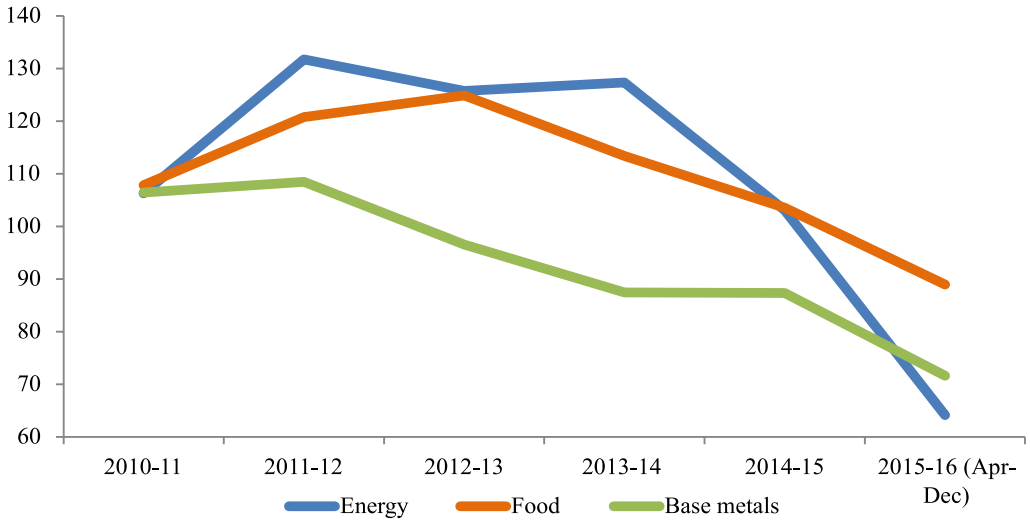
Source: **DIPP, CSO**

Global inflation and commodity prices

5.15 Global inflation, as per International Monetary Fund (IMF) , fell to 3.5 per cent in 2014 from 3.9 per cent in the previous year, mirroring the steep slide in commodity prices. Inflation in emerging market and developing economies (EMDEs), excluding Venezuela and Ukraine, is estimated to decline from 4.5 per cent in 2014 to 4.2 per cent in 2015. In 2016, inflation is projected to rise in advanced economies, but in EMDEs, it is expected to decline.

5.16 The global commodity prices outlook remains weak. The World Bank energy index fell around 44 per cent in April-December 2015 when compared to the prevailing prices for the similar period in the previous year. Food prices fell around 16 per cent in the current year mainly on account of oils & meals and grains. Base metal prices declined by 20 per cent in April-December 2015. The fall in prices of steel, iron ore and coal has been substantial. The United States Department of Agriculture (USDA) has forecast lower world wheat and rice prices by 16.5 per cent and 0.8 per cent respectively during 2015-16.

Figure 5.8: Movement of World Bank commodity price indices (2010=100)



Source: **World Bank**

Outlook

5.17 Continued uncertainty over the outlook for China, expected spurt in Iranian crude supply and moderation in demand from the rest of the world are likely to keep crude prices subdued in the near future. Prospects of lower oil prices over the medium term are likely to dampen inflation expectations. The outlook for the other key commodities too remains subdued in the near future and shall be the key factor in keeping India's inflation range bound. High rural wages, higher levels of minimum support prices (MSP) and rise in input costs have been instrumental in raising inflation in the past few years. At present, growth of all these drivers has slowed down considerably. Yet, as experienced in the second half of the year, recurrence and rebound in the prices of some essential food items may again lead to an uptick in inflation. The latest available rabi sowing estimates have projected a shortfall in average sown area, in particular of pulses and oilseeds. As prices of these commodities are highly sensitive to supply shocks, continued deft supply management is needed in the near future.

Agriculture and Food Management

Overview of Agriculture

5.18 Agriculture and allied activities remain the major source of livelihood for nearly half of the Indian population. The share of agriculture in employment was 48.9 per cent of the workforce [National Sample Survey Office (NSSO), 2011-12] while its share in the Gross Domestic Product (GDP) was 17.4 per cent in 2014-15 (First Revised Estimates) at constant (2011-12) prices.

5.19 The Twelfth Five Year Plan (2012-13 to 2016-17) had envisaged a growth target of 4 per cent for agriculture and allied sectors, necessary for the Indian economy to grow at over 8 per cent. During the last three years, the growth rates in agriculture have been fluctuating at 1.5 per cent in 2012-13, 4.2 per cent in 2013-14, and (-) 0.2 per cent in 2014-15 (Table 5.6). According to the CSO (Central Statistics Office) estimates released on 8 February 2016, the growth in the 'agriculture, forestry and fishing' sector is estimated at 1.1 per cent in 2015-16. The estimates of GDP for the second quarter (July-September) of 2015-16, 'agriculture, forestry and fishing'

Table 5.6: Agriculture Sector: Key Indicators (per cent change at 2011-12 prices)

Sl.No.	Item	2011-12	2012-13*	2013-14*	2014-15@
1	Growth in GDP in Agriculture & allied sectors (at constant 2011-12 prices)	5.0#	1.5	4.2	-0.2
	Share of Agriculture & allied Sectors in total GVA (at current 2011-12 prices)	18.5	18.2	18.3	17.4
	Share of Crops	12.1	11.8	11.9	10.9
	Share of Livestock	4.0	4.1	4.1	4.4
	Share of Forestry and logging	1.5	1.5	1.4	1.2
	Share of Fishing	0.8	0.9	0.9	0.9
2	Share of Agriculture & allied Sectors in total Gross Capital Formation (GCF) (at current 2011-12 prices)	8.6	7.8	8.6	7.7
	Share of Crops	7.3	6.6	7.3	6.4
	Share of Livestock	0.8	0.8	0.8	0.8
	Share of Forestry and logging	0.1	0.1	0.1	0.1
	Share of Fishing	0.4	0.4	0.5	0.5
3	GCF in Agriculture & allied sectors as per cent to GVA of the sector (at current 2011-12 prices)	18.3	16.3	17.0	15.8

Source: **CSO.**

Notes: **# at 2004-05 prices; * Second RE (New Series), @ First RE; GVA is Gross Value Added.**

sector also reported a growth well below the 4 per cent target, at 2.2 per cent. The shortfall in growth in agriculture is explained by the fact that 60 per cent of agriculture in India is rainfall dependent and there have been two consecutive drought years in 2013-14 and 2014-15. Moreover, there are issues of expansion in irrigation and its efficiency, growth of capital formation in the sector has been declining and there is volatility in the markets, especially of prices, altering and distorting cropping patterns of some crops. This suggests that for the agriculture sector to achieve a target of 4 per cent, a significantly different approach has to be followed.

Figure 5.9 a: Growth Rate in Agriculture and Allied Sectors (1951-52 to 2013-14)

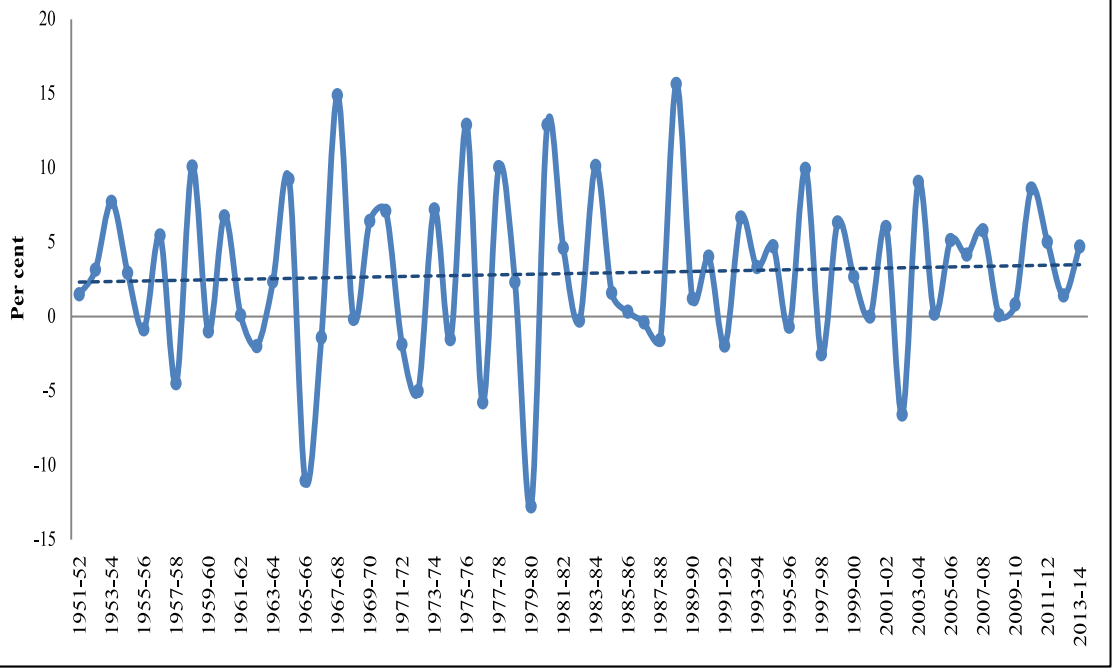


Figure 5.9 b

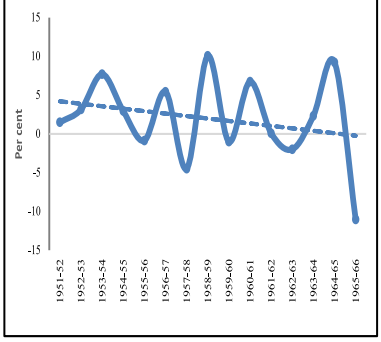


Figure 5.9 c

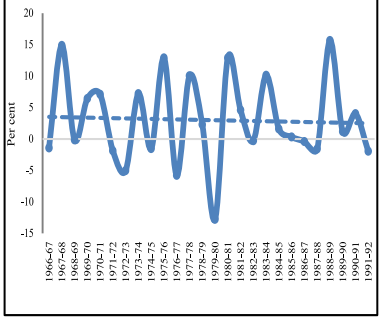
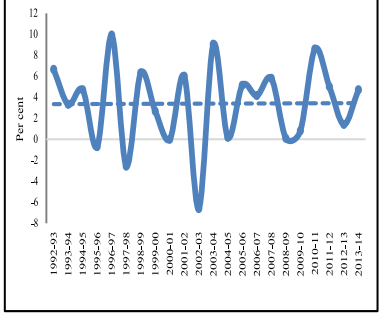


Figure 5.9 d



Trend Line

Source: **CSO.**

5.20 The growth in the agriculture and allied sectors since 1992-93 (Figure 5.9d) suggests a very marginal upward trend, accompanied by large volatility reflected in sharp peaks and troughs.

Area, Production and Yield

5.21 As per the Second Advance Estimates for 2015-16, foodgrains production during 2015-16, estimated at 253.16 million tonnes, is expected to be higher by 1.14 million tonnes over the production of 252.02 million tonnes during 2014-15. The area, production and yield of different crops is given in Table 5.7. The acreage under several crops declined substantially in 2014-15 compared to 2013-14 as per the Fourth AE (Advance Estimates). The largest decline in the areas of gram and groundnut of around 20 and 15 per cent respectively, resulted in a decline in production of gram and groundnut by 27 per cent and 32 per cent in 2014-15 compared to 2013-14. It appears that the shift away from gram and groundnut has been in regions of relatively higher productivity, since the respective declines in output are much larger than the declines in the acreage. The percentage change in the yield of crops in 2014-15 over the previous year shows an increase in yield of only two crops, jowar and bajra. With scanty moisture and precipitation, there has been delayed sowing, which is reflected in a decline in percentage change in area sown of the majority of crops, as per 4th AE (Table 5.7).

Table 5.7: Area, Production and Yield (2014-15*)

Group/ Commodity	Area (million ha)	Percentage change in area	Production (million tonnes)	Percentage change in production	Yield (kg/ha)	Percentage change in yield
Foodgrains[a]	122.1	-3.1	252.7	-4.6	2070	-1.5
Rice	43.9	-0.2	104.8	-1.6	2390	-1.4
Wheat	31.0	-0.7	88.9	-7.3	2872	-6.6
Jowar	5.3	-9.0	5.1	-6.3	953	3.0
Maize	9.3	-1.8	23.7	-2.8	2557	-1.0
Bajra	7.1	-9.7	9.1	-1.4	1272	9.3
Pulses	23.1	-8.4	17.2	-10.8	744	-2.6
Gram	8.2	-19.9	7.2	-27.4	875	-9.4
Tur	3.7	-4.9	2.8	-15.5	750	-11.6
Oilseeds	25.7	-9.8	26.7	-18.9	1037	-10.0
Groundnut	4.7	-15.2	6.6	-32.2	1400	-20.0
Rapeseed and Mustard	5.8	-13.6	6.3	-20.7	1089	-8.3
Cotton[b]	13.1	11.8	35.5	-3.3	461	-13.3
Sugarcane	5.1	2.0	359.3	2.7	70[#]	0.0

Source: **Directorate of Economics and Statistics, Department of Agriculture, Cooperation and Farmers Welfare.**

Notes: ***Fourth AE; [#] tonnes/ha; [a] : Includes cereals and pulses; [b] : Million Bales of 170 kg.**

Table 5.8: Average Yields of Major Crops in India (kg/ha)

Crop	Average yield 1970-71	Average yield 1980-81	Average yield 1990-91	Average yield 2000-01	Average yield 2010-11	Average yield 2013-14	Average yield 2014-15*
Rice	1123	1336	1740	1901	2239	2416	2390
Wheat	1307	1630	2281	2708	2989	3145	2872
Pulses	524	473	578	544	691	764	744
Oilseeds	579	532	771	810	1193	1168	1037
Sugarcane (tonnes/ha)	48	58	65	69	70	71	70
Tea	1182	1491	1794	1673	1712	2170	2170
Cotton	106	152	225	190	499	510	461

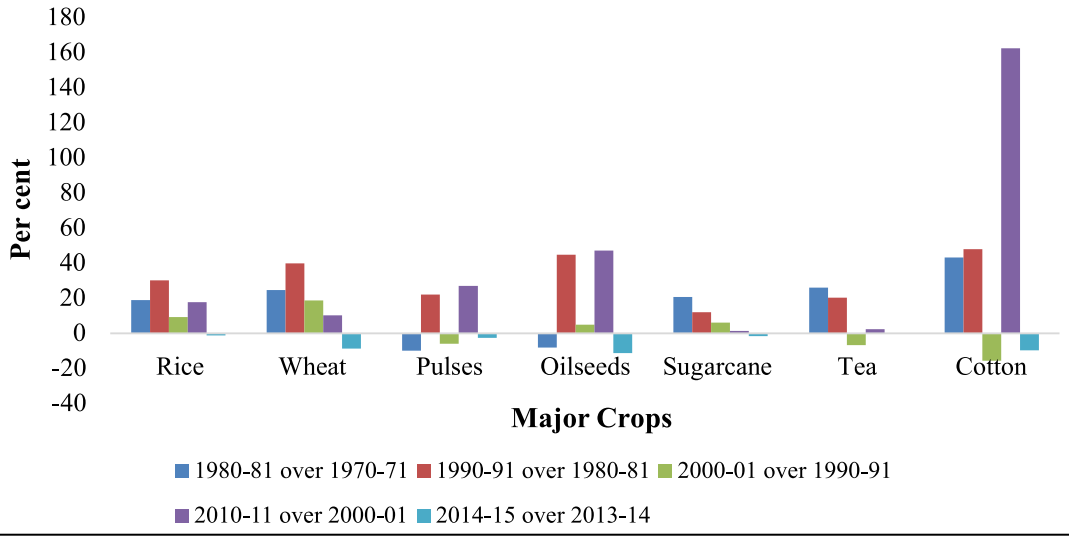
Source: **Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare.**

Note: *** Fourth AE.**

5.22 The average yields of major crops have shown impressive growth over the decades from 1970-71 to 1990-91 (Table 5.8).

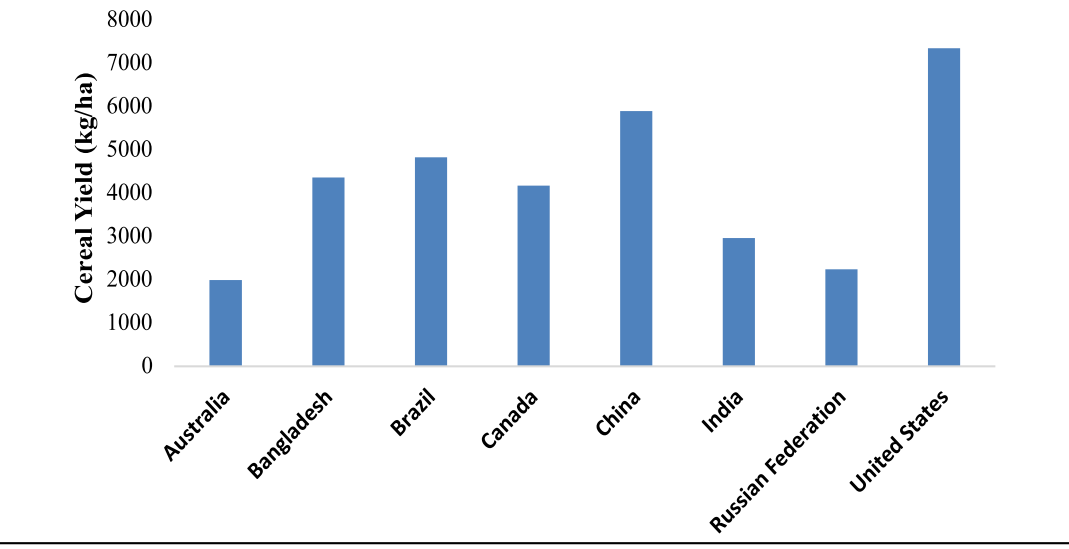
5.23 The percentage change in average yields has been fluctuating as can be seen in Figure 5.10. The average yield of pulses registered negative growth rate over the period 1980-81 over 1970-71 and 2000-01 over 1990-91. The introduction of Bt cotton resulted in a spurt in yield of cotton during the period 2010-11 over 2000-01. From 2010-11, the percentage changes in average yields of rice, wheat, pulses, oilseeds and cotton are also showing declining trends, which is a cause for concern.

Figure 5.10: Percentage Change in Average Yields of Major Crops



Source: **Directorate of Economics & Statistics, Department of Agriculture, Cooperation and Farmers Welfare.**

Figure 5.11: Average Cereal Yields in selected Countries, 2013



Source: **World Bank, 2015 and FAOSTAT, 2015.**

Notes: **Cereal yield, measured as kg per ha of harvested land, includes wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat, and mixed grains. Production data on cereals relates to crops harvested for dry grain only. Cereal crops harvested for hay or harvested green for food, feed, or silage and those used for grazing are excluded. The Food and Agriculture Organization (FAO) allocates production data to the calendar year in which the bulk of the harvest took place. Most of a crop harvested near the end of a year will be used in the following year.**

5.24 International comparisons suggest that India has significantly lower crop yields than a number of other countries (Figure 5.11). China has an average cereal yield of above 5800 kg per ha while India has less than 3000 kg per ha. USA has the largest average cereal yield of more than 7000 kg per ha.

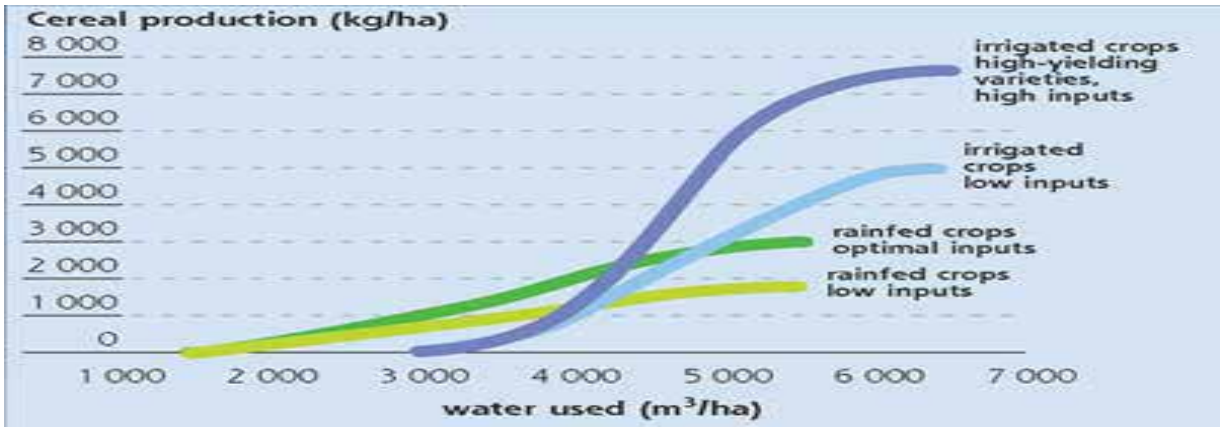
5.25 Given the low yields in agriculture and limited scope for increasing acreage under cultivation, India has to enhance productivity in agriculture by investing in key inputs, so as to ensure food security for the growing population. Therefore, the pathway to improved productivity in agriculture in India needs to be guided by expansion in the share of irrigated areas, investments to improve efficiency in water use, suitable pricing of water, mechanization of operations of agriculture to lower costs and reduce wastage, and seed development for improved varieties to increase yields, debate and address the concerns about introduction of genetically modified seeds in a time frame of three to six months, efficient use of fertilizers and pesticides through improved practices, market driven pricing of fertilizers with no restriction on imports, shift to direct benefit transfer of fertilizer and other agriculture subsidy, distinguish and target subsidy to the farmer and that (subsidy) to inefficient operations of agriculture inputs, credit access to farmers for investments at rates that the financial institutions pay for their deposits, ring-fencing of agriculture related operations of banks from Non-Performing Assets (NPA) to non-agricultural operations, replacement of intermediation of agricultural finance with direct benefit transfers, and development of real time information system to back an improved timely agricultural advisory services.

Pathways to Productivity in Agriculture

i. Irrigation

5.26 To raise the productivity of agriculture in India there is need to expand the acreage under irrigation along with adoption of appropriate technologies for efficient utilization of water through suitable pricing. First, adoption of irrigation technologies which improve efficiency in the use of water is imperative in a scenario where flood irrigation has resulted in wastage of water. Second, focus on efficient irrigation technologies is important with increasing water shortages owing to climate change and indiscriminate wastage of water in agriculture and other uses. Having *'more crop per drop'* through efficient irrigation technologies should be the motto to improve productivity in agriculture which can ensure food and water security in the future. The significance of irrigation can be seen in Figure 5.12 which compares the yield per crop under rain fed and irrigated agriculture.

Figure 5.12: Comparative Yields of Cereals under Rainfed and Irrigated farming

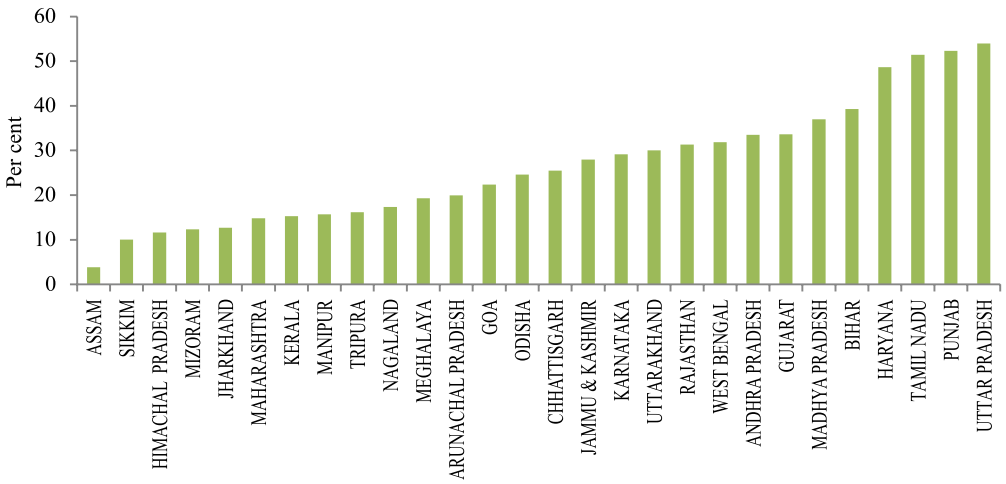


Source: **FAO, 2002**

Net Irrigated Area to Total cropped area in India

5.27 As per the latest available data on irrigation, the all India percentage distribution of net irrigated area to total cropped area during 2012-13 was 33.9 per cent. The state wise percentage distribution of irrigated area to total cropped area is shown in Figure 5.13. There is regional disparity in irrigated farming, with net irrigated area to total cropped area at more than 50 per cent in the states of Punjab, Tamil Nadu and Uttar Pradesh, while it is at less than 50 per cent in the remaining states (Figure 5.14). There is need and scope for increasing the coverage of irrigated area across the country to increase productivity in agriculture.

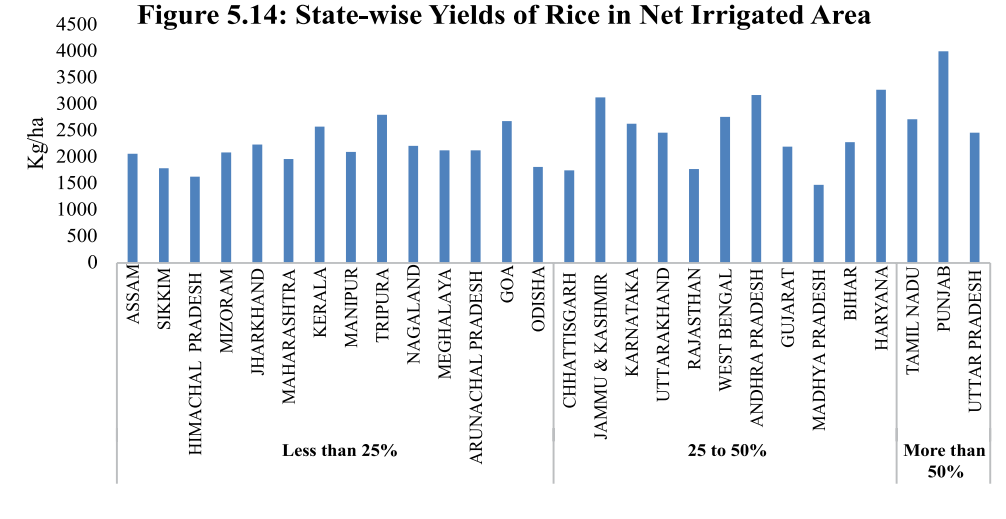
Figure 5.13: State-wise Net Irrigated Area to Total Cropped Area



Source: **Directorate of Economics and Statistics.**

Note: **Net irrigated area is gross irrigated area minus area irrigated more than once.**

Figure 5.14: State-wise Yields of Rice in Net Irrigated Area



Source**: Directorate of Economics and Statistics.**

5.28 The utilization of irrigation potential created in India during the Plan periods is given in Table 5.9. The total Ultimate Irrigation Potential (UIP) of India is about 140 million hectares (Mha). There is substantial gap between Irrigation Potential Created (IPC) and the Irrigation Potential Utilized (IPU) during the Five Year Plan periods. There is perceptible decline in the ratio of IPU to IPC due to lack of proper operation

and maintenance, incomplete distribution system, non-completion of command area development, changes in cropping pattern and diversion of irrigated land for other purposes.

Table 5.9: IPC and IPU during the Plan Periods

Plan Period	Irrigation Potential Created (IPC) (Mha)	Irrigation Potential Utilized (IPU) (Mha)	Ratio of Utilized to Created
VII Plan	11.31	9.77	0.86
Annual Plan	4.56	4.27	0.94
VIII Plan	5.17	4.36	0.84
IX Plan	7.69	3.79	0.49
X Plan	8.82	6.23	0.71
XI Plan	9.5	2.71	0.29

Source: **Ministry for Water Resources, River Development and Ganga Rejuvenation and Twelfth Five Year Plan, Vol.I.**

5.29 There is need to arrest the declining trend in efficient utilization of irrigation potential and also reverse it in the next two-three years. A larger share of funds available under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)/ other employment generating schemes need to be deployed for creating and maintenance of community assets including de-silting and repair of tanks and other water bodies that are used for irrigation.

Efficiency in Irrigation

5.30 Achieving efficiency in the use of irrigation systems will be the main determinant of agricultural productivity. The conventional systems of irrigation have become non-viable in many parts of India due to increasing shortages of water, wastage of water through over irrigation, and concerns of salination of soil as per Task Force on Agriculture (NITI Aayog, 2015). The introduction of efficient irrigation technologies which are both economically and technically efficient like drip and sprinkler irrigation can improve water use efficiency, reduce costs of production by reducing labour costs and power consumption. One of the objectives of the Prime Minister's Krishi Sinchai Yojana (PMKSY) is to enhance on-farm Water-Use-Efficiency (WUE) spatially and temporally to reduce wastage by promoting precision irrigation like sprinkler, drip etc.

5.31 The case for greater spread of Micro Irrigation (MI) technology arises in the context of the successful outcomes seen in some of the major states that have adopted MI technology in India [National Committee on Plasticulture Applications in Horticulture (NCPAH), 2009]. The adoption of sprinkler irrigation resulted in 35 to 40 per cent savings of irrigation water in the cultivation of groundnut and cotton in Gujarat, Karnataka and Andhra Pradesh. The adoption of drip irrigation resulted in 40 to 65 per cent savings in water for horticulture crops and 30 to 47 per cent for vegetables. Such examples need to be emulated by other areas/crops in these states and in other states for a larger basket of crops.

Water Productivity

5.32 Water productivity at the all India level is very low and needs to be enhanced through tapping, harvesting and recycling water, efficient on-farm water management practices, MI, use of waste water and resource conservation technologies. The overall irrigation efficiency of the major and medium irrigation projects in India is estimated at around 38 per cent. Efficiency of the surface irrigation system can be improved from about 35-40 per cent to around 60 per cent and that of groundwater from about 65-70 per cent to 75 per cent. In order to promote judicious use of water ensuring *`more crop per drop'* of water in agriculture for drought proofing, the Government has recently launched the PMKSY aiming at providing water to every field of agriculture.

ii. Mechanization

5.34 The level of farm mechanization in India requires more to be done in terms

of introduction of better equipment for each farming operation in order to reduce drudgery, to improve efficiency by saving on time and labour, improve productivity, minimize wastage and reduce labour costs for each operation. With shortage of labour for agricultural operations owing to rural urban migration, shift from agriculture to services and rise in demand for labour in non-farm activities, there is need to use labour for agricultural operations judiciously, which makes a strong case for mechanization of farming. Another notable aspect of Indian agriculture is the high proportion of female workforce in both the cultivation and processing stages of farming. Therefore, ergonomically designed tools and equipment for reducing drudgery, enhancing safety and comfort and also to suit the needs of women workers would help in better adoption of technologies in agriculture.

5.35 Table 5.10 shows the level of mechanization in Indian agriculture. The overall level of mechanization in farming is below 50 per cent in the case of majority of the farming operations in India.

Table 5.10: Level of Mechanization in Indian Agriculture

Operations in farming	Percentage of mechanization
Soil working and seed-bed preparation	40
Seeding and planting	29
Plant protection	34
Irrigation	37
Harvesting and threshing	60 to 70 per cent for wheat and rice; less than 5 for others

Source: **Department of Agriculture, Cooperatives and Farmer's Welfare.**

5.36 According to the Agricultural Machinery and Manufacturers Association in India, tractor penetration is 38 per cent for large farmers (with more than 20 acres), 18 per cent for medium farmers (5-20 acres) and just around 1 per cent for marginal farmers. With increase in fragmentation of landholdings and low rates of tractor penetration among small farmers, there is need for a market in tractor rentals, akin to cars and road construction equipment, driven by private participation. With suitable mobile and internet applications, manufacturers of tractors along with other stakeholders need to deliberate on this, since it will also increase demand for tractors.

5.37 The promotion of appropriate farm equipment which are durable, light weight and low cost, region, crop and operation specific using indigenous/ adapted technologies need to be made available for small and marginal farmers to improve productivity.

iii. Productivity through Seed Development

5.38 The basic input for increasing productivity in agriculture is seed. It is estimated that the quality of seed accounts for 20 to 25 per cent of productivity (DAC&FW, 2015). Therefore, the adoption of quality seeds is critical along with other inputs to improve agricultural output in India.

5.39 In India, there are multiple challenges to the development and adoption of quality seeds, in the form of inadequate research inputs for development of new seeds especially early ripening and resistant (to pest, moisture variations, etc.) varieties, high cost of seeds for small and marginal farmers, shortage of supply of quality seeds, non-resolution of issues related to adoption of Genetically Modified (GM) crops and inadequate number of players restricting competition. The issues that require immediate attention are:

i. Affordability: Seeds which are open pollinated varieties can be developed by farmers from their own harvested crops. However, for high-yielding hybrid varieties, the farmer has to depend on the market for each crop. For small and marginal farmers the cost of hybrid seeds is very high, affecting the viability of farming (Boxes 5.2 & 5.3).

Box 5.2: Direct Benefit Transfer (DBT) of Hybrid Seeds in Uttar Pradesh

The Pardarshi Kisan Sewa Yojana (PKSY) was launched in September, 2014 and rolled out in April 2015 in Uttar Pradesh for distribution of hybrid seeds through DBT (Direct Benefit Transfer). The aim of the scheme was to target the intended beneficiaries and prevent diversion of subsidized seeds, corruption and manipulation. Under the scheme, farmers have to register themselves on a portal where the name, address and copy of land-holding revenue record (khatauni) details are compiled and a unique kisan id is generated. This data-base becomes the basis for all transactions. The subsidy distribution process through the treasury is software driven and is directly paid into the account of the beneficiaries. Under this scheme, the quantity of hybrid seeds procured was 15,173 quintals and the subsidy distributed was ₹23.77 crores. As on 14.12.2015, for wheat 4.58 lakh quintals of hybrid seeds were distributed under DBT, for pulses 22,296 quintals of hybrid seeds, oilseeds, 1,111 quintals and for barley 960 quintals of hybrid seeds. In total 5,64,909 farmers were beneficiaries under the scheme.

The PKSY has reduced leakages as subsidy goes directly into bank accounts of farmers. It has also reduced the chances of financial misappropriation and has enhanced communication between farmers and departments. However, the challenges in this scheme are generating and managing the data-base of farmers, creating awareness about the scheme and ensuring quality of seeds distributed.

The scheme needs to take into account the ground reality that all cultivators (sharecroppers) are not owners of the land and so possessing a khatauni. The actual benefits of the PKSY need to be measured in terms of plugging leakages and possibly higher output of the HYV seeds used.

Box 5.3: The Cotton Seeds Price (Control) Order, 2015

The Government decided to fix the maximum sale price of cotton seeds through the Cotton Seeds Price (Control) Order, notified in December 2015. As per the order, the Government may, after taking into consideration the Seed Value, Licence fee which includes one time and recurring Royalty (Trait Value), trade margins and other taxes, whenever necessary, as it may deem fit, from time to time, notify in the Official Gazette, the Maximum Sale Price of cotton seeds on or before 31 March of every year, applicable for the next financial year. It has also decided to fix and regulate the seed value and licensee fee including royalty or trait value, through a notification issued by the Ministry of Agriculture. It is in accordance with the provisions of the Seeds Act 1966 and the Seeds (Control) Order 1983.

A committee under the chairmanship of the Joint Secretary (Seed) and Controller, Department of Agriculture, Cooperation and Farmers Welfare will be constituted to recommend the maximum sale price of cotton seed. The committee may take inputs from such persons or associations or authority, as may be necessary for working out the maximum sale price of cotton seed. The 'maximum sale price' is the maximum price inclusive of seed value, licence fee, trade margin and local taxes or duties, at which cotton seeds or transgenic varieties of cotton seeds are sold to farmers. The government, while fixing the maximum sale price, shall also fix and regulate the seed value and licence fee including royalty or trait value, if any, that constitute components of the maximum sale price. Accordingly, no licensor, licensee or dealer shall cause sale of cotton seeds at a price exceeding the maximum sale price or collect license fee in excess of that notified by the Government. The order also states that any person who contravenes any of the provisions of this order or fails to carry out any direction or requisition made there under, shall be punishable under section 7 of the Act.

Given the past experience and limitations in administratively fixing prices in India, resulting from asymmetries/ assumptions in the cost and price data, levels of utilization/ efficiency/norms adopted, guaranteed returns, time taken to arrive at and then alter the administered price, limited capacity to administer such a price, it is desirable to let markets determine the price of seeds, enhancing competition through more players can help to check/reduce cases of price rigging and cartel formation.

ii. Availability: Another concern is shortage in the supply of quality seeds. While there is a demand for banning non-certified seeds, certification *per-se* does not ensure quality seeds. Ideally, facilitating more players (private and public) and competition in the market for seeds would improve availability of quality seeds at lower/ competitive prices.

iii. Research and technology for seed development: The first Green Revolution was driven by indigenously developed High Yielding Varieties (HYVs) of seeds for paddy and wheat. Inadequate research and genetic engineering has been a constraint in the development of seeds/ seed technologies in major crops during the past few decades in India. There is need to encourage development of seeds/ seed technologies in both private and public sectors to initiate another round of Green Revolution. This development should cover all agricultural segments/ crops--cereals, coarse cereals, fruits and vegetables, pulses, oilseeds, animal husbandry and pisciculture--simultaneously.

iv. GM crops and seeds: Concerns about affordability of hybrids and GM seeds, environmental and ethical issues in cultivation of GM crops, risks to the food chain, disease spread and cross pollination have resulted in their non-introduction. These issues needs to be debated, tested, evaluated, so that introduction of hybrids is facilitated in the next three to six months. The adoption of hybrid and HYV seeds is one definite pathway to raising productivity in Indian agriculture.

iv. Fertilizers

5.40 Fertilizer is a critical and expensive input required to improve agricultural output. In India, there has been a sharp increase in the use of fertilizers since the Green Revolution in the mid 1960s. To facilitate and promote the use of fertilizers in order to improve productivity, the Government has been providing fertilizer subsidy to farmers. The fertilizer subsidy is around 10 per cent of the total agricultural GDP in 2013-14 as can be seen in Figure 5.15.

5.41 However, the use of fertilizers has not resulted in commensurate growth in agricultural productivity. The declining response ratio or marginal productivity of fertilizers since the 1970s is a pointer to their inefficient use in Indian agriculture. As can be seen in Figure 5.16, the yield of grain per kilogram use of NPK fertilizer has declined

Figure 5.15: Fertilizer Subsidy as Percentage of Agriculture /Agriculture and allied GDP

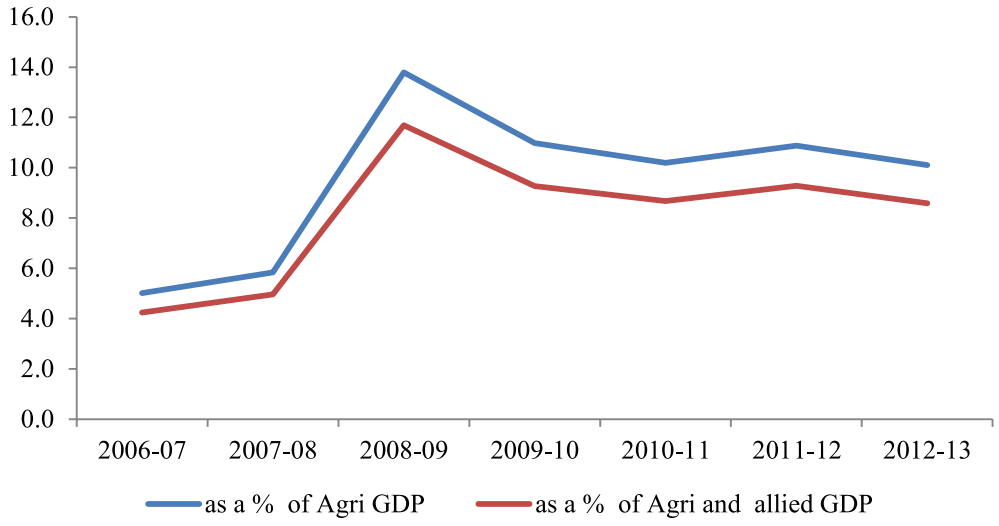
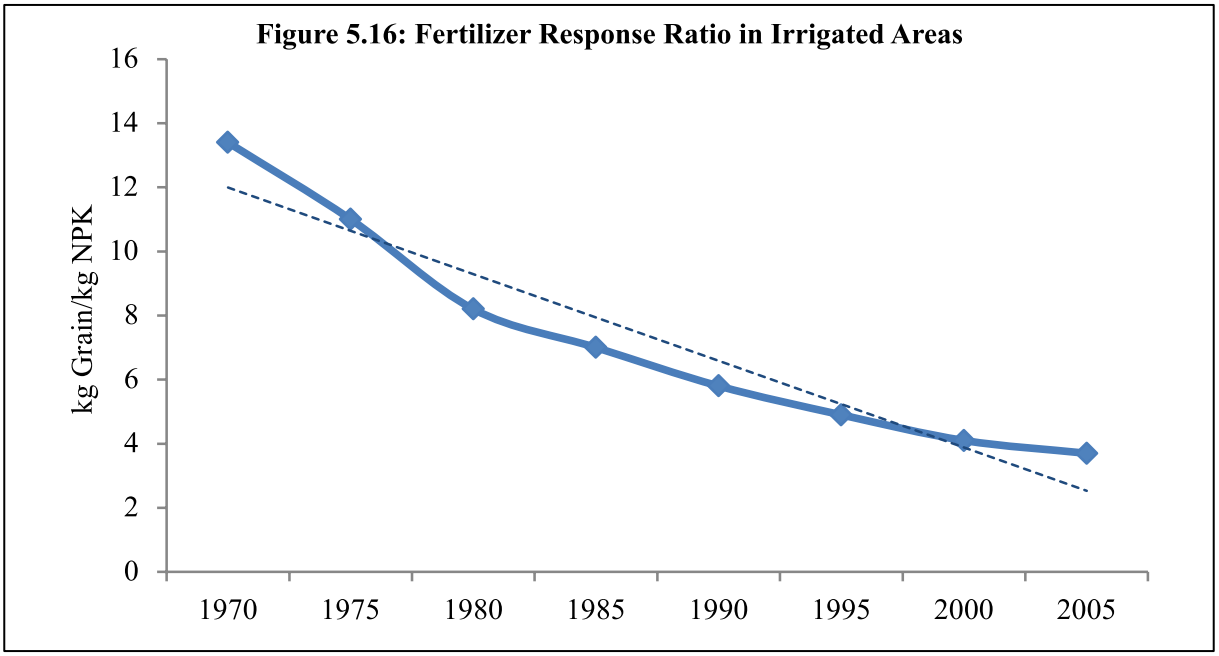


Figure 5.16: Fertilizer Response Ratio in Irrigated Areas



Source: **Department of Fertilizers.**

from 13.4 kg grain per ha in 1970 to 3.7 kg grain per ha in irrigated areas by 2005.

5.42 In the post Green Revolution agriculture scenario, there have been imbalances in the use of fertilizers such as excessive dependence on urea owing to low/distorted prices of fertilizers, especially urea, crop and regional imbalance in the use, neglect/low use of compost, manure and other forms of natural nutrient providers, discontinuing practices of inter and rotational cropping. In addition, there has been diversion of the subsidized fertilizers to non-agricultural use. The indiscriminate use of fertilizers has not proportionally improved the yield of crops, but has resulted in the depletion of soil fertility and salination of soil in many areas. There is need to rationalize fertilizer subsidy in an *input, crop and region neutral format* and minimize diversions. The disbursal of subsidy on fertilizers should shift to DBT, the benefits of which will be maximized, if all controls (including imports) on the fertilizer industry/outputs are lifted simultaneously. In the case of P and K fertilizer subsidy, with the Nutrient Based Subsidy (NBS) scheme, a fixed amount of subsidy will be given on each grade based on their content.

5.43 *Crop-responsive, balanced use of fertilizers:* It is important to facilitate the optimal use of fertilizers depending on the soil health and fertility status. Linking the soil health card to provide profile of the soil and fertilizer on the basis of the same profile utilizing fertilizer, even if not subsidized can improve the yield of crops.

5.44 *Micro nutrients and organic fertilizers:* Indian soils show deficiency of micro nutrients like boron, zinc, copper and iron in most parts of the country, which limits crop yields and productivity. According to agronomic trials conducted by the Indian Council of Agricultural Research (ICAR), fertilizers which supplement micro nutrients can provide an additional yield in cereals in the range of 0.3 to 0.6 ton per ha. The micro nutrient deficiency can be overcome if there is expansion of the use of organic fertilizer. Moreover, it is cheaper for small farmers to adopt and use organic composting and manure. This can help improve and retain soil fertility. With 67 per cent of Indian soil characterised by low organic carbon, there is great scope for enhancing the use of organic fertilizers.

5.45 *Nutrient Management:* Judicious use of chemical fertilizers, bio-fertilizers and locally available organic manures like farmyard manure, compost, vermi compost and green manure based on soil testing is necessary to maintain soil health and productivity. With over 12 crore farm holdings in India, it is a big challenge to provide soil-testing facilities for overcoming the multi-nutrient deficiencies in soils so as to improve agricultural output. Use of information technology and providing soil fertility maps to farmers can go a long way in efficient nutrient management for improved productivity.

5.46 *Regional disparity in fertilizer consumption:* There are wide regional disparities in the consumption of fertilizers (Figure 5.17). These disparities in fertilizer consumption may be attributed to the availability of irrigation facilities in the high consuming states since irrigation is a requirement for proper absorption of fertilizers. It is necessary to reduce the disparities through appropriate soil-testing facilities and policy measures.

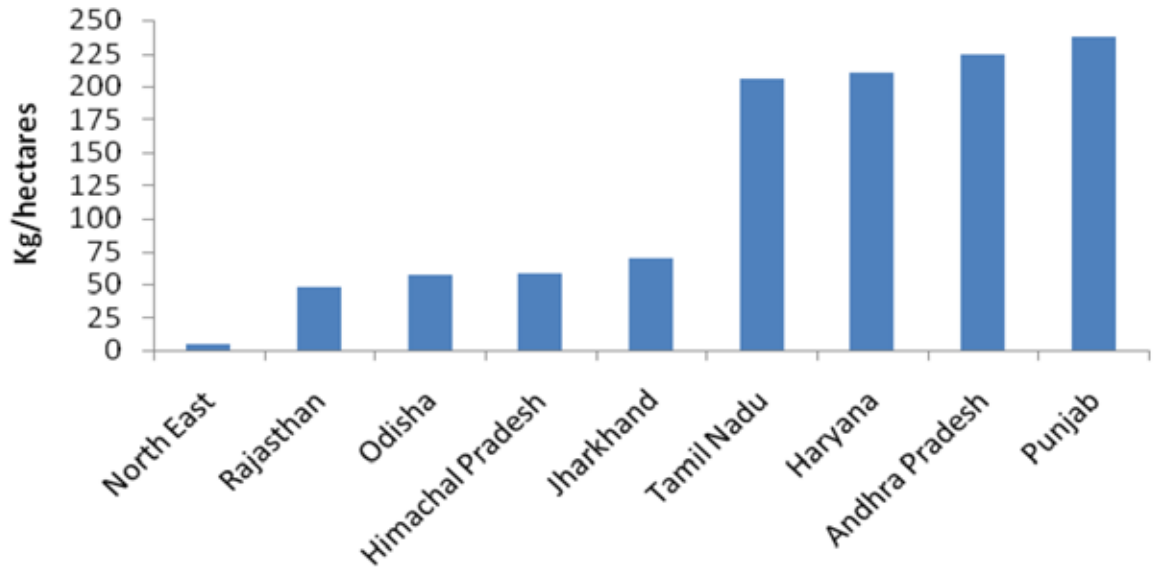
v. Pesticides

5.47 In India, the farmer's crop yield losses range from 15 to 25 per cent owing to the presence of weeds, pests, diseases and rodents. Even though pesticides are essential for improving crop yields, per hectare pesticide use is much lower in India in comparison with other countries. India uses a low amount of 0.5 kg per ha pesticide compared to 7.0 kg per ha in the USA, 2.5 kg per ha in Europe, 12 kg per ha in Japan and 6.6 kg per ha in Korea.

5.48 However, the use of pesticides without following proper guidelines, use of sub standard pesticides and lack of awareness about pesticide use are key concerns in India. These practices have given rise to pesticide residues being found in food products in India, posing major threats to the environment and human beings.

5.49 Farmers need to be educated about the classification of insecticides on the basis of their toxicity. They should also be advised whether specific pesticides are suitable for aerial application. There have been incidents like the aerial spraying of Endosulphan in a

Figure 5.17: Regional Disparities in Fertilizer Consumption (2013)



Source: **Department of Fertilizers.**

literate state like Kerala, which resulted in serious health hazards in an entire village.

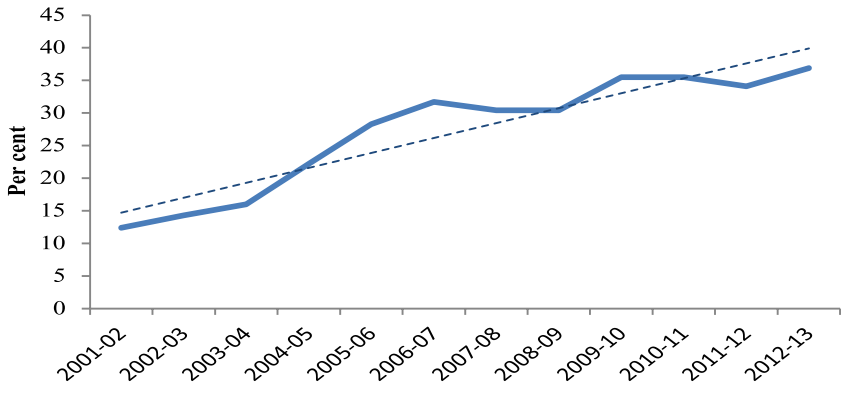
5.50 The Central Insecticide Board and Registration Committee (CIBRC) has issued guidelines for the application of pesticides, their dosage, minimum intervals to be maintained, and the levels of toxicity. This information needs to be widely disseminated among farmers in order to encourage appropriate application of pesticides and prevent environmental damages. There is also need for greater focus on Integrated Pest Management (IPM) which will encompass a judicious mix of pest control methods by leveraging the cultural, mechanical, biological methods and need-based use of chemical pesticides by giving preference to the use of bio-pesticides and bio-control agents. Being environment friendly, non-toxic and cost effective, bio-pesticides need to be promoted among small farmers to improve productivity in agriculture.

vi. Credit

5.51 Credit is an important mediating input for agriculture to improve productivity. Access to institutional credit enables the farmer to enhance productivity by investing in machinery and purchase of variable inputs like fertilizers, quality seeds, and manure and providing funds till the farmer receives payment from sale of produce, which is at times delayed and staggered. Input use by farmers is sensitive to credit flows to the agriculture sector. In this context, the predominance of informal sources of credit for farmers is a concern. According to NSSO, 70th round data, as much as 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. Though there has been a decline in informal sources over time, enhancing access to institutional credit for farmers needs to be addressed. There is need to address the problem of availability of credit on several fronts. In respect of high interest rates, DBT may be considered to replace subvention of interest rates. The intermediation and refinance model to promote agricultural credit needs to be revisited and replaced with DBT that shall subsidize the interest paid by the farmer, instead of subsidizing refinance to financial institutions.

5.52 The ratio of agricultural credit to agricultural GDP has increased from 10 per cent in 1999-2000 to around 38 per cent by 2012-13 (Figure 5.18). However, the share of long-term credit in agriculture or investment credit has declined from 55 per cent in 2006-07 to 39 per cent in 2011-12. The decline in the share of long-term credit in agriculture needs to be arrested and reversed. In view of this, the Government has prioritized lending towards investments in agriculture and allied sectors to enhance capital formation

Figure 5.18: Ratio of Agricultural Credit to Agriculture GDP



Source: **Ministry of Agriculture and Farmers Welfare.**

in agriculture. Accordingly, the Government of India has allocated ₹15,000 crore to the Long Term Rural Credit Fund (LTRCF) set up in the National Bank for Agriculture and Rural Development (NABARD) for 2015-16 as compared to ₹5000 crore in 2014-15. With the help of this fund, the Cooperative Banks/ Regional Rural Banks (RRBs) can draw much higher refinance support from NABARD for financing medium- and long-term agricultural loans during 2015-16.

5.53 The regional disparity in the distribution of agricultural credit also needs to be addressed. The coverage of agricultural credit is very low in the north-eastern and eastern regions of the country. To improve agricultural credit flow, the credit target for 2015-16 has been fixed at ₹8,50,000 crore against ₹8,00,000 crore for 2014-15. As against the target, the achievement for 2014-15 was ₹8,45,328.23 crore (provisional) vis-à-vis ₹7,30,122.62 crore for 2013-14.

5.54 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 hence they are short-term credit for seasonal agricultural operations and do not result in major investments in agriculture. In India, farmers can avail of crop loans up to ₹3 lakh at 7 per cent interest and the effective rate of interest has been lowered to 4 per cent during 2015-16 for those who repay their loans promptly. These measures help farmers tide over short-term contingencies and price shocks which may affect their seasonal operations.

5.55 The small and marginal farmers with Kisan Credit Cards can also avail the benefit of interest subvention scheme extended for a further period of up to six months (post- harvest) against Negotiable Warehouse Receipts (NWRs) at the same rate as available to crop loan to discourage distress sale of crops by small farmers. Post-harvest loans against NWRs are available at commercial rates for farmers with large farm holdings. The limited spread of formal warehousing, which would issue NWRs, the additional cost of warehousing and possibly transport, inability to distinguish the type/ size of farm on which the produce has been cultivated with potential for mis-utilization of the benefits, limits the advantages of this scheme and the same translating into higher income to the farmer.

5.56 With increase in the number of natural calamities, from 2014-15 interest subvention of 2 per cent is available to banks on restructured loan amounts on account of natural calamities which are made available to farmers. It will have a nominal rate of interest from the second year onwards and this provision has been continued during 2015-16. The value of total number of agricultural loan accounts stood at ₹8.54 crore as on 31 March 2015, out of which crop loans accounted for ₹7.41 crore. Timely availability and access to credit both short term and long term credit from formal sources at affordable rates of interest are essential to improve productivity in agriculture.

vii. Agriculture Extension Services

5.57 Agriculture extension services constitute another key input which can improve productivity in agriculture by providing timely advisory services to farmers to adopt best practices, technology, meet with contingencies, market information etc. The Global Forum for Rural Advisory Services (GFRAS) defines extension services, also called rural advisory services, 'as consisting of all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing their own technical, organizational and management skills and practices so as to improve their livelihoods and well-being (GFRAS, 2010)'. In India, though there are multiple agencies offering agricultural advisory services, lack of functional autonomy, rigid hierarchical structures leading to lack of innovative

methods of providing extension services and coordination failures at multiple levels have resulted in inefficient delivery of extension services.

5.58 Agriculture extension services have to be revitalized by making it more relevant, useful and timely in order to improve agricultural productivity. The improvement need not take the form of implementing a new scheme or additional outlays in existing schemes. It needs to take the form of a one-stop-shop that offers both hardware and software solutions to raise the incomes of farmers, especially small and marginal farmers. This needs to be done independent of the fact that the scheme designed to benefit the farmer is a central sector or a centrally sponsored scheme, or the ratio of the sharing in the centrally sponsored scheme or even without a scheme. It also needs to be done in an *input, crop and region neutral* way. The extension services should also aim at minimizing wastage in inputs in all agricultural operations and also in the produce, till it leaves the farm gate. Efforts also need to be made to enhance post harvest processing/value added activities at the farm. Extension service should also support and highlight practices in inter and rotational cropping and efficient utilization of all available inputs in the context of ground realities, soil and water conditions and on new seeds/crops. They should be able to share with the farmer, information on weather, in order to improve the sowing, including time of sowing, so as to reap maximum yield, as well as on storms, rains and flood in order to minimize damage to crops.

5.59 There needs to be a shift to demand-driven agricultural advisory services that will cater to farmer, region and crop-specific needs. This can be done through a virtual connect, using IT (mobile and internet), integration of agricultural extension services with all stakeholders, their respective hierarchy, extension services in other villages, blocks, agro climatic regions, largely for sharing of information, suppliers of inputs, agro-processors, markets and their activity, especially price.

Gross Capital Formation in Agriculture and Allied Sectors

5.60 The Gross Capital Formation (GCF) in agriculture as a proportion of total GCF showed a decline from 8.6 per cent in 2011-2012 to 7.4 per cent in 2013-14 at 2011-12 prices. As per the revised estimates released by CSO, the percentage share of GCF in agriculture and allied sector in the GVA (GDP) from agriculture has also shown a decline from 18.3 per cent in 2011-12 to 15.8 per cent in 2014-15 (Table 5.11). As the ratio of GCF to GDP from agriculture reflects the investment rate in agriculture, the declining trend needs to be arrested and reversed since growth in agriculture sector is an imperative, given the significance of the sector in employment, income and inclusive growth. The increase in investment rate in agriculture has to come from both the public and private sectors.

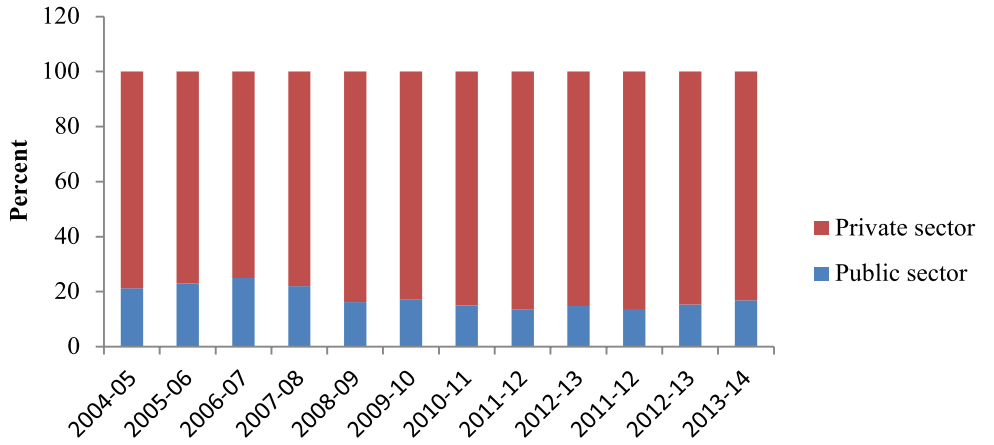
Table 5.11: GVA and Gross Capital Formation in Agriculture & Allied Sector

Year	Agriculture & Allied Sector		Share of GCF in GVA (GDP) of Agriculture & Allied Sector(%)
	GVA	GCF	
2011-12	1501816	274432	18.3
2012-13*	1680797	274727	16.3
2013-14*	1902452	322723	17.0
2014-15@	1995251	314640	15.8

Source: **CSO.**
Notes: *** Second Revised Estimates (New Series), @ First Revised Estimates.**

5.61 The declining GCF to GDP ratio in agriculture can be attributed to the decline in public sector investments as can be seen from the percentage share of the public and private sectors in the GCF in agriculture and allied sectors. The share of the public sector in GCF has declined from above 20 per cent during 2004-05 to 16.8 per cent by 2013-14 (Figure 5.19). Correspondingly, the share of

Figure 5.19: Percentage Share of Public and Private Sectors in Gross Capital Formation in Agriculture & Allied Sector



Source: **CSO, Ministry of Statistics and Programme Implementation MoSPI.**

the private sector increased from 78 per cent in 2004-05 to 83 per cent by 2013-14.

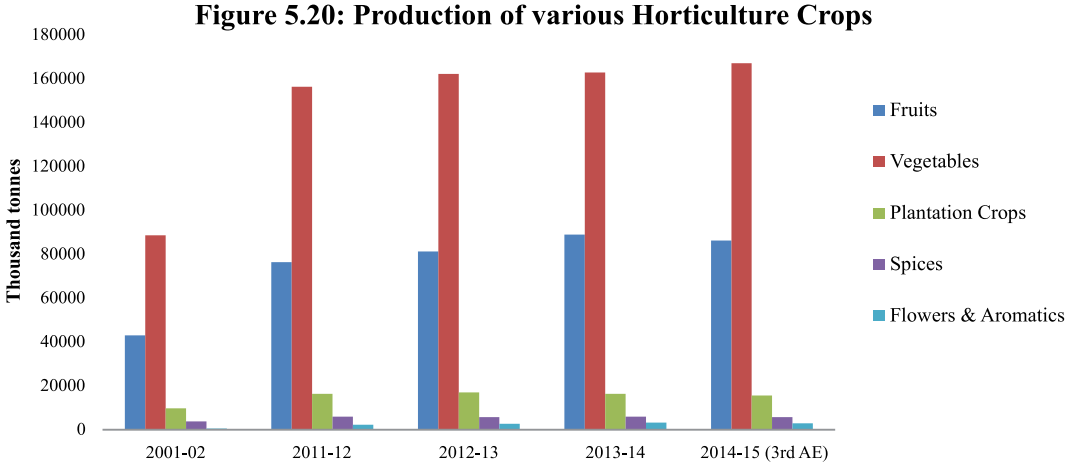
Horticulture

5.62 The scenario of horticulture crops in India has become very encouraging. The percentage share of horticulture output in agriculture is more than 33 per cent. Under the purview of agriculture and allied activities, the share of plan outlay for horticulture, which was 3.9 per cent during Ninth Plan, has increased to 4.6 per cent during the Twelfth Plan.

i. Production

5.63 India has witnessed voluminous increase in horticulture production over the last few years. Significant progress has been made in area expansion resulting in higher production. Over the last decade, the area under horticulture grew by about 2.7 per cent per annum and annual production increased by 7.0 per cent. During 2013-14, the production of horticulture crops was about 283.5 million tonnes from an area of 24.2 million hectares. Out of the six categories e.g. Fruits, Vegetables, Flowers, Aromatic plants, Spices and Plantation Crops, the highest annual growth of 9.5 per cent is seen in fruit production during 2013-14. The production of vegetables has increased from 58,532 thousand tonnes to 1,67,058 thousand tonnes since 1991-92 to 2014-15 (3rd AE) as depicted in Figure 5.20.

Figure 5.20: Production of various Horticulture Crops



Source: **Department of Agriculture, Cooperation and Farmers Welfare.**

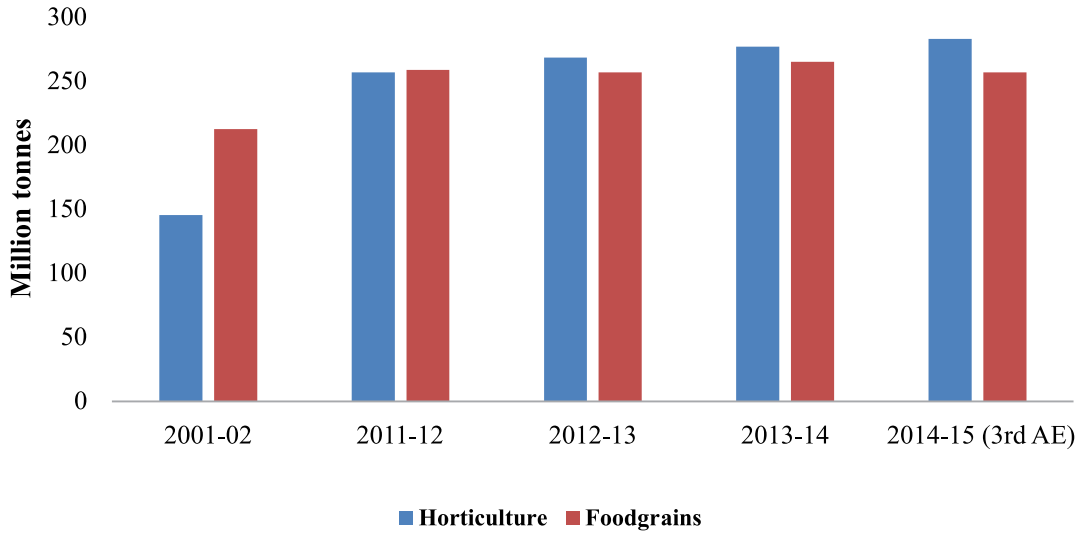
5.64 India witnessed sharper increase in acreage in horticulture crops compared to food grains over the last five years (from 2010-11 to 2014-15). The area under horticulture crops increased around 18 per cent compared to an expansion of area under food grains by 5 per cent during the stipulated period. The production of horticulture crops have outpaced the production of food grain since 2012-13, as may be seen in Figure 5.21.

ii. Mission for Integrated Development of Horticulture

5.65 The Mission for Integrated Development of Horticulture (MIDH), was launched during the Twelfth Plan with effect from 2014-15, for the holistic development of the horticulture sector covering fruits, vegetables, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo. The MIDH subsumes the National Horticulture Mission (NHM), the Horticulture Mission for North East & Himalayan States (HMNEH), the National Bamboo Mission (NBM), the National Horticulture Board (NHB), the Coconut Development Board (CDB) and the Central Institute for Horticulture (CIH), Nagaland. The Government of India (GOI) contributes 85 per cent of the total outlay for developmental programmes in all the states. From 2015-16, the pattern of assistance is 60:40 between the Government of India and NHM states and 90:10 for HMNEH states. All states are covered under the MIDH. During 2014-15, a budget provision of ₹2,263.00 crore had been made for the MIDH, out of which, an amount of ₹1,584.84 crore was released for the NHM and HMNEH components.

5.66 Since the inception of the NHM, an area of 24.63 lakh ha has been covered under various horticulture crops. In addition, an area of 5.25 lakh ha of old orchards, has been rejuvenated. 12.04 lakh farmers have been trained under various horticulture activities. 2,923 nurseries have been established for supply of quality planting material to beneficiaries. Under protected cultivation practices, an area of 1.54 lakh ha has been covered. An area of 11.96 lakh ha has been covered under Integrated Pest Management (IPM)/ Integrated Nutrient Management (INM). 816 IPM infrastructures have been established. A total of 45,858 water harvesting structures have been created. To promote apiculture, 6,10,048 bee colonies, with hives have been distributed.

Figure 5.21: Production of Horticulture versus Foodgrain



Source: **Department of Agriculture, Cooperation and Farmers Welfare.**

Under Horticulture Mechanization, 82,771 mechanical equipments including Plant Protection equipments have been distributed.

5.67 The key concerns that the horticulture sector faces in India are post-harvest wastages and losses. A study by the Central Institute of Post-Harvest Engineering and Technology (CIPHET) has calculated the wastage in various kinds of produce during 2010 and 2015. According to the study, the cumulative wastage is very high and has increased during the period of study (2010 and 2015) in most horticulture crops as can be seen in Table 5.12.

Table 5.12 Comparative Harvest and Post-Harvest losses of major crops and commodities in India

	Cumulative Wastage (in percentage)	
Crops	**2010**	**2015**
Cereals	3.9 - 6.0	4.65 - 5.99
Pulses	4.3 - 6.1	6.36 - 8.40
Oilseeds	2.8 - 10.1	5.26 - 9.96
Fruits and Vegetables	5.8 - 18.0	4.58 - 15.88
Milk	0.8	0.92
Fisheries (Inland)	6.9	5.23
Fisheries (Marine)	2.9	10.52
Meat	2.3	2.71
Poultry	3.7	6.74
Horticultural Crops		
Guava	18.0	15.8
Mango	12.7	9.2
Apple	12.3	10.4
Grapes	8.3	8.6
Papaya	7.4	7.8
Banana	6.6	6.7
Cereal Crops		
Wheat	6.0	4.9
Paddy	5.2	5.5
Bajra	4.8	5.2
Maize	4.1	4.7

Source: **Ministry of Food Processing Industries.**

Note: **Figures in Red implies increase in cumulative wastage; Green implies reduction in cumulative wastage**

5.68 The wastage occurs at all levels of the value chain-at the levels of farmer, transporter, wholesaler and retailer. Wastage and losses occur due to crop damage, improper harvesting techniques, poor packaging, poor transportation, poor handling, multiple handling, storage, grading sorting, and moisture loss at various stages of the value chain. Though there are 51,858 post-harvest infrastructures and 1,106 market infrastructures established so far in 2015-16, the cumulative wastage is very high and ranges between 5 to 20 per cent in the case of horticulture crops.

5.69 Even though the National Centre for Cold Chain Development claims that the biggest wastage happens during the transportation of horticulture products from the farm gate to mandis and thereafter, there is wastage at every post harvest stage, from the farm to the table, which needs to be minimized. Starting from the plucking, initial processing at the farm level, sorting and grading, transportation to the market, storage in the farm and subsequent levels, warehousing, which could be located near the mandis, there is loss of freshness, moisture, handling and other wastages. The answer lies in minimizing the wastage at all stages, to enable farmers to get remunerative prices, and can be done by improving practices and facilities at each stage including the transportation stage.

Allied Sectors: Animal Husbandry, Dairying and Fisheries

5.70 The Indian agricultural system is predominantly a mixed crop-livestock farming system, with the livestock segment supplementing farm incomes by providing employment, draught animals and manure. India ranks first in milk production, accounting for 18.5 per cent of world production, achieving an annual output of 146.3 million tonnes during 2014-15 as compared to 137.69 million tonnes during 2013-14 recording a

growth of 6.26 per cent. Whereas, the Food and Agriculture Organization (FAO) has reported a 3.1 per cent increase in world milk production from 765 million tonnes in 2013 to 789 million tonnes in 2014.

5.71 The per capita availability of milk in India has increased from 176 grams per day in 1990-91 to 322 grams per day by 2014-15 (Figure 5.22). It is more than the world average of 294 grams per day during 2013. This represents a sustained growth in availability of milk and milk products for the growing population. Dairying has become an important secondary source of income for millions of rural households engaged in agriculture. The success of the dairy industry has resulted from the integrated co-operative system of milk collection, transportation, processing and distribution, conversion of the same to milk powder and products, to minimize seasonal impact on suppliers and buyers, retail distribution of milk and milk products, sharing of profits with the farmer, which are ploughed back to enhance productivity and needs to be emulated by other farm produce/ producers.

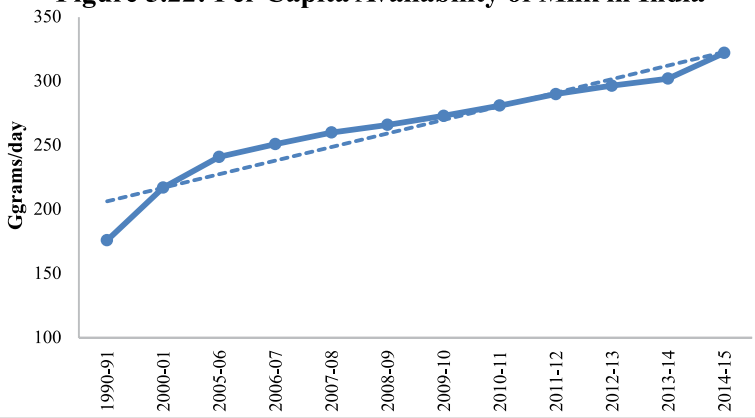
5.72 In the poultry segment, the Government's focus, besides framing suitable policies for enhancing commercial poultry production, is for strengthening the family poultry system, which addresses livelihood issues. Both egg and fish production has also registered an increasing trend over the years (Table 5.13). Egg production was around 78.48 billion eggs in 2014-15, while poultry meat production was estimated at 3.04 MT. Fisheries constitute about 1 per cent of the GDP of the country and 5.08 per cent of agriculture GDP. The total fish production during 2014-15 was 10.16 MT, an increase of 6.18 per cent over 2013-14. Fish production during the first two quarters of 2015-16 has also shown an increasing trend and is estimated at 4.79 MT (Provisional). There is increasing significance of poultry and livestock products in the context of diversifying farm and non-farm activities in the agriculture sector to increase livelihood security.

Table 5.13: Production of Major Livestock Products and Fish

Year	Milk (Million tonnes)	Eggs (Million Nos.)	Fish (Thousand tons)
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	10164

Source: **Department of Animal Husbandry, Dairying and Fisheries.**

Figure 5.22: Per Capita Availability of Milk in India



Source: **Department of Animal Husbandry, Dairying and Fisheries.**

5.73 For sustainable and continuous growth of the livestock sector by emulating the success achieved in the dairy and poultry sectors, across species and regions, the National Livestock Mission has been launched in 2014-15 with an approved outlay of ₹2,800 crore during the Twelfth Plan. This Mission is formulated with the objective of sustainable development of the livestock sector, focusing on improving availability of quality feed and fodder, risk coverage, effective extension, improved flow of credit, and organization of livestock farmers/rearers. Given the high contribution of protein items in inflation, the growth rate of this sector has to match the rising demand reflected in increasing share of these items in consumption expenditure.

Food Management

5.74 The main aim of food management policy is to provide food security to the population. Providing food security entails making food available at affordable prices at all times, without interruptions. In order to provide food security, in the current agriculture scenario, India has to focus on supplies which are timely and uninterrupted and affordable for the poor. Though India's GDP growth has been impressive and the agricultural production has also increased over the past few decades, hunger and starvation still persist among the poorer sections of the population. There has been moderation of inflation including food inflation during the last two years, but more needs to be achieved by freeing up markets, augmenting supply of food and leveraging the use of IT.

5.75 According to the data of the 66th round of the National Sample Survey (2009-10), the average dietary energy intake per person per day was 2147 Kcal for rural India and 2123 Kcal for urban India. As per the Report of Nutritional Intake in India, 2011-12 (NSSO, 68th round), among the bottom 5 per cent of rural population ranked by Monthly Per Capita Expenditure (MPCE), 57 per cent of households had calorie intake below 2160 Kcal/consumer unit/day. The average protein intake per capita per day rises steadily with MPCE level in rural India from 43gm for the bottom 5 per cent of population ranked by MPCE to 91gm for the top 5 per cent, and in urban India from 44 gm for the bottom 5 per cent to about 87gm for the top 5 per cent.

5.76 The prevalence of undernourishment among the total population in India can be seen in Table 5.14. India has the second highest number of undernourished people at 194.6 million persons (FAO, State of Food Insecurity in the World, 2015), which warrants immediate attention. Moreover, with 27 per cent of the population below the poverty line, the rise in prices of food impacts the poor adversely, with a greater proportion of their household incomes being spent on food. Therefore, along with provision of food subsidy, stability in agricultural commodity prices is essential for making the poorer sections food secure.

Table 5.14: Prevalence of Undernourishment in India

Year	Number of persons undernourished (in millions)	Proportion of undernourished in total population (in per cent)
1990-92	210.1	23.7
2000-02	185.5	17.5
2005-07	233.8	20.5
2010-12	189.9	15.6
2014-16*	194.6	15.2

Source: **FAO, 2015.**

Note: ***Provisional Estimates.**

5.77 There is a strong correlation between stability in agricultural production and food security. Volatility in agricultural production impacts food supplies and can result in spikes in food prices, which adversely affect the lowest income groups of the population.

5.78 With a large number of people who remain undernourished and the issues of volatility in agricultural prices, India has

one of the largest number of food schemes in the World to ensure food security. There is entitlement feeding programmes like the Integrated Child Development Scheme (ICDS) (All Children under six, pregnant and lactating mothers) and MDMS (Mid Day Meal Schemes), food subsidy programmes like the Targeted Public Distribution System, Annapurna (10 kgs of free food grain for destitute poor) and the Employment Programmes like Mahatma Gandhi National Rural Employment Guarantee Scheme (100 days of employment at minimum wages) to ensure food security.

i. Public Distribution System and Food Subsidy

5.79 The PDS strives to ensure food security through timely and affordable distribution of foodgrains to sections of population that live below the poverty line and cannot afford to pay market prices for their food. This involves procurement of foodgrain at Minimum Support Price (MSP) by the Government, building up and maintenance of food stocks, their storage, and timely distribution, making food grains accessible at reasonable prices to the vulnerable sections of the population. However, the system of PDS has many weaknesses leading to leakages and targeted beneficiaries being left out of the system. The procurement, off-take and the stocks maintained by the Food Corporation of India is given in Table 5.15. The PDS incurs high costs for procurement, storage and distribution of foodgrains. There is scope to increase efficiency of the PDS operations and reduce costs. Only a small proportion of the public expenditure/subsidy on PDS reaches the beneficiary. There is a case for introducing DBT for consumers of food and kerosene as is under way in Andhra Pradesh. The numerous challenges to implementing this are discussed in Vol.1 of this Economic Survey.

5.80 During 2014-15, while procurement of foodgrains (rice and wheat) increased from 56.9 million tonnes to 60.2 million tonnes, offtake of foodgrains (rice and wheat) from the PDS decreased from 59.8 million tonnes to 55.9 million tonnes (Table 5.15). This suggests that despite increased availability in the PDS and prevalence of high inflation

Table 5.15: Public Distribution System - Procurement, Offtake and Stocks

(Million tonnes)

Year	Procurement			Offtake			Stocks		
	Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total
2003-04	22.9	15.8	38.7	25.0	24.3	49.3	13.1	6.9	20.7
2004-05	24.7	16.8	41.5	23.2	18.3	41.5	13.3	4.1	18.0
2005-06	27.6	14.8	42.4	25.1	17.2	42.3	13.7	2.0	16.6
2006-07	25.1	9.2	34.3	25.1	11.7	36.8	13.2	4.7	17.9
2007-08	28.7	11.1	39.9	25.2	12.2	37.4	13.8	5.8	19.8
2008-09	34.1	22.7	56.8	24.6	14.9	39.5	21.6	13.4	35.6
2009-10	32.0	25.4	57.4	27.4	22.4	49.7	26.7	16.1	43.3
2010-11	34.2	22.5	56.7	29.9	23.1	53.0	28.8	15.4	44.3
2011-12	35.0	28.3	63.4	32.1	24.2	56.3	33.4	20.0	53.4
2012-13	34.0	38.2	72.2	32.6	33.2	65.8	35.5	24.2	59.8
2013-14	31.8	25.1	56.9	29.2	30.6	59.8	30.6	17.8	48.4
2014-15	32.2	28.0	60.2	30.7	25.2	55.9	23.8	17.2	41.0
2015-16	21.9*	28.1*	50.0*	23.3#	20.3#	43.6#	26.0@	23.8@	49.8@

Source: **Department of Food and Public Distribution.**

Notes: ***Procurement as on 18 January 2016; #Offtake up to November, 2015; @Stock as on 1 January 2016 and stock for the previous years are as on 1 April.**

Table 5.16: Percentage Distribution of Economic Cost of Rice and Wheat

Year	2010-11	2011-12	2012-13	2013-14	2014-15 (UA)	2015-16 (RE)	2015-16 (BE)
Rice							
Pooled cost of grain	72.9	71.2	70.9	66.6	64.2	63.5	62.7
Procurement incidentals	15.8	16.5	16.6	15.0	16.9	16.4	16.3
Distribution cost	11.3	12.3	12.5	18.4	18.9	20.1	21.0
Economic cost (Total Cost)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wheat							
Pooled cost of grain	71.2	7.5	69.6	67.4	62.9	66.8	65.5
Procurement incidentals	14.2	14.8	15.0	17.7	20.2	15.9	16.6
Distribution cost	14.6	15.1	15.4	14.9	16.9	17.2	17.9
Economic cost (Total Cost)	100.0	100.0	100.0	100.0	100.0	100.0	100.0

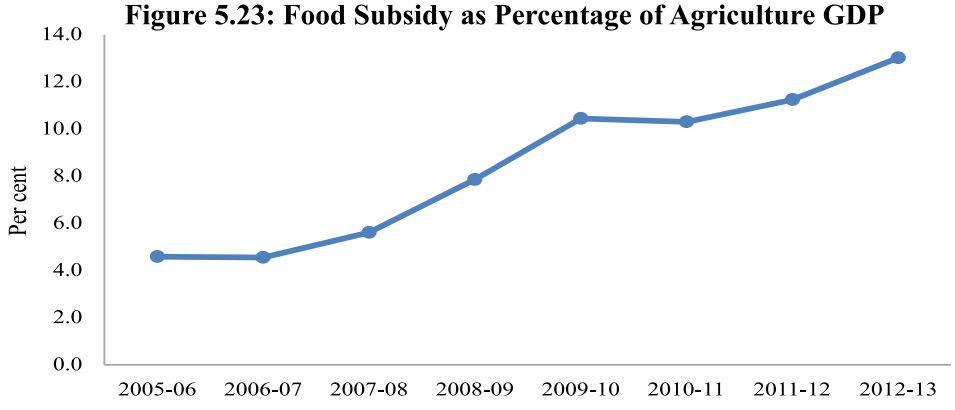
Source: **Food Corporation of India. UA: Unaudited; RE: Revised Estimates; BE: Budget Estimates.**

in foodgrains, dependence on the PDS is reducing, suggesting that there may be issues of availability, timely availability and quality of the PDS foodgrains.

5.81 The percentage distribution of the economic cost of wheat and rice is given in Table 5.16. The pooled cost of grain (MSP and bonus) accounts for two-thirds of the economic cost of wheat and rice. The economic cost of foodgrains to the Food Corporation of India (FCI) has been increasing over the years. As the cost of production of crops is rising on account of labour costs, costs of inputs like fertilizers and commensurately the MSPs are also increasing. The increase in the food subsidy bill is determined by the rate at which the MSPs for wheat and rice increase and the economic cost of handling grains (their procurement, stocking and distribution to the targeted households).

5.82 The procurement incidentals of wheat and rice consist of costs related to mandi charges and taxes, cost of gunny bags, arhatiya commission, mandi labour, forwarding charges, internal movement, storage charges, interest, administrative charges and others. Out of these costs, mandi charges and taxes constitute more than 40 per cent of the total costs. According to the Commission for Agricultural Costs and Prices (CACP) report, the increasing economic costs of handling foodgrains through procurement, distribution and storage, large procurement in recent years and the widening gap between the economic cost of foodgrains and the central issue price have been the major factors leading to the ballooning food subsidy. The increasing food subsidy bill is shown in Table 5.17. Food subsidy as a percentage of agriculture GDP is shown in Figure 5.23.

Figure 5.23: Food Subsidy as Percentage of Agriculture GDP



Source: **Department of Food and Public Distribution.**

Table 5.17: Food Subsidy in India

Year	Food subsidy (₹ in crore)
2005-06	23071.00
2006-07	23827.59
2007-08	31259.68
2008-09	43668.08
2009-10	58242.45
2010-11	62929.56
2011-12	72370.90
2012-13	84554.00
2013-14	89740.02
2014-15	113171.16
2015-16*	105509.41

Source: **Department of Food and Public Distribution.**

Notes: ***Figures as on 6 January 2016.**

5.83 PDS costs are high and increasing with leakages, high administrative costs, corruption and mismanagement. The costs including opportunity costs of resources diverted for subsidy are high in terms of the public investments in agriculture which are foregone and which can improve productivity. Additionally, subsidies bring distortions in the market and also pose a heavy burden on the government budget, especially during times when domestic or international prices are on the rise, when the Government has to resort to raising the MSPs of crops on a regular basis.

Agri-Marketing Reforms

i. National Agriculture Market through Agri-Tech Infrastructure Fund

5.84 Following the Budget announcements in July 2014 and 2015, the scheme for setting up of a National Agriculture Market (NAM) through an Agri-Tech Infrastructure Fund (ATIF) was approved by the Cabinet Committee on Economic Affairs (CCEA) on 1 July 2015 with a budget of ₹200 crore, to be implemented during 2015-16 to 2017-18.

5.85 The revised scheme envisages implementation of NAM by setting up of an appropriate common e-market platform that would be deployable in selected regulated wholesale markets in States/Union Territories (UT) desirous of joining the e-platform. The Small Farmers Agribusiness Consortium (SFAC) will implement the national e-platform and will cover 250, 200 and 135 mandis during 2015-16, 2016-17 and 2017-18 respectively. The Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) will meet expenses on software and its customization for the States and provide it free of cost to the States and UTs. The DAC&FW will also give grant as one-time fixed cost subject to a ceiling of ₹30 lakhs per mandi for related equipment/ infrastructure in 585 regulated mandis, for installation of the e-market platform.

5.86 Integration of state Agricultural Produce Market Committees (APMC) with NAM requires certain pre-requisites in the State AMPC Acts, namely- (i) a single license to be valid across the State, (ii) single point levy of market fee and (iii) provision for electronic auction as a mode for price discovery. Only those States/UTs that have completed these three pre-requisites will be eligible for assistance under the scheme.

5.87 Proposals from States for integration of their Mandis from Gujarat (40 Mandis), Maharashtra (30 Mandis), Telangana (44 Mandis), Jharkhand (19 Mandis), Chhattisgarh (5 Mandis), Madhya Pradesh (50 Mandis), Rajasthan(25 Mandis) & UT of Chandigarh (1 Mandi) have been approved so far. The implementation of these and their impact in equalizing prices needs to be monitored.

5.88 Meanwhile, other States/UTs like Andhra Pradesh, Uttar Pradesh, Karnataka, Uttarakhand, Punjab, Odisha, Tamil Nadu, Puducherry, Haryana, Andaman and Nicobar Islands, Assam, Manipur, Arunachal Pradesh Nagaland and Mizoram have also expressed their willingness to join the NAM and have proposed integration of 644 mandis at this stage. Detailed Project Reports (DPRs) for integration of mandis with NAM including for setting up Soil Testing Laboratories are awaited from the States. Meanwhile, the DAC&FW is also pursuing other State Governments to complete the pre-requisite

reforms in their APMC Acts which will enable them to join NAM.

ii. Price Policy for Agricultural Produce

5.89 The government decides on the support prices for various agricultural commodities, taking into account the recommendations of CACP, the views of state governments and Ministries/Departments concerned and other relevant factors. There has been steady increase in the MSP of crops over the years since 2011-12 (Table 5.18).

Table 5.18: Minimum Support Prices (Crop Year) of Major Crops (₹/Quintal)

Commodity	2011-12	2012-13	2013-14	2014-15	2015-16	(#) increase in MSP 2015-16 over 2014-15
KHARIF CROPS						
Paddy (Common)	1080	1250	1310	1360	1410	50(3.7)
Paddy (Grade 'A')	1110	1280	1345	1400	1450	50(3.6)
Jowar (Hybrid)	980	1500	1500	1530	1570	40(2.6)
Jowar (Maldandi)	1000	1520	1520	1550	1590	40(2.6)
Bajra	980	1175	1250	1250	1275	25(2.0)
Maize	980	1175	1310	1310	1325	15(1.1)
Ragi	1050	1500	1500	1550	1650	100(6.5)
Arhar(tur)	3200¶	3850	4300	4350	4425^	75(1.7)
Moong	3500¶	4400	4500	4600	4650^	50(1.1)
Urad	3300¶	4300	4300	4350	4425^	75(1.7)
Cotton (Medium Staple)	2800[a]	3600	3700	3750	3800	50(1.3)
Cotton (Long Staple)	3300[aa]	3900	4000	4050	4100	50(1.2)
Groundnut in Shell	2700	3700	4000	4000	4030	30(0.8)
Sunflower Seed	2800	3700	3700	3750	3800	50(1.3)
Soyabean (Black)	1650	2200	2500	2500	-	-
Soyabean (Yellow)	1690	2240	2560	2560	2600$$	40(1.6)
Sesamum	3400	4200	4500	4600	4700	100(2.2)
Nigerseed	2900	3500	3500	3600	3650	50(1.4)
RABI CROPS						
Wheat	1285	1350	1400	1450	1525	75(5.2)
Barley	980	980	1100	1150	1225	75(6.5)
Gram	2800	3000	3100	3175	3425**	250(7.9)
Masur (Lentil)	2800	2900	2950	3075	3325**	250(8.1)
Rapeseed/Mustard	2500	3000	3050	3100	3350	250(8.0)
Safflower	2500	2800	3000	3050	3300	250(8.2)
Toria	2425	2970	3020	3020	-	-
OTHER CROPS						
Copra (Milling)@	4525	5100	5250	5250	5550	300(5.7)
Copra (Ball)@	4775	5350	5500	5500	5830	330(6.0)
De-husked Coconut@	1200	1400	1425	1425	1500	75(5.3)
Jute	1675	2200	2300	2400	2700	300(12.5)
Sugarcane*	145	170	210	220	230	10(4.5)

Source: **DAC&FW.**

Notes: **# Figures in brackets indicate percentage increase. *Fair and remunerative price.**

¶ Additional incentive at the rate of Rs. 500 per quintal of tur, urad and moong sold to procurement agencies was payable during the harvest/arrival period of two months.

[a] Staple length (mm) of 24.5 - 25.5 and Micronaire value of 4.3 - 5.1

[aa] Staple length (mm) of 29.5 - 30.5 and Micronaire value of 3.5 - 4.3

^ Bonus of Rs. 200 per quintal is payable over and above the Minimum Support Price.

$$ Single Minimum Support Price has been fixed irrespective of the variety.

** Bonus of Rs. 75 per quintal is payable over and above the Minimum Support Price.

@ Calender Year

Trade Policy

5.90 The agriculture sector is critical for achieving the objectives of food security and price stability. Therefore, tariff protection and support accorded to this sector remains higher than that of manufacturing and services sectors. The average tariff protection for agriculture (36.4 per cent) is substantially higher than that for non-agricultural products (9.5 per cent). India has adopted a trade policy vis-à-vis agricultural commodities, which is responsive to the changing domestic situation of crop production, demand, supply and most importantly retail prices. The Basic Customs Duty (BCD) of agricultural products is, therefore, subject to frequent revisions, including their reductions or removals depending on the domestic conditions, purportedly to protect farmers and agriculture linked value added industries.

5.91 During 2015, the import duty on sugar was increased from 25 per cent to 40 per cent, while that of crude and refined edible oils has been raised from 7.5 per cent to 12.5 per cent and 15 per cent to 20 per cent respectively in November 2015. Further, import duty on wheat was first raised from `zero' to 10 per cent in August 2015 and from 10 per cent to 25 per cent in October 2015.

5.92 The following policy changes were made in the last few years to benefit farmers and to incentivize the development of the agro-processing sector, and enhance farm productivity:

- Export of edible oils in branded consumer packs of upto 5 kg was permitted with a minimum export price of US$900 per MT. vide the Directorate General of Foreign Trade's (DGFT) Notification dated 30 April, 2014.
- Export of rice bran oil was permitted vide DGFT's Notification dated 6 April, 2015.
- Export of Kabuli Chana and 10,000 MTs of organic pulses per annum have been allowed.
- Since 2011, export of rice and wheat has been permitted.
- Since February 2013, processed and/or value-added agricultural products were exempted from export restrictions/bans even if their base produce is subject to an export ban.
- Export of cotton is free without any restrictions.

5.93 Frequent changes in the policy parameters/goal posts of trade in agricultural products in the form of changes in import duties and minimum export prices, etc., create instability of policy for any investment in the agro-processing industry. These changes in policy parameters have limited impact on the price the consumer pays, because of the time taken to arrive at the decision and the same translating into additional/ reduced supplies. It certainly does not impact the farmer who has received his remuneration based on the price prevailing at the time the produce leaves the farm gate. High prices of commodities in a particular year do not translate into benefits to the farmer in the same year, but create expectations, possibly not rational, of the same in the next year, enhancing cropped area in the next year/cropping season, leading to oversupply and reduction in prices and so incomes. The entire activity of changes in the policy parameters vitiates the concept of a market and needs to be discontinued.

5.94 The Union Cabinet gave its ex-post facto approval for the approach adopted by India at the Tenth Ministerial Conference of the WTO held in Nairobi, Kenya during 15-19 December 2015. The outcomes of the Conference, referred to as the 'Nairobi Package' include Ministerial Decisions on agriculture, cotton and issues related to Least Developed Countries (LDCs). These cover a Special Safeguard Mechanism (SSM) for developing countries, public stockholding for food security purposes, a commitment to abolish export subsidies for farm exports and

measures related to cotton. Decisions were also made regarding preferential treatment to LDCs in the area of services and the criteria for determining whether exports from LDCs may benefit from trade preferences (refer Chapter 4 for details on 'Nairobi Package').

India's Agriculture Trade

5.95 India has emerged as a significant agri-exporter in a few crops, namely cotton, rice, meat, oil meals, spice, guargum meal and sugar. As per the WTO's Trade Statistics, the share of India's agricultural exports and imports in the world trade in 2014 were 2.46 per cent and 1.46 per cent respectively. Agricultural exports as a percentage of agricultural GDP increased from 7.95 per cent in 2009-10 to 12.08 per cent in 2014-15. During the same period, agricultural imports as a percentage of agricultural GDP also increased from 4.90 per cent to 5.82 per cent.

The Way Forward

5.96 There is need to increase agricultural output through productivity increases by investing in water-efficient irrigation to achieve *'more crop per drop'*, along with effective use of other inputs like fertilizers, quality seeds and pesticides. There is tremendous potential to increase availability of agricultural produce by reducing wastages. Increasing the share of processing can be done by increasing reliance on markets, rationalizing and targeting subsidy, as well as disbursing it through DBT. There is a need to rationalize fertilizer subsidy in an input, crop and region neutral format and to minimize diversions. The disbursal of subsidy on fertilizers should shift to DBT (direct benefit transfer), benefits of which (DBT) will be maximized, if all controls (including on imports) on the fertilizer industry/outputs are lifted simultaneously.

5.97 The problem of availability of credit has to be addressed on several fronts. In respect of high interest rates, the system of DBT may be considered to replace subvention of interest rates. The intermediation and refinance model to promote agricultural credit needs to be revisited and replaced with DBT that shall subsidize the interest paid by the farmer, in place of the present subsidized refinance to financial institutions.

5.98 The success of the dairy industry has resulted from the integrated co-operative system of milk collection, transportation, processing and distribution, conversion of the same to value added products, to minimize seasonal impact on suppliers and buyers, retail distribution of milk and milk products, sharing of profits with the farmer, which are ploughed back to enhance productivity and needs to be emulated by other farm produce/ producers.

5.99 There is a case for replacing the present system of MSP/procurement based PDS with DBT and freeing the market of all controls on domestic movement and import. The entire activity of changes in the policy parameters vitiates the concept of a market and needs to be discontinued to enhance productivity in agriculture.

Industrial, Corporate, and Infrastructure Performance

06
CHAPTER

Industrial sector plays an important role in realizing higher economic growth in the country. Riding high on the performance of manufacturing sector, industrial sector in India have registered higher growth during 2015-16. Many policy measures taken by the government for creating enabling environment for industrial growth have started showing its impact on increased FDI inflows, better performance of infrastructure sector. The landmark initiatives like Make in India, Ease of Doing Business, Start Up India, Digital India, and Smart Cities, etc. will provide further impetus to industries and the industrial sector is expected to be the key driver of economic growth in the country. These initiatives would also help in transforming infrastructure sector which is sine qua non for achieving and sustaining higher economic growth.

6.2 The year 2015-16 is witnessing a tumultuous global economic environment with major economies showing signs of slowdown in growth. Against this background, the fact that the Indian economy has emerged as the fastest growing economy with a high growth rate of over 7 per cent, as seen in Chapter 1 is noteworthy. The manufacturing sector has been a major contributor in sustaining this high growth rate. As per latest data released in January 2016 on revised estimates of national income the growth of Industrial sector broadly comprising mining, manufacturing, electricity and construction is 5.9 per cent during 2014-15, as against a growth of 5.0 per cent during 2013-14. The advance estimates of national income 2015-16 shows that the growth of industrial sector is estimated to be 7.3 per cent with manufacturing sector growing at 9.5 per cent. Further, the industrial sector registered a growth of 8.9 per cent in the third quarter (Q3) of 2015-16 as compared to 3.8 per cent during the corresponding period of 2014-15. The trends in the Index of Industrial Production (IIP) data at 2004-05 base shows that during April-December, 2015-16, growth rate was 3.1 per cent as compared to a growth of 2.6 per cent in the same period of 2014-15.

6.3 The contribution of the manufacturing sector to Gross Value Added (GVA) has been hovering around 17 per cent for the last four years. The government has taken several measures to accelerate the growth of the industrial sector so as to strengthen and sustain the momentum of economic growth. These are primarily focused on simplification and rationalization of procedures and processes for boosting investment, adopting a more open Foreign Direct Investment (FDI) policy and measures for creating a conducive business environment.

6.4 Some of the recent reforms are: reducing the list of industries that can be considered defence industries requiring industrial licence; and amendments in FDI policy which include allowing FDI in defence up to 49 per cent, in railway infrastructure up to 100 per cent and in the insurance and pension sector up to 49 per cent. The investment limit requiring prior permission from the Foreign Investment Promotion Board (FIPB)/Cabinet Committee on Economic Affairs has been increased from ₹1200 crore to ₹3000 crore. The definition of investment by Non Resident Indians (NRI), Persons of Indian Origin (PIO) and Overseas Citizens of India (OCI) in the FDI policy has been revised.

6.5 The government has launched several programmes/initiatives such as ease of doing business, Make in India, Invest India, and e-biz Mission Mode Project under the National e-Governance Plan. Further, the Government of India is also building a pentagon of corridors across the country to boost manufacturing and to project India as a global manufacturing destination. The National Investment and Infrastructure Fund (NIIF) has been approved to extend equity support to infrastructure Non-Bank Financial Companies (NBFC). Issue of tax-free infrastructure bonds has been allowed for rail, roads and irrigation programmes.

6.6 The Ministry of Environment, Forest and Climate Change has completed the process for online submission and clearance of applications for environment, coastal regulation zone and forest clearances. The system for coal block auctions has been streamlined so that these are now granted in a transparent framework. In order to improve the financial viability of the State Electricity Distribution Companies, a comprehensive financial restructuring of these bodies has been taken up through the Ujwal DISCOM Assurance Yojana (UDAY) programme. The scheme envisages reduction of interest burden and cost of power and AT&C (Aggregate Technical and Commercial) losses incurred by discoms that have entered into tripartite agreements with the Government of India and the respective state governments. The process of labour market reforms, as initiated in some states, has been taken up by the central government also. Enhanced public investment in infrastructure has been emphasized to 'crowd-in' private investments.

6.7 With these initiatives, Indian industry has been given a boost leading to an improved business environment and larger FDI inflows and these have also improved India's global outlook. In the World Bank's Ease of Doing Business report 2016, India's position has improved to 130 in 2016 from 142 in 2015. The reforms mainly in the mining and power sectors, as well as in the labour market, are extremely significant for higher, faster, inclusive and sustainable growth.

Industrial Performance

6.8 The Index of Industrial Production (IIP) which provides quick estimates of the performance of key industrial sectors have started showing upward momentum (Figure 6.1). As per IIP, the industrial sector broadly comprising mining, manufacturing and electricity attained 3.1 per cent growth during April-December 2015-16 as compared to 2.6 per cent during the same period of 2014-15 due to the higher growth in mining and manufacturing sectors (Table 6.1). The mining, manufacturing and electricity sectors grew by 2.3 per cent, 3.1 per cent, and 4.5 per cent respectively during April-December 2015-16. The mining sector growth was mainly on account of higher coal production. The manufacturing sector was propelled by the higher production by the industry groups like furniture; wearing apparel, dressing and dyeing of fur; motor vehicles, trailers & semi-trailers; chemicals and chemical products; refined petroleum products & nuclear fuel;

and wood & products of wood. The growth in electricity is mainly contributed by higher growth in generation of thermal and nuclear sector.

6.9 In terms of use based classification, consumer durable goods have witnessed a remarkable growth at 12.4 per cent during April-December 2015-16. Basic goods and capital goods have registered 3.4 per cent and 1.7 per cent growth with intermediate goods by 1.9 per cent (Table 6.1).

6.10 The eight core infrastructure supportive industries, coal, crude oil, natural gas, refinery products, fertilizers, steel, cement and electricity that have a total weight of nearly 38 per cent in the IIP, registered a cumulative growth of 1.9 per cent during April-December 2015-16 as compared to 5.7 per cent during April-December 2014-15. Month-wise performance of the eight core sectors shows that the production of coal and fertilizers have increased substantially, while that of crude oil, natural gas and steel have mostly been negative. Refinery products, cement and electricity have attained moderate growth. Clearances for coal projects have facilitated production of coal. Crude oil and natural gas production declined because of a fall in production by Oil and Natural Gas Corporation (ONGC), Oil India Limited (OIL) and also private/joint venture (JV) companies in different months. In electricity generation, while the thermal and nuclear sectors have registered higher growth, the hydro sector has not performed well.

6.11 Figure 6.1 depicts three months moving average month-on-month (M-o-M) growth of the IIP, manufacturing and eight core industries. The growth in industrial production, manufacturing sector and the eight core sectors started picking up again in December 2015. It is expected that the uptick in growth rate will be maintained due to revival in manufacturing production.

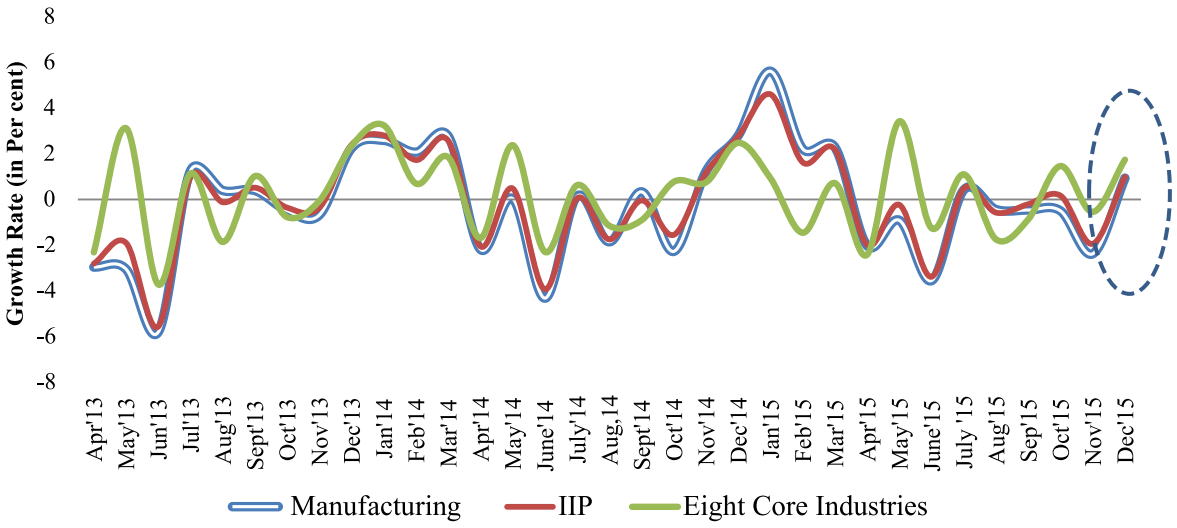
6.12 While the overall IIP has shown recovery, there is variation in the performance of some of the major industries during April-December 2015. While some sectors like electricity, coal, fertilizers, cement and passenger cars have shown positive growth, sectors like steel and aluminium have shown negative growth during April-December

Table 6.1: IIP-based Growth Rates of Broad Sectors/ Use-based Classification (in per cent)

	Weight	2013-14	2014-15	2014-15				2015-16			
				Q1	Q2	Q3	Apr.-Dec.	Q1	Q2	Q3	Apr.-Dec.
General	100.00	-0.1	2.8	4.5	1.3	2.0	2.6	3.3	4.8	1.5	3.1
Sectoral											
Mining	14.16	-0.6	1.5	3.0	0.5	2.1	1.8	0.4	3.1	3.3	2.3
Manufacturing	75.53	-0.8	2.3	3.9	0.4	1.1	1.8	3.7	4.7	0.9	3.1
Electricity	10.32	6.1	8.4	11.3	9.4	9.4	10.0	2.3	6.8	4.4	4.5
Use Based											
Basic goods	45.68	2.1	7.0	8.7	7.0	8.3	8.0	4.7	4.4	1.3	3.4
Capital goods	8.83	-3.6	6.4	13.6	-0.5	3.2	5.1	2.0	13.4	-10.0	1.7
Intermediate goods	15.69	3.1	1.7	3.1	1.6	0.8	1.8	1.6	2.2	1.9	1.9
Consumer goods	29.81	-2.8	-3.4	-3.2	-5.4	-6.4	-4.9	2.5	2.7	6.8	4.0
Consumer durables	8.46	-12.2	-12.6	-9.5	-15.5	-20.9	-15.2	3.7	11.9	23.4	12.4
Consumer non-durables	21.35	4.8	2.8	1.4	2.3	3.2	2.3	1.7	-3.0	-1.6	-1.0

Source: **CSO**

Figure 6.1: 3 Months Moving Average M-o-M Growth of IIP and Eight Core Industries



Source: **CSO and Office of Economic Adviser, Department of Industrial Policy and Promotion (DIPP).**

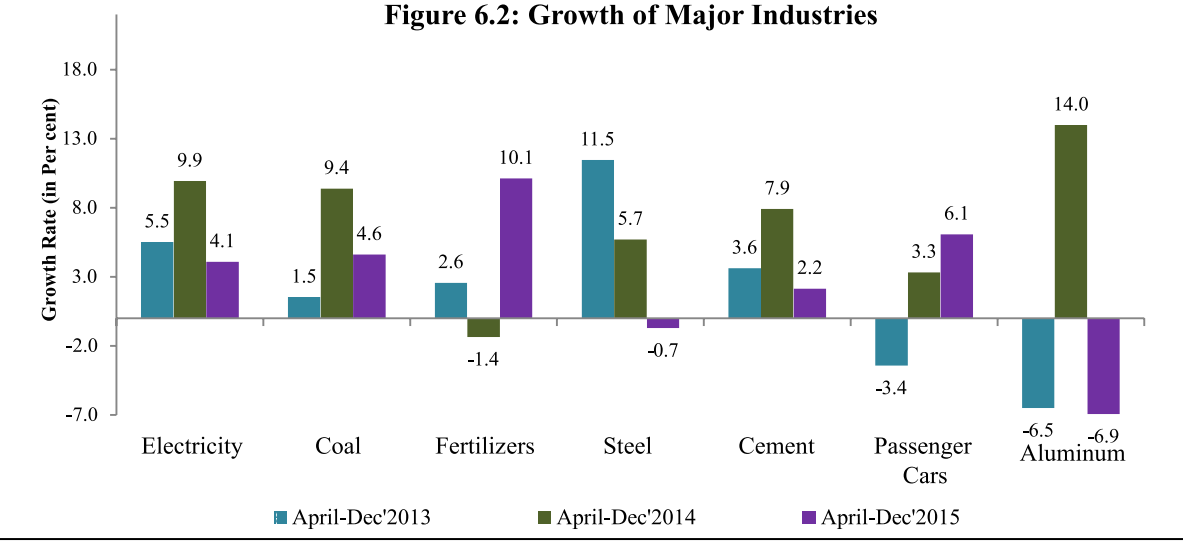
2015 (Figure 6.2). In terms of production, fertilizers and passenger cars have achieved higher levels during April-December 2015 as compared to the same period of the previous two years.

6.13 The steel and aluminum industries faced serious problems that are discussed in the following paragraphs, along with the steps taken by the government to address the concerns.

Steel Industry

6.14 India produces 86.5 million tonnes (MT) of steel, which is over 5 per cent of world production, making it the fourth largest producer of crude steel in the world. Domestic steel consumption in the country was 76.99 MT per cent in 2014-15, showing a modest increase of 3.9 per cent over 2013-14. Global steel consumption was estimated to increase by 0.5 per cent in 2015 and a

Figure 6.2: Growth of Major Industries



Source: **Office of Economic Adviser, DIPP and CSO.**

projected 1.4 per cent in 2016. The World Steel Association has projected India's steel consumption to increase by 6.2 per cent in 2015 and 7.3 per cent in 2016. Steel imports increased from 5.45 MT in 2013-14 to 9.32 MT in 2014-15. While world prices declined by 20 per cent to 45 per cent during April 2014 to October 2015, domestic prices of steel products declined from 17 per cent to 35 per cent during this period.

6.15 Steel production in India has fallen short of the increased capacity from 59.85 MT in 2007-8 to 109.85 MT in 2014-15. The cost of production of domestic steel companies like Jindal Steel and Power Limited, Bhushan Steel and Essar Steel is more than the import parity price at 10 per cent import duty and hence are not globally competitive.

6.16 Due to near-stagnant demand for steel globally, and in particular in China, major global steel producers are pushing steel products into the Indian market, leading to a surge in steel imports. The Indian steel industry with higher borrowing and raw material costs and lower productivity is at a comparative disadvantage. The government has taken the following measures to curb the surging steel imports and make domestic production sustainable:

a) Raised basic customs duties on certain primary iron and steel products by up to 2.5 percentage points during June to August 2015.

b) Imposed anti-dumping duties in June 2015, ranging from US$180 to US$316 per tonne for some industrial-grade stainless steel imported from China, Malaysia and South Korea. Forty countries initiated anti-dumping measures including the USA, the EU, Brazil, Mexico and Argentina and 9 countries also imposed countervailing duties (CVD).

c) Imposed provisional safeguard duty effective from September 14, 2015 on hot-rolled flat products of non-alloy and other alloy steel in coils at the rate of 20 per cent ad-valorem for a period of 200 days.

d) Minimum import price has been imposed on a number of steel product for a six month period.

e) Reduced export duty on iron ore to 10 per cent for select steel (grade< 58), others remained at 30 per cent.

6.17 Any further safeguards will impact the downstream industries as steel is used as an input in different industries like basic metal and non-metal products, machineries, transport, construction and consumer goods. It is estimated that for a 10 per cent increase in steel prices due to a hike in anti-dumping or import duties, the cost of production of basic metal and non-metal products will increase by 5.4 per cent, construction by 1.7 per cent, machineries by 1.3 per cent, transport by 0.7 per cent and the consumer goods sector by 0.4 per cent.

Aluminum Industry

6.18 India is the second largest aluminum-producing country in the world with a production of 3.96 MT in 2014-15, which was lower only than China`s production of 21.48 MT. India is the third largest aluminum-consuming country with a consumption of 3.8 MT in 2014-15, lower than China with 22.09 MT and the USA with 5.5 MT, India's share in world aluminum consumption has increased from 3 per cent in 2008-9 to 7 per cent in 2014-15. World aluminum prices have dropped by 41 per cent from US$ 2,662/tonne in April 2011 to US$ 1,570/tonne in August 2015 and US$ 1,500/tonne in January 2016. During this period in India, imports as a proportion of total demand (sales plus imports) have increased substantially from 39.8 per cent in 2011-12 to 56.5 per cent in 2015-16.

6.19 The capacity utilization of the Indian aluminum industry has fallen drastically in

the last one and a half years as international prices have slid. The cost of production is higher than international prices. Huge capacity has been created in China and world growth has slowed down. The Indian capacity has increased substantially in 2014-15 and 2015-16 (first half--H1) but its utilization, which was nearly 100 per cent up to 2013-14, has declined to 50 per cent.

6.20 India's cost of production of aluminum is increasing gradually even as world costs are static. The Indian aluminum industry will continue to face difficulty unless world prices increase, because in the short run it is virtually impossible to reduce the cost of production. International aluminum prices, like other metal prices, are cyclical and though it is difficult to forecast when they will begin to move upwards, the trend is expected to change when world industrial growth improves. Imposition of additional duties to reduce import of aluminum may erode the competitiveness of downstream sectors like power, transport and construction.

Comparative Position of India and World Manufacturing

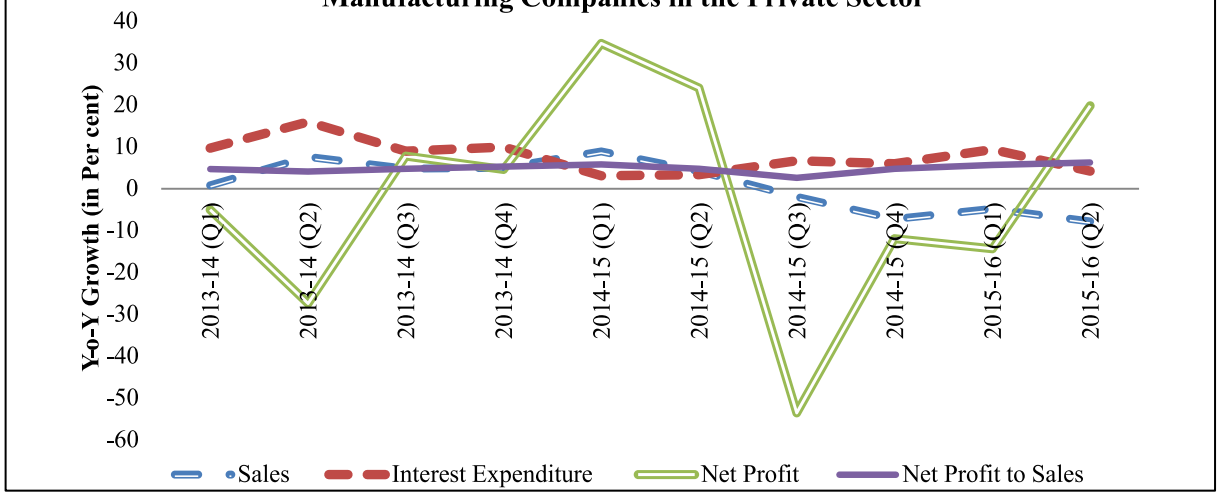
6.21 Owing to weak global demand and a decline in commodity prices along with an uncertain investment climate, global manufacturing output rose by 2.7 per cent in the second quarter (Q2) of 2015, following a growth of 2.5 per cent (Q1) in the first quarter of 2015. The manufacturing sector of industrialized countries driven by the United States and Europe grew by 1.2 per cent in the second quarter of 2015, signalling economic recovery. The developing and emerging industrial economies registered manufacturing growth of 5.0 per cent in Q2 of 2015, compared to the same period of the previous year. China's slowdown is raising concerns about world economic growth. Because of falling global demand for Chinese manufactured goods, China has excess capacity; but its manufacturing output is slightly lower at 7.0 per cent growth in Q2 from 7.1 per cent in Q1 of 2015. The global prices of metals and a number of manufactured goods have declined.

6.22 As against this, India's manufacturing sector grew by 12.6 per cent in Q3 of 2015-16 as compared to a growth of 1.7 per cent in Q3 of 2014-15 (as per National Accounts data of February 2016).

Corporate Sector Performance

6.23 Growth of sales has been contracting since Q3 of 2014-15, reaching a low of (-) 7.8 per cent in Q2 of 2015-16 (Figure 6.3).

Figure 6.3: Growth in Sales, Interest Expenditure and Net Profit of Listed Manufacturing Companies in the Private Sector



Source: **Reserve Bank of India (RBI).**

Petroleum products and iron and steel are two major industries within the manufacturing sector that recorded contraction in the last three quarters. During the last four quarters, since Q3 2014-15, there has been a steep contraction in raw material expenses. year-on-year (Y-o-Y) growth in interest expenses moderated during 2014-15 as compared to 2013-14. Further it declined from 9.4 per cent in Q1 2015-16 to 4.2 per cent in Q2 2015-16. Other income, which had been contracting since Q3 2014-15, grew by 12.5 per cent in Q2 2015-16. Net profit grew by 19.8 per cent in Q2 2015-16 on the back of contraction in three successive quarters. Net profit to sales ratio improved during the last three quarters and stood at 6.3 per cent, the highest in 10 quarters.

6.24 Capacity utilization, as measured by the 31st Round of the Order Books, Inventories and Capacity Utilisation Survey (OBICUS) of the Reserve Bank of India (RBI), recorded fractional decline in Q2 2015-16 over the previous quarter and stood at 70.6 per cent, lower than the level during the same quarter of the previous year. New orders grew marginally in Q2 2015-16 from the previous quarter level. The finished goods inventory to sales ratio remained steady in Q2 2015-16. The raw material inventory to sales ratio increased in Q2 2015-16 and stood at a higher level than in the same period of 2014-15.

Gross Capital Formation in the Industrial Sector

6.25 The recently released data on national income, consumption expenditure, saving and capital formation for 2014-15 shows that Gross Capital Formation (GCF) at current prices is estimated at ₹42.76 lakh crore for 2014-15 as compared to ₹39.12 lakh crore during 2013-14. However, the rate of GCF to GDP declined from 34.7 per cent during 2013-14 to 34.2 per cent in the year 2014-15. The rate of GCF to GDP at constant (2011-12) prices has gone down from 36.2 per cent in 2013-14 to 35.9 per cent in 2014-15. The rate of growth of GCF in industry has registered a sharp rise from (-)3.7 per cent in 2013-14 to 3.6 per cent in 2014-15, showing upward momentum of investment in industry. The sector-wise shares of different industries in overall GCF showed a mixed trend with the share of electricity going up, the shares of mining, manufacturing and construction are declining (Table 6.2).

Table 6.2: Per cent of GCF by Industry

(at 2011-12 constant prices)

	2011-12	2012-13	2013-14	2014-15
Rate of growth of GCF in industry		2.8	-3.7	3.6
Sector-wise share in overall GCF				
i Mining	2.1	2.3	4.0	3.3
ii Manufacturing	19.2	18.4	17.4	16.9
iii Electricity	9.6	9.1	8.6	9.2
iv Construction	7.2	7.7	5.5	5.4

Source: **CSO.**

Credit Flow to the Industrial Sector

6.26 Growth in credit flow to the industrial sector, including mining and manufacturing, has slowed down in 2015-16 as compared to 2014-15 (Table 6.3). In the manufacturing sector it was 2.5 per cent in 2015 (up to December) as compared to 13.2 per cent in 2014 (up to December). Credit flow to industries like basic metal and metal products, chemical and chemical products and engineering industries increased while a sharp decline was noticed in industries like petroleum and nuclear fuel, cement and cement products, transport equipment and food processing industries. The reduction in credit flow to the petroleum sector could be related to lower requirements by oil marketing companies with rationalization of fuel subsidies. In 2015-16, credit to micro & small industries, and large industries grew at 2.5 per cent and 6.6 per cent respectively. But credit flow to medium scale industries declined by 7.6 per cent during the same period.

Table 6.3: Growth of Credit to Industry by Scheduled Commercial Banks (in per cent)

Sectors	2014-15*	2015-16**
Industries	6.7	5.3
Manufacturing	13.2	2.5
Mining	3.9	-0.3
Manufacturing sub-sectors		
Food processing	12.4	-1.9
Textiles	2.8	2.1
Petroleum & nuclear fuel	-7.4	-10.4
Chemical & chemical products	-9.0	2.9
Cement & cement products	5.8	-1.1
Basic metal & metal products	7.3	8.8
All engineering	6.4	6.3
Transport equipment	5.0	-1.5
Other industries	-3.1	9.8

Source: **RBI**

Note: ***End-December 2014 over end-December 2013.**

****End-December 2015 over end-December 2014.**

Micro, Small and Medium Enterprises Sector

6.27 With 3.6 crore units spread across the country, that employ 8.05 crore people, Micro, Small and Medium Enterprises (MSME) have a contribution of 37.5 per cent to the country's GDP. The sector has huge potential for helping address structural problems like unemployment, regional imbalances, unequal distribution of national income and wealth across the country. Due to comparatively low capital costs and their forward-backward linkages with other sectors, MSMEs will play a crucial role in the success of the Make in India initiative.

6.28 Realizing the importance of the MSME sector, the government has undertaken a number of schemes/programmes like the Prime Minister's Employment Generation Programme (PMEGP), Credit Guarantee Trust Fund for Micro and Small Enterprises (CGTMSE), Credit Linked Capital Subsidy Scheme (CLCSS) for Technology Upgradation, Scheme of Fund for Regeneration of Traditional Industries (SFURTI), and Micro and Small Enterprises-Cluster Development Programme (MSE-CDP) for the establishment of new enterprises and development of existing ones. Some of the new initiatives undertaken by the government for the promotion and development of MSMEs, are as follows:

- Udyog Aadhar Memorandum (UAM): The UAM scheme, which was notified in September 2015 under section 8 of the MSME Development Act 2006, is a path-breaking step to promote ease of doing business for MSMEs. Under the scheme, MSME entrepreneurs just need to file an online entrepreneurs' memorandum to instantly get a unique Udyog Aadhaar Number (UAN). The information sought is on self-certification basis and no supporting documents are required. This marks a significant improvement over the earlier complex and cumbersome procedure.
- Employment Exchange for Industries: To facilitate match making between prospective job seekers and employers an employment exchange for industries was launched on June 15, 2015 in line with Digital India. More than 3.42 lakh job seekers have been registered on the portal as on December 30, 2015.
- Framework for Revival and Rehabilitation of MSMEs: Under this framework, which was notified in May 2015, banks have to constitute a Committee for Distressed MSME enterprises at zonal or district level to prepare a Corrective Action Plan (CAP) for these units.
- A scheme for Promoting Innovation and Rural Entrepreneurs (ASPIRE): ASPIRE was launched on March 16, 2015 with the objective of setting up a network of technology centres and incubation centres to accelerate entrepreneurship

and promote start-ups for innovation and entrepreneurship in rural and agriculture-based industry.

6.29 In addition, the government intends to provide more credit to MSME sectors, especially in the rural areas, focusing on skill development, encouraging entrepreneurial activities with optimistic mindset among rural youth and creating job opportunities among rural women, for high, inclusive and sustained industrial growth.

Central Public Sector Enterprises

6.30 The Central Public Sector Enterprises (CPSE) have played a significant role in India's growth process. Out of 298 CPSEs under the administrative control of various ministries/departments, 235 were in operation and 63 under construction up to December 2015. Financial investment (paid-up capital + long-term loans) in all the CPSEs taken together stood at ₹10,96,057 crore as on 31March 2015, showing an increase of 10.48 per cent over 2013-14. The net profit of profit making (157) CPSEs stood at ₹1,30,363 crore in 2014-15, while net loss of loss-making (77) CPSEs stood at ₹27,360 crore. ONGC Ltd, Coal India Ltd, NTPC Ltd, the National Mineral Development Corporation (NMDC) Ltd and Power Finance Corporation Ltd were the top five profit-making CPSEs during 2014-15, whereas Bharat Sanchar Nigam Ltd, Air India Ltd, Mahanagar Telephone Nigam Ltd, Hindustan Photo Films Manufacturing Company Ltd and Mangalore Refinery and Petrochemicals Ltd were the top five loss-making CPSEs.

6.31 CPSEs contribute to the central exchequer by way of dividend payment, interest on government loans and payment of taxes and duties. Their contribution to the central exchequer, however, decreased from ₹2,20,981 crore in 2013-14 to ₹2,00,584 crore in 2014-15. This was mainly on account of a decrease in their contribution to dividend, corporate tax and custom duty in 2014-15. There was, however, an increase in their contribution to excise duty, dividend tax, sales tax and service tax.

Foreign Direct Investment

6.32 Foreign direct investment (FDI is an important driver of economic growth as it leads to productivity enhancement and is a major source of non-debt financial resources and employment generation. FDI inflows are critical for sustaining a high growth rate. The government is playing a proactive role in investment promotion through a liberal FDI policy. A favourable policy regime and sound business environment have facilitated increase in FDI flows into the country.

6.33 With a view to liberalizing and simplifying the FDI policy to provide ease of doing business climate in the country that will also lead to larger FDI inflows, the government has undertaken various reforms. A number of sectors have been liberalized, including defence, construction, broadcasting, civil aviation, plantation, trading, private sector banking, satellite establishment and operation and credit information companies. During 2015-16, FDI policy in the pension sector has been revised to permit foreign investment up to 49 per cent, with 26 per cent under automatic route. Manufacturing of medical devices and white label ATM operations have been opened up to 100 per cent FDI under automatic route.

6.34 The various reforms in the FDI sector have led to a significant increase in FDI inflows into India. During April-November 2015, total FDI inflows were US$34.8 billion as compared to US$27.7 billion during April-November 2014, showing a 26 per cent surge. FDI equity inflows also increased from US$18.9 billion during April-November 2014 to US$24.8 billion during April-November 2015, showing 31 per cent growth. There were FDI inflows into sectors like computer software and

hardware, services, trading, automobile industry, construction (infrastructure) activities, chemicals (other than fertilizers) and telecommunications. FDI statistics of the last fifteen years reveal that the services sector has accounted for the highest inflows (17.6 per cent of total FDI inflows into India), followed by construction development (8.8 per cent), computer hardware and software (7.2 per cent), telecommunications (6.6 per cent) and the automobile industry (5.2 per cent). Sector-wise FDI flows during 2014-15 and 2015-16(April- Nov) are presented in Table 6.4.

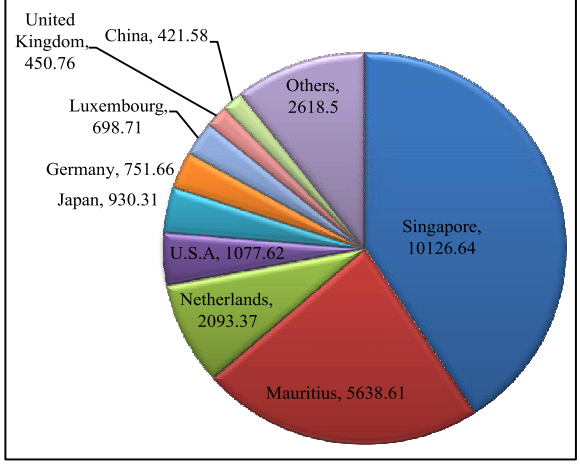
Table 6.4: Sector-wise FDI Inflows during April 2014 to November 2015

Sl No	Sector	Amount of FDI (in US$ million)		
		2014-15	2015-16	Percentage of total FDI
		Apr.-Mar.	Apr.-Nov.	Apr.-Nov. 2015-16
1	Services Sector (financial,non-financial and others)	4443.26	4102.47	16.5
2	Computer Software & Hardware	2296.04	4419.84	17.8
3	Trading	2727.96	2604.40	10.5
4	Automobile Industry	2725.64	1657.82	6.7
5	Telecommunications	2894.94	1062.91	4.3
6	Construction (Infrastructure) Activities	870.25	1368.96	5.5
7	Chemicals (Other Than Fertilizers)	762.76	1157.37	4.7
8	Drugs & Pharmaceuticals	1497.74	321.37	1.3
9	Hotel & Tourism	777.01	865.25	3.5
10	Power	707.04	635.13	2.6
11	Mining	684.39	518.84	2.1
12	Petroleum & Natural Gas	1079.02	48.69	0.2
13	Non-Conventional Energy	615.95	440.64	1.8
14	Industrial Machinery	716.79	293.56	1.2
15	Others, excluding above- mentioned sectors	8131.71	5310.51	21.4

Source: **DIPP**

6.35 There are wide variations in the FDI inflows into India from different countries. However, Singapore, Mauritius, Netherlands and the USA account for the major share (Figure 6.4). Out of FDI equity inflows of US$24.8 billion during 2015-16 (April-November), more than 60 per cent have come from two geographically small countries named Singapore and Mauritius. These inflows need perhaps to be examined more closely to determine whether they constitute actual investment or are diversions from other sources to avail of tax benefits under the Double Tax Avoidance Agreement that these countries have with India.

Figure 6.4: FDI Inflows in April-November, 2015-16 (in US $ Million)



Source: **DIPP.**

6.36 A country-wise analysis of the FDI inflows in major sectors from 2011 to 2015 (till November) from top five countries are given in Table 6.5.

6.37 A state-wise analysis of FDI inflows to different Indian states shows a clear regional disparity in FDI inflows (Table 6.6). Delhi, Haryana, Maharashtra, Karnataka, Tamil Nadu, Gujarat and Andhra Pradesh have together attracted more than 70 per cent of total FDI inflows to India during the last 15 years. However, states with vast natural resources like Jharkhand, Bihar, Madhya Pradesh, Chhattisgarh and Odisha have not been able to attract foreign funds directly for investment in different sectors. To make the recently launched Make in India initiative a success, the states will have a critical role in facilitating FDI in different sectors.

6.38 After the launch of the Make in India (Box 6.1) initiative in September 2014, there is a nearly 40 per cent increase in FDI inflows during October 2014 to June 2015 over the corresponding period of the previous year. Under the programme, the government has awarded a record 56 defence manufacturing permits to private sector entities in the past year, vis-à-vis 47 licences granted in the preceding three years. Several countries such as Japan, China, France and South Korea have announced their intention of making huge investments in India in various industrial and infrastructure projects.

Table 6.5: FDI Inflows to Major Sectors from Top Five Host Countries (in per cent) from 2011-12 to 2015-16 (November)

Sectors	Singapore	Mauritius	Netherlands	US	Japan
Services sector	18.6	18.9	15.4	19	20
Computer software and hardware	13.8	6.2	3.2	9.8	1
Trading	11.8	2.4	10	3.2	4.6
Telecommunications	8.6	11.5	0.3	2	0.1
Drugs & pharmaceuticals	6.6	1.0	0.6	2	3
Power	5.0	6.1	2.7	4	0.3
Construction (infrastructure)	3.5	3.9	0.2	3.5	0.5
Hotel tourism	2.3	10.6	0.6	0.8	0.1
Automobiles	1.9	1.5	8.7	17.8	21
Chemicals	NA	1.6	8.9	1.8	2.7
Petroleum and natural gas	0.7	1.1	8.4	0.1	1.2

Source: **DIPP.**

Table 6.6: State-wise FDI Inflows during April 2014 to November 2015

Sl No	States covered	Amount of FDI (in US $ Million)			Percentage of total FDI
		2014-15	2015-16	Total	
		Apr.-Mar.	Apr.-Nov.		
1	Delhi	6874.95	9401.73	16276.68	29.20
2	Maharashtra	6361.09	4875.81	11236.89	20.16
3	Karnataka	3443.89	3266.48	6710.36	12.04
4	Tamil Nadu	3817.69	1889.15	5706.85	10.24
5	Gujarat	1531.15	1330.63	2861.78	5.13
6	Andhra Pradesh	1368.72	707.72	2076.43	3.73

Source: **DIPP.**

Box 6.1: MAKE IN INDIA

With the objective of making India a global hub of manufacturing, design and innovation, the Make in India initiative, which is based on four pillars --new processes, new infrastructure, new sectors and new mindset-- has been taken by the government. The initiative is set to boost entrepreneurship, not only in manufacturing but in relevant infrastructure and service sectors as well. An interactive portal http://makeinindia.com for dissemination of information and interaction with investors has been created with the objective of generating awareness about the investment opportunities and prospects of the country, to promote India as a preferred investment destination in markets overseas and to increase Indian share of global FDI. In addition, information on 25 thrust sectors, along with details of the FDI Policy, National Manufacturing Policy, Intellectual Property Rights and the proposed National Industrial Corridors including the Delhi Mumbai Industrial Corridor (DMIC), are available on the portal.

The Department of Industrial Policy and Promotion (DIPP), in consultation with various central ministries, state governments, industry leaders, and other stakeholders, has formulated a strategy for increasing the contribution of the manufacturing sector to 25 per cent of the GDP by 2020.

The Government of India has set up Invest India as the national investment promotion and facilitation agency. With the objective of promoting investment in the country, a full-fledged Investment Facilitation Cell has been set-up under the Make in India initiative, primarily to support all investment queries as well as to handhold and liaise with various agencies on behalf of potential investors.

As envisaged by the National Manufacturing Policy 2011, Make in India seeks to create 100 million additional jobs in manufacturing by 2022. The government is taking a number of steps to enhance the skills of workers/ the unemployed in India in order to improve their employability. In order to tap the creative potential and boost entrepreneurship in India, the Start-up India, Stand-up India campaign has been announced. An innovation promotion platform called Atal Innovation Mission (AIM) and a techno-financial, incubation and facilitation programme called Self-Employment and Talent Utilization (SETU) are being implemented to encourage innovation and start-ups in India.

For supporting the financial needs of the small and medium enterprise sector and promote start-ups and entrepreneurship, the government has taken various steps through Make in India. The India Aspiration Fund has also been set up under the Small Industries Development Bank of India (SIDBI) for venture capital financing of newly set-up or expanding units in the MSME sector. SIDBI Make in India Loan for Small Enterprises (SMILE) has been launched to offer quasi-equity and term-based short-term loans to Indian SMEs with less stringent rules and regulations and a special focus on 25 thrust sectors of Make in India. Further, a Micro Units Development Refinance Agency (MUDRA) Bank has been set up to provide development and refinance to commercial banks/ NBFCs/cooperative banks for loans given to micro-units. MUDRA Bank would follow a credit-plus approach by also providing financial literacy and addressing skill gaps, information gaps, etc.

6.39 The Government of India has taken a series of measures to improve 'Ease of Doing Business' (Box 6.2) in the country. Existing rules have been simplified and information technology introduced to make governance more efficient and effective. Large improvements in World Economic Forum and World Bank rankings testify to the reforms implemented in this regard. This improvement manifests the effectiveness of the series of small steps taken by the government to foster an investment-friendly environment. India's rank has improved on the 'starting a business', 'dealing with construction permit' and 'getting electricity' indicators.

6.40 Reflecting the better economic performance and the commitment of the government to reforms, the global perception about India's competitiveness has improved as per the Global Competitiveness Index of the World Economic Forum. Significantly, at position 55, India went up 16 rungs in 2015-16, which is the largest gain among the major economies.

Box 6.2: Measures Taken under 'Ease of Doing Business'

- The process of applying for Industrial License (IL) and Industrial Entrepreneur Memorandum (IEM) has been made online and this service is now available to entrepreneurs on a 24x7 basis at the eBiz website.
- Twenty services are integrated with the eBiz portal which will function as a single window portal for obtaining clearances from various governments and government agencies.
- Notification has been issued by Directorate General of Foreign Trade (DGFT) to limit number of documents required for export and import to three.
- The Ministry of Corporate Affairs has introduced an integrated process of incorporation of a company, wherein applicants can apply for Director's Identification Number (DIN) and company name availability simultaneous to incorporation application [Form INC-29].
- The Companies (Amendment) Act 2015 has been passed to remove requirements of minimum paid-up capital and common seal for companies.
- Application forms for Industrial Licence (IL) and Industrial Entrepreneur Memorandum (IEM) have been simplified.
- Defence products' list for industrial licensing has been issued, wherein a large number of parts/components, castings/forgings, etc. have been excluded from the purview of industrial licensing.
- Similarly, dual-use items, having military as well as civilian application (unless classified as defence item), will also not require ILs from the defence angle.
- The Ministry of Home Affairs has stipulated that it will grant security clearance on IL applications within 12 weeks.
- An Investor Facilitation Cell has been created under Invest India to guide, assist and handhold investors during the entire life-cycle of the business.
- The process of applying for environment and forest clearances has been made online through the Ministry of Environment and Forests and Climate Change portals.
- Registration with the Employees Provident Fund Organization (EPFO) and Employees State Insurance Corporation (ESIC) has been automated and ESIC registration number is being provided on a real-time basis.
- A unified portal for registration of units for Labour Identification Number (LIN), reporting of inspection, submission of returns and grievance redressal has been launched by the Ministry of Labour and Employment.
- A report titled 'Assessment of State Implementation of Business Reforms' was released on 14th September 2015. It reports the findings of an assessment of reform implementation by states by the DIPP, Ministry of Commerce and Industry, Government of India, with support from World Bank group and KPMG. This assessment has been conducted to take stock of reforms implemented by states in the period January 1 to June 30 2015 based on a 98-point action plan for business reforms agreed between the DIPP and states/union territories (UT) and rank them according to the ease of doing business.

Infrastructure Performance-Specific Sectors

POWER

6.41 In view of the growing need of the Indian economy, the government has embarked upon a massive programme to provide uninterrupted continuous access to power supply in the country. Several steps have been taken for increasing power generation, strengthening of transmission and distribution, separation of feeder and metering of power to consumers. In order to restructure the sector, various amendments are being brought in the Electricity Act, and tariff policy in collaboration with states.

Electricity Generation and Capacity

6.42 During 2014-15, the achievement in electricity generation exceeded the target. Against the target of 1023 BU, the achievement was 1048.4 BU, registering y-o-y growth of 8.4 per cent. Annual generation crossed 1 trillion units last year. In the current year (April–December 2015), generation registered a growth of 4.4 per

Table 6.7: Power Generation by Utilities (billion units)

Category	April – March			April - December		
	2013-14	2014-15	Growth (per cent)	2014-15	2015-16	Growth (per cent)
	967.15	1048.67	8.43	794.65	829.85	4.43
Hydroelectric#	134.85	129.24	-4.16	106.71	102.15	-4.28
Thermal	792.48	878.32	10.83	657.53	694.83	5.67
Nuclear	34.23	36.10	5.47	25.56	27.75	8.55
Bhutan import	5.60	5.10	-10.54	4.85	5.12	5.51

Source: **Ministry of Power.**

cent. This is 97.6 per cent of the target of 849.9 BU during the year 2015-16 (April–December). In April–December 2015-16, in the thermal category, growth in generation from coal, lignite and gas-based stations was of the order of 6.2 per cent, - 4.1 per cent, and 7.9 per cent respectively. Growth in the generation of thermal power, which is the primary source of power in India, was achieved due to enhanced availability of coal and statutory clearances provided for a number of projects. Table 6.7 shows the power generation by utilities:

6.43 Further, as against the capacity addition target of 20037.1 MW set for 2015-16, 11,226 MW has been added till December 31, 2015. The cumulative capacity addition during the 12th Plan, as on December 31, 2015, is 72,240 MW, which constitutes 81.6 per cent of the plan target.

Distribution

1. Under the Integrated Power Development Scheme (IPDS) launched in December 2014 for strengthening sub-transmission and distribution system, projects worth ₹5134 crore have been sanctioned and ₹196.79 crore has been released, as on December 31, 2015.
2. Similarly, the new scheme, the 'Deendayal Upadhyaya Gram Jyoti Yojana' (DDUGJY), has an estimated outlay of ₹43,033 crore, including budgetary support of ₹33,453 crore. In addition, the already approved outlay of ₹39,275 crore, including budgetary support of ₹35,447 crore, for continuation of the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) in 12th and 13th Plans, has also been carried forward to the DDUGJY. As on December 31, 2015, projects worth ₹41100.4 cr. have been sanctioned under the scheme. The government also intends electrifying all the remaining 18,452 villages (as on April 1, 2015) by May 1, 2018.

UDAY (Ujwal DISCOM Assurance Yojana)

6.44 Efforts towards 100 per cent village electrification, 24x7 power supply and clean energy cannot bear fruit 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 has the potential of seriously impacting the banking sector and the economy at large. The UDAY scheme for financial turnaround of power distribution companies has been formulated and launched by the government on November 20, 2015, in consultation with the various stakeholders for financial and operational turnaround of DISCOMs and to ensure a sustainable permanent solution to the problem. The scheme envisages reducing interest burden, cost of power and AT&C losses. DISCOMs and participating states would enter into a tripartite agreement with the Government of India to achieve operational and financial

targets as per the agreed trajectory.

National LED Programme

6.45 The Prime Minister, on 5th January 2015, launched the 100 cities National LED Programmes with the aim of promoting use of the most efficient lighting technology at affordable rates. This programme has two components: (i) the Domestic Efficient Lighting Programme (DELP) aiming to replace 77 crore incandescent bulbs with LED bulbs by providing LED bulbs to domestic consumers and (ii) the Street Lighting National Programme (SLNP) to replace 3.5 crore conventional streetlights with smart and energy-efficient LED streetlights by March 2019. Box 6.3 discusses the model for implementation of these two components.

6.46 It is estimated that the National LED programme will result in annual electricity saving of about 109 billion units and a 21,500 MW reduction in demand along with monetary savings of ₹45,500 crore accruing to domestic consumers and urban local bodies. Additionally, it will play a major role in mitigating climate change by effecting greenhouse gas emission reductions of 85 million tonnes of CO2 annually. This will facilitate the nation's commitment towards reducing its emission intensity per unit GDP by 33-35 per cent below 2005 levels by 2030 under its Intended Nationally Determined Contribution (INDC). Apart from this, the programme is expected to encourage and support domestic manufacturing of LED bulbs, making it consistent with the 'Make in India' policy of the government.

The current progress of implementation of the National LED programme by the January 15, 2016 since its launch on January 5, 2015 is as follows:

Parameters	DELP	SLNP
No. of LED bulb distributed/streetlights installed	4.77 crore	5.51 lakh
Average energy saved per day	16.86 MU	0.20 MU
Avoided peak demand/ avoided capacity	1529 MW	18.2 MW
GHG emission CO2 reduction per day	13,800 t CO2	166 t CO2
Cost saving per day	6.62 crore	12.01 lakh

National Smart Grid Mission

6.47 Government has approved the establishment of a National Smart Grid Mission (NSGM) in the power sector to plan and monitor implementation of policies and programmes related to smart grid activities in India. Budget allocation for financial year 2015-16 for NSGM activities is ₹40 crore.

COAL

6.48 Coal continues to be the most important source of energy in the country. Production of raw coal in India during April-December 2015 was 447.48 Mte, compared to 427.27 Mte during the corresponding period of the previous year, registering a growth of 4.7 per cent. The annual target for coal production for 2015-16 is fixed at 700 Mte. The gap between demand and supply of coal in the country is currently being met through coal

Box 6.3: Energy Efficiency Services Ltd Service Model DELP

Energy Efficiency Services Ltd (EESL) has evolved a service model where it works with DISCOMs through a benefit- sharing approach. EESL procures the LED bulbs and provides to consumers at a rate of ₹10 each as against their market price of ₹350-400. The upfront investment made by EESL is paid back by cost recovery from consumers by deduction of easy instalments of ₹10 every month for 8-12 months.

SLNP: EESL replaces the conventional streetlights with LEDs at its own costs (without any investment by municipalities) and the consequent reduction in energy and maintenance cost of the municipality is used to repay EESL.

imports by consuming sectors. However, due to higher domestic production, imports have been coming down since last year. Year-wise details of production supply and import of coal are given in Table 6.8.

Initiatives and Achievements

A. The Coal Mines (Special Provisions) Act 2015 has been enacted to enable the government to reallocate 204 coal blocks whose allocations were cancelled by the Supreme Court. The primary objective of the act is to ensure continuity in coal mining operations and production of coal and to promote optimum utilization of coal resources consistent with the requirement of the country. To carry out the objectives of the act, the Coal Mines (Special Provisions) Rules 2014 have also been notified. The allocation of 204 coal blocks is being made in pursuance of the provisions of the act and rules made thereunder. The auction of coal blocks is being carried out in e-auction mode in order to keep the process transparent.

B. Under the provisions of the Coal Mines (Special Provisions) Act 2015, the central government has successfully auctioned 31 coalmines. Further, allotment of 42 coalmines/blocks to central/state government companies has also been successfully completed.

C. As per the recommendations of an Inter-Ministerial Task Force (IMTF) constituted in June 2014 by the Ministry of Coal to review rationalization of linkages, coal sources for 15 out of 19 cases have been rationalized under Stage-I and four cases are under process. Implementation in respect of these 15 cases would result in savings of ₹877 crore (provisional). Similarly, an Inter-Ministerial Committee (IMC) has been constituted to examine the feasibility of allocation of coal linkages/LoAs through a market-based mechanism with a view to providing a level playing field for supply of coal to different stakeholders. The proposed mechanism on auction of linkages is expected to bring objectivity and transparency in allocation of linkages.

D. To ensure timely implementation of ongoing projects, major coal projects costing more than ₹500 crore of 3 million tonnes per year (MTY) capacity are being closely monitored. In order to

Table 6.8: Production, Supply and Import of Coal

(million tonnes)

Year	All India Coal		CIL		Import		Total import
	Production	Offtake/ supply	Production	Offtake/ supply	Coking	Non- coking	
2008-9	492.76	489.17	403.73	400.72	21.08	37.92	59.00
2009-10	532.04	513.79	431.26	415.22	24.69	48.57	73.26
2010-11	532.70	523.47	431.32	423.78	19.48	49.43	68.91
2011-12	539.95	535.30	435.84	432.62	31.80	71.05	102.85
2012-13	556.40	567.14	452.21	464.54	35.56	110.22	145.78
2013-14	565.77	572.06	462.41	470.92	36.87	129.99	166.86
2014-15 (P)	612.44	607.63	494.23	488.92	43.71	168.39	212.10
2015-16*	447.48	463.23	373.48	389.13	26.79#	84.89#	111.68#

Source: **Ministry of Coal.**

Note: *** Up to December 2015**

 # Import figures are up to October 2015.

deal with various pending issues relating to clearance of coal sector projects, the government has set up a web portal to fast-track project implementation. The government has also assigned high priority to the early completion of critical railway projects for movement of coal. Joint Venture (JV) companies have been formed by coal companies along with respective state governments and IRCON for the speedy implementation of future rail projects.

6.49 To address the issues of dispute between coal companies and power utilities/ developers and to bring about improvement in the quality of coal supply, the system of third-party sampling was further improved. In addition to the agency engaged by Coal India Limited (CIL), a panel of reputed third-party sampler was jointly drawn up by a committee consisting of representatives from power utilities and the Central Electricity Authority of India (CEA) with the concurrence of CIL and notified by CIL.

MINERALS

6.50 The IIP shows that mineral production for the period April-December 2015 increased by 3.1 per cent as compared to the same period of the previous year owing to increase in the production of bauxite, chromite, iron ore, limestone and phosphorite and also rise in the production of coal by 4.6 per cent. The mining sector had been hit hard for two consecutive years, i.e. 2011-12 and 2012-13, due to legal issues in courts and environmental, regulatory and land acquisition issues. Since the government has taken a number of initiatives for policy reform, there has been a notable turnaround in the mining and quarrying sector which grew by 3.0 per cent and 10.8 per cent in 2013-14 and 2014-15 according to National Accounts estimates. A surge in investment by Singaporean companies has been observed in the iron ore segment.

New Initiatives

1. Mines and Minerals (Development and Regulation) (MMDR) Act 2015:

6.51 The Government has recently amended the Mines and Minerals (Development and Regulation) Act 1957 with effect from 12th Janauary 2015 for promoting the mining sector. The sailent features of the MMDR Act 2015 are:

a) The grant of mineral concessions through auction by competitive bidding, which is a transparent and non-discriminatory method and which will also obtain for the state government its fair share of value of the mineral resources;

b) Transition provisions for extension of existing leases to obviate disruptions in supply of ore and to ensure regular supply of raw material to industry (transition period of minimum 15 years for captive mines and five years for other mines);

c) Assured tenure and easy transferability of mineral concessions granted through auction to attract private investments and FDI;

d) Stricter penalty provision to deter illegal mining; special court may be constituted if necessary;

e) District Mineral Foundation to be established in each mining affected district;

f) National Mineral Exploration Trust to be set up for impetus to exploration.

2. Auctioning of Mines:

6.52 As per the MMDR Amendment Act 2015 the state governments will conduct auction for grant of mineral concessions. The role of the central government is to prescribe the terms and conditions and procedures subject to which the auction shall be conducted, including the bidding parameters for the selection. As on 31st December 2015, a total of 35 mineral blocks have been

offered by seven states, namely Rajasthan, Gujarat, Maharashtra, Jharkhand, Karnataka, Chhatisgarh and Odisha for the auctioning of ores such as limestone, tungsten, gold, iron and bauxite.

3. District Mineral Foundation (DMF):

6.53 The Act also has provision for the establishment of DMF, a non-profit organization, in any district affected by mining-related operations, with the objective of working for the interest and benefit of persons as well as affected areas where mining activity is taking place. The composition and functions of the DMF shall be prescribed by the state government.

4. Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY):

6.54 Under PMKKKY, an amount of ₹ 6000 crore per annum is to be spent on welfare schemes related to people and districts adversely affected by mining activities. The central government has framed the PMKKKY with the objective of implementing various developmental and welfare programmes in mining-affected areas; to minimize/mitigate the adverse impacts during and after mining on environment, improvement in health, education and socio-economic condition of people in mining districts; and to ensure long-term sustainable livelihood for the affected people in mining areas.

Petroleum And Natural Gas

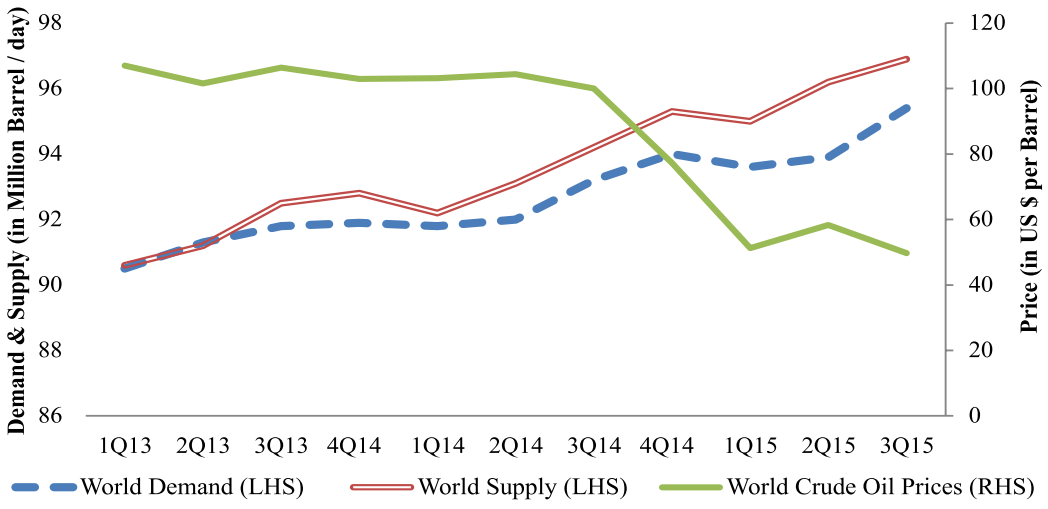
Production

6.55 Domestic annual production of crude oil has been at around 37-38 million tonnes in the last five years. During April-December 2015, domestic production of crude oil was 27.9 MMT which is 0.8 per cent less than production of 28.2 MMT during the same period of the previous year. Gas production during April-December 2015 was 24.7 BCM against 25.397 BCM during the corresponding period of 2014-15, showing a decline of 2.8 per cent. Some of the issues relating to the sector are discussed in Box 6.4.

6.56 Domestic production is supplemented by oil and gas assets acquired abroad. During April-December 2015, production of crude oil and natural gas from assets abroad was 5.5 MMT and 3.3 BCM respectively.

6.57 In this context, it is important to look at the global developments (Figure 6.5). There has not only been a narrowing of the shortage of supply over demand of crude oil during a little more than a year, but in fact

Figure 6.5: Global Demand and Supply of Crude Oil (in Million Barrel per day)



Source: **International Energy Agency.**

Box 6.4: Issues Relating to the Petroleum Sector

(i) In view of the absence of a global gas market for benchmarking domestic gas prices in India, various formulae have been suggested and since October 2014 a formula based on producer and consumer markets is being used to arrive at domestic gas prices in India. It was expected that the formula would balance the interest of producers and consumers in the country. However, market-determined arm's length pricing for domestic gas, with an effective regulator, to provide adequate incentive for investment and also ensure competiveness and transparency remains the first-best solution that merits consideration. It would reflect the appropriate gas price in relation to alternative fuels. In the medium term, being a large consumer, India may be able to be a price setter for gas prices in the region.

(ii) Petroleum products and natural gas should be included under the Goods and Services Tax (GST), or at least its exclusion should not be indicated in the Constitution Amendment Bill.

(iii) The cess collections could be used to support construction of a network of gas pipelines, which is of crucial importance for providing clean energy to deprived regions of the country. The progress is somewhat constrained at present by having been linked to revival of fertilizer units and development of small industries in areas along the gas highway projects.

Alternatively, in order to promote the gas pipeline network, Viability Gap Funding (VGF) may be provided for promoting pipeline assets creation and development of efficient markets.

(iv) Impetus is required for construction of not only cross-country pipelines but also city gas distribution. The present system of bidding by the Petroleum and Natural Gas Regulatory Board (PNGRB) is lopsided and long-drawn-out and needs to be reformed since it has constrained development of the gas network. Expansion of the PNG/CNG (Compressed Natural Gas) network could help provide gas connections to rural areas.

(v) Rationalization of LPG subsidy is essential. It may be useful to cap subsidy to 10 LPG (Liquefied Petroleum Gas) cylinders for each household (that being the maximum used for usual domestic cooking) while aligning taxes and duties on domestic and commercial LPG users.

(vi). Import of liquefied Natural Gas (LNG) for use in the power industry is exempt from customs duty while LNG for all other uses attracts 5 per cent customs duties. There should be no exemptions for any sector.

(vii). In order to develop a cost-effective and revenue-neutral mechanism for swapping of gas across producing and consuming states for the national gas grid, it is important to make special tax provision for sale of natural gas under the Central Sales Tax Act 1956. Natural gas and LNG may be treated as declared goods to bring about tax parity with crude oil and make prices uniform across states.

there is excess availability with contraction of global demand, primarily in the USA (with shale gas supply) and China (with fall in economic growth). At the same time, there is increased availability from the USA and the Organization of the Petroleum Exporting Countries (OPEC), despite falling prices.

Major Initiatives

- **Policy for Marginal Fields of ONGC and OIL:** The Government approved the Marginal Fields Policy (MFP) on 2nd September 2015 for the development of hydrocarbon discoveries made by national oil companies, i.e. ONGC and OIL. With this policy, it is expected that these fields can be brought into production, helping augment India's energy security.
- **Policy on Testing Requirements in New Exploration Licensing Policy (NELP) Production Sharing Contracts (PSC):** The government has approved a policy on Testing Requirement in with/without Drill Stem Test in NELP blocks on 29 April 2015. The policy has paved the way forward for 10 discoveries in the east coast offshore areas by resolving long-pending disputes associated with testing requirements. Reserves associated with these discoveries which are expected to get monetized are about three trillion cubic feet (TCF), with an associated value of ₹90,000 crore.

- **Early Production from new hydrocarbon discoveries:** Government has approved the policy framework to ease rigidities in PSCs and remove bottlenecks for early monetization of hydrocarbon discoveries. Forty pending cases have already been resolved under this policy framework.
- A Uniform Licensing and Open Acreage Policy with new contractual and fiscal regime is being formulated. The policy envisages three fundamental changes in the Exploration and Production (E&P) regime, i.e. single E&P licence for all forms of hydrocarbon, open acreage licensing system and simple and easy to administer revenue-sharing model.

Exploration of Unconventional Resources

- **Coal Bed Methane (CBM):** Out of the total available coal-bearing area of 26,000 sq. km for CBM exploration in the country, exploration has been initiated in about 17,000 sq. km. The estimated CBM resources in the country are about 92 trillion cubic feet (TCF), of which only 9.9 TCF has so far been confirmed. Commercial production of CBM in India has now become a reality with current production of about 1.0 million metric standard cubic metre per day (MMSCMD). In the next three years, CBM production potential is likely to increase to 5.7 MMSCMD. In order to augment CBM gas production, CIL and its subsidiaries have been authorized to undertake CBM operations in coalmining areas held by them.
- **Shale Oil and Gas:** Under the first phase of assessment of shale oil and gas, 50 Petroleum Exploration Lease (PEL)/ Petroleum Mining Lease (PML) blocks have been awarded to ONGC and five to OIL. These blocks are located in Assam (6), Arunachal Pradesh (1), Gujarat (28), Rajasthan (1), Andhra Pradesh (10), and Tamil Nadu (9). ONGC has drilled 14 wells for shale gas exploration. Commercial production of shale gas is yet to begin.

New And Renewable Energy

6.58 The renewable energy potential in the country has been assessed in the medium term at 8, 96,602 MW, which includes the potential from solar (7, 48,990 MW), wind (1, 00,000 MW), small hydro (20,000 MW) and biomass (26,800 MW) power. Apart from grid power requirement, renewable energy sources are also being used for distributed generation, lighting, pumping and motive power requirement in remote and inaccessible areas. India is graduating from Megawatts to Gigawatts in the generation of clean renewable energy. The target from various renewable energy sources has been increased to 175 GW by the year 2022. The major contributions are expected to be 100 GW from solar energy and 60 GW from wind energy.

6.59 3029.89 MW of grid-connected power generation capacity from renewable energy sources like solar and wind has been added so far this fiscal (April-December) in the country, taking the cumulative generation capacity to over 38,820 MW. In addition, 74.68 MW equivalents decentralized/ distributed systems have also been installed in the country for providing distributed generation, lighting, pumping and motive power requirements.

Major Initiatives:

i. Solar Rooftop: The government has scaled up the budget from ₹600 crore to ₹5000 crore for implementation of grid-connected rooftops systems over a period of five years up to 2019-20 under the National Solar Mission (NSM).

ii. Solar Parks: In pursuance of the Solar Parks Scheme announced by the government in Union Budget 2014-

15 for setting up of 25 solar parks and ultra mega solar power projects with an aggregate capacity of 20,000 MW in the next five years in various states, 34 solar parks with capacity of about 22,000 MW have been sanctioned in 22 states.

iii. Solar Projects under the NSM: In February 2015, the government has approved a scheme for setting up of 15,000 MW of grid-connected solar PV power projects under the NSM through NTPC Limited/NVVN (NTPC Vidyut Vyapar Nigam) in three tranches by the year 2018-19. As on 31 December 2015, NTPC Ltd. has issued tenders for 2750 MW including 400 MW with domestic content requirement.

iv. Solar Pumps: Against a target of installation of one lakh solar pumps for irrigation and drinking water, 1,21,524 solar pumps have been sanctioned as on 31 December 2015 and ₹419.73 crore released to various agencies. By January 2016, 15,500 solar pumps had been installed.

v. Solar Cities: Approval has been granted for 56 solar city projects against a target of 60 under the Development of Solar Cities Programme.

vi. The Surya Mitra scheme has been launched in May 2015 for creating 50,000 trained personnel within a period of five years (2015-16 to 2019-20).

6.60 In addition to the above, major policy initiatives taken by the government during the year include: (i) the National Offshore Wind Energy Policy 2015 to exploit the vast 7600 km coastline for development of offshore wind energy in the Indian Exclusive Economic Zone (EEZ), (ii) inclusion of renewable energy in the priority sector and bank loans up to ₹15 crore limit to borrowers categories for purposes like solar-based power generators, biomass-based power generators, windmills, micro-hydel plants and for non-conventional energy-based public utilities like street lighting systems, and remote village electrification and for individual households, up to ₹10 lakh per borrower to be covered under priority sector lending norms, (iii) Investments in renewable energy are on automatic route, i.e. automatic approval for up to 74 per cent foreign equity participation in a JV and 100 per cent foreign investment as equity is permissible with the approval of the Foreign Investment Promotion Board (FIPB), (iv) approval to the amendments in the National Tariff Policy 2005, inter alia adding promotion of renewable power as a key objective of the policy and enhancing Renewable Purchase Obligation (RPO) targets.

Railways

6.61 Indian Railways (IR) is faced with a number of challenges. For speedy capacity creation, IR recognizes the importance of enhancing project execution capabilities. Considering the enormity of the resources required for plan investment in rail infrastructure, and given the limitation of public resources, efforts are on by IR to generate sufficient internal surplus, and tap innovative methods of financing, to meet these needs. The focus is on prioritizing investments in important areas like dedicated freight corridors, high speed rail, high-capacity rolling stock, last mile rail linkages and port connectivity, and attracting private and FDI investments to supplement available resources.

Freight Performance

6.62 During 2015-16 (up to November) IR carried 720.17 million tonnes of revenue-earning freight traffic, as against a budget target of 775.77 million tonnes. This was up from the 711.19 million tonnes of freight carried during 2014-15 (up to November) by 8.98 million tonnes or 1.26 per cent.

Initiatives Taken

6.63 Various measures to improve passenger amenities, infrastructure and services, and initiatives under Make in India, freight initiative, resource mobilization initiative and green initiatives, etc. have been taken by IR (Box 6.5 for High Speed Train Project). Optical Fibre Cable (OFC) over 1098 route kilometres (RKM)has been laid. Cumulatively, 48,818 RKM optical fibre has been commissioned by IR, enabling a high-speed communication network. Integral Coach Factory, Chennai, has developed a first-of-its-kind stainless steel three-phase energy-efficient AC-AC transmission 1600 HP DEMU train set. Mobile application for freight operations--Parichaalan--has been introduced. IR has also installed solar panels on rooftops of coaches for the train lighting system in 2 broad gauge coaches and 4 narrow gauge coaches plying on the Pathankot-Joginder Nagar section in Kangra Valley, and 14 narrow gauge coaches plying on the Kalka-Shimla section on trial basis. Tenders and policy guidelines for 50 MW solar plants on rooftops of IR buildings have been issued.

6.64 Besides the Mumbai-Ahmedabad corridor, a Diamond Quadrilateral network of High Speed Rail connecting major metros and growth centres of the country was announced in the Railway Budget 2014-15. Feasibility Studies for the Delhi–Mumbai, Mumbai-Chennai, and Delhi-Kolkata corridors are underway.

Box 6.5: High Speed Train Project

The Japan International Cooperation Agency (JICA) which undertook the study on the feasibility of this prestigious project, submitted its report in July 2015. The project was approved by the Cabinet Committee on Economic Affairs, in December 2015, to be implemented with Japanese technical and financial assistance. The memorandum of understanding for cooperation between India and Japan was signed on 12 December 2015. A new special purpose vehicle with 50 per cent equity participation from the Ministry of Railways and 50 per cent from the state governments of Maharashtra and Gujarat was to be set up to implement the project.

Salient features of the project

- The total construction cost of the project is approximately ₹70, 915 crore including land cost. Project completion cost is approximately ₹97,636 crore (including price escalation, interest during construction and import duties). Average per km cost of construction works out to be ₹140 crore.
- Project implementation time will be approximately seven years from the commencement of construction.
- Japanese official development assistance will be ₹79, 165 crore (81 per cent of project cost) for 50 years with 0.1 per cent interest and a 15-year moratorium.
- Certain identified packages would have either a Japanese company as prime contractor or a Japanese-led JV.
- Certain identified goods manufactured in Japan would be procured from Japan.
- Total length of the proposed corridor will be 508 km between the Bandra Kurla complex in Mumbai and Sabarmati/ Ahmedabad in Gujarat.
- Sixty-four per cent of the corridor will be constructed on embankment, 25 per cent viaduct and 6 per cent tunnel, with a standard gauge.
- The stretch will cover 12 stations between Mumbai and Sabarmati.
- The maximum design speed will be 350 kmph with an operating speed of 320 kmph.
- It will have 10-car trains (750 seats) in the beginning and 16-car trains (1200 seats) in the future.
- Thirty-five trains per day each way will operate by 2023, which will go up to 105 trains per day each way in 2053.
- It will have approximately 36,000 daily users per day (both ways) in 2023, i.e. 13 million per annum projected, which will go up to 186,000 per day (both ways) or 68 million per annum by 2053.

Roads

6.65 With about 52.32 lakh km of road network comprising National Highways, State Highways and other roads, India has the second largest road network in the world. The National Highways (NH) in the country cover a total length of 1,00,475 km and carry about 40 per cent of the road traffic. The status of the National Highways Development Project (NHDP) as on December 31, 2015 is shown in the Table 6.9.

Major Initiatives

- The government has approved a scheme for the development of about 1177 km of NHs and 4276 km of state roads in Left Wing Extremism (LWE)-affected areas as a Special Project with an estimated cost of about ₹ 7300 crore.
- **Special Accelerated Road Development Programme for North-Eastern region (SARDP-NE):** The scheme has been envisaged as a three-part project: Phase A of the SARDP-NE approved by the government will take up improvement of about 4099 km road length s (2933 km of NH and 1166 km of state roads) by March 2017. Phase B, to be taken up after Phase A is completed, is to cover 3723 km (1285 km NHs and 2438 km state roads) of road.. The Arunachal Pradesh Package for Road & Highways involving development of about 2319 km road length (2205 km of NH and 114 km of state/general staff/strategic roads) has also been approved by the government.
- **Bharatmala programme:** Bharatmala is a proposed umbrella scheme at an estimated cost of ₹2,67,200 crore for (i) Development of State Roads along Coastal areas / Border areas, including connectivity of non-major ports, about 7000 km for ₹80,250 crore; (ii) Backward Areas, Religious, Tourist Places Connectivity programme, about 7000 km for ₹85,250 crore; (iii) Setubhratam Pariyojana which is for the construction of about 1500 major bridges and 200 ROBs / RUBs for ₹30,000 crore; and (iv) District Head Quarter Connectivity Scheme for development of about 9000

Table 6.9: Status of National Highways

Sl. No.	NHDP component	Total length(km)	Completed length(km) as on 31.12.2015	Under implementation (km)	Balance for award of civil works (km)	Estimated cost (₹ crore)
1.	GQ under NHDP Phase I	5846	5846	0	0	30300 (NHDP Phase I) + 34339 (NHDP Phase II) = 64639
2.	NS-EW Corridors under NHDP Phase I & II	7142	6422	463	257	
3.	Port Connectivity under NHAI	431	379	52	0	
4.	Other NHs with NHAI	1844	1578	266	0	
5.	NHDP Phase III	12608	6734	3402	2472	80626
6.	NHDP Phase IV	20000	2877	7483	9640	27800
7.	NHDP Phase V	6500	2319	1356	2825	41210
8.	NHDP Phase VI	1000	0	0	1000	16680
9.	NHDP Phase VII	700	22	19	659	16680
	Sub Total (NHDP)	**56071#**	**26177**	**13041**	**16853**	**247635**

Source: **Ministry of Road, Transport and Highways.**

Notes: # included 48,647 km of total NHs, 24 km length of Chennai—Ennore port connectivity road, 700 km NH length under NHDP –VII, other than overlapping length of NHs (5700 km NH length is common under NHDP-I and NHDP-V, 1000 km proposed Expressway under NHDP-VI). NHAI is National Highways Authority of India.

km newly declared NHs for ₹60,000 crore. The programme is targeted for completion by 2022.

Civil Aviation

6.66 The civil aviation industry in India is experiencing a new era of expansion, driven by factors such as increasing private participation under Public Private Partnership (PPP), development of greenfield airports, restructuring and modernization of airports, FDI in domestic airlines, increase in number of Low Cost Carriers (LCCs) and emphasis on regional connectivity, coupled with cutting-edge information technology interventions.

6.67 There has been strong growth in traffic at Indian airports during 2015-16. During April-November 2014, 108.5 million domestic passengers and 35.2 million international passengers were handled at Indian airports. Domestic traffic increased by 20.4 per cent and international passengers by 7.8 per cent during April-November 2015over the same period of the previous year. International cargo throughput at Indian airports was 1.10 million metric tonnes while domestic cargo throughput stood at 0.70 million metric tons. International cargo throughput increased by 5.8 per cent and domestic by 6.1 per cent in April-November 2015as compared to the corresponding period of the previous year.

6.68 As regards airport infrastructure during 2015-16, the Airport Authority of India (AAI) has completed development of Kadapah Airport, the New Civil Air Terminal at Chandigarh (Mohali side) and the New Integrated Terminal building at Tirupati Airport with apron and associated works. Major initiatives have been taken to augment airport infrastructure: (a) commissioning of the greenfield Kazi Nazrul Islam Airport at Andal in West Bengal; (b) signing of MoU for engaging Changi airport, Singapore, for executing Operations and Maintenance (O&M) contracts at Ahmedabad and Jaipur airports; (c) 'in-principle' approval for setting up of a greenfield airport at Dholera in Gujarat; (d) 'site clearance' for setting up of greenfield airports at four locations, namely Bhiwadi (Alwar) in Rajasthan and Bhogapuram, Dagadarthi and Oravakallu in Andhra Pradesh; (e) greenfield airports at Mopa in Goa, Navi Mumbai ,Shirdi and Sindhudurg in Maharashtra, Shimoga, Hasan and Bijapur in Karnataka, Kannur in Kerala, Pakyong in Sikkim, Holongi (Itanagar) in Arunachal Pradesh, Datia in Madhya Pradesh, Kushinagar in Uttar Pradesh and Karaikkal in Puducherry are at various stages of planning/ execution; (f) development of small airports in tier-II and tier-III cities, namely Hubli and Belgaum in Karnataka, Kishangarh in Rajasthan, Jarsuguda in Odisha and Tezu in Arunachal Pradesh is progressing.

Shipping Sector

6.69 A vision document for Coastal Shipping, Tourism and Regional Development has been prepared with a view to increasing the share of coastal/inland waterways transport mode from 7 per cent to 10 per cent by 2019-20. An action plan to achieve the objective has also been prepared and is being implemented. An ambitious programme has been drawn up to develop 78 lighthouses in the country as centres of tourism in the first phase under PPP. The identified lighthouses are in Gujarat, Maharashtra, Goa, Karnataka, Kerala, Lakshadweep, Tamil Nadu, Puducherry, Andhra Pradesh, Odisha, West Bengal and Andaman and Nicobar Islands.

6.70 The cargo traffic of Indian ports increased by 8.2 per cent to 1052.2 million tonnes in 2014-15, with traffic at non-major ports increasing at a faster rate than at major ports. During April to September 2015, while cargo traffic at all ports increased by 1.1 per cent, major ports reported an increase of 4.1 per cent and non-major ports a decline of 1.0 per cent as compared to the corresponding period in 2014-15 (Table 6.10).

Table 6.10: Cargo Traffic at Ports (million tonnes)

Category	2013-14	2014-15 (P)	April - September	
			2014-15 (P)	2015-16 (P)
Major ports	555.49 (1.8)	581.33 (4.7)	287.74 (3.8)	299.58 (4.1)
Non-major ports	416.96 (7.5)	471.19 (13.0)	228.14 (11.8)	225.92 (-1.0)
All ports	972.45 (4.1)	1052.52 (8.2)	515.88 (7.2)	525.50 (1.1)

Source: **Ministry of Shipping**

Note: **Figures in parenthesis indicate percentage growth over previous year.**

P- Provisional

Inland Waterways Transport Sector

6.71 The Inland Waterways Transport (IWT) sector remained dormant for a long time and lost its relevance and importance in the overall transport sector. Considering its potential in terms of fuel savings, environment friendliness and cost effectiveness for transportation of bulk goods, dangerous goods, etc., it is necessary that wherever potential for IWT corridors exists, this mode is developed with basic infrastructure so that its utilization is increased for transportation of cargo and passengers.

6.72 Various actions are being taken to develop IWT infrastructure and the focus is on cargo- related projects. A significant step in creation of IWT infrastructure is implementation of the Jal MargVikas Project with World Bank assistance of ₹4200 crore. After commissioning of NTPC's Haldia - Farakka coal transportation project by a private sector company, the Inland Waterways Authority of India (IWAI) is working on a project for transportation of 3 MMTPA imported coal from the Bay of Bengal to the Barh power plant of NTPC. To provide a thrust to the IWT sector, on the legislative front, it has been decided that in addition to the existing 5 national waterways, 106 more waterways across 24 states would be declared as National Waterways and a bill was passed to this effect by the Lok Sabha in the winter session of Parliament.

Telecommunications

6.73 Growth of telecommunications is one of the key drivers of socio-economic development. The performance of the telecommunications sector during 2015-16 has been encouraging, with approximately 33.4 million new telephone connections added during April to October 2015, which is way ahead of the 29.65 million increase in number of connections in the corresponding period of 2014-15. Overall tele density in the country has increased from 79.4 per cent at the beginning of the financial year to 81.5 per cent at the end of October 2015, while total broadband connections have touched 120.9 million (at end-September 2015).

Spectrum Auction

6.74 The Department of Telecommunications (DoT) conducted auction of spectrum in March 2015 simultaneously in 2100 MHz, 1800 MHz, 900 MHz and 800 MHz bands. Total spectrum on offer was 470.75 MHz, out of which 418.05 MHz (88.8 per cent) was allocated to bidders. The value realized was ₹1,09,874.91 crore (67.8 per cent more than the value of the allocated spectrum at reserve price). Collection of spectrum usage charges during 2015-16 (up to November 2015) is ₹5568.40 crore.

Machine to Machine Communications

6.75 The Government recognizes the futuristic role of machine to machine communication (M2M) to facilitate the role of new technologies in furthering public welfare and enhanced customer choices through affordable access and efficient service delivery. A 'National Telecom M2M Roadmap' has been prepared putting together various standards, policy and regulatory requirements and approach for the industry on how to look ahead to M2M. The roadmap was released on 12th May 2015 and is expected to work as a reference document for all M2M eco-system partners and will augment the policy goals of Make in India and Digital India.

Major New Initiatives

- **BharatNet:** BharatNet / National Optical Fibre Network (NOFN) project is planned to connect all gram panchayats (approximately 2.5 lakh) in the country through optical fibre, utilizing existing fibre of PSUs, namely BSNL, RailTel and Power Grid, and laying incremental fibre wherever necessary. This will bridge the connectivity gap between gram panchayats and blocks and provide broadband connectivity. Access providers/service providers like mobile operators, Internet Service Providers (ISP), cable TV operators, content providers can launch various services in rural areas. Various applications for e- health, e-education, e-governance etc. will be provided. Under this project, up to 30th November 2015, 1,03,643 km of pipes and 74,994 km of optical fibre cables (OFC) have been laid. Further, OFC has been laid in 32,049 gram panchayats.
- **Rural Wireline Broadband Scheme for provision of Broadband Connections:** The Rural Wireline Broadband Scheme provides wireline broadband connectivity to rural and remote areas. As on October 31, 2014, a total of 6,35,929 broadband connections have been provided and 14,653 kiosks have been set up under the scheme in rural and remote areas.

Urban Infrastructure

6.76 With increasing urbanization, opportunities as well as challenges related to urban infrastructure are also increasing. In this context, the government has taken various steps to improve urban infrastructure. Box 6.6 discusses the Smart Cities Mission, a flagship programme for urban development. A number of initiatives have been taken to encourage public transport, for example Bus Rapid Transit Systems (BRTS) approved for 11 cities under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM), to equip buses with Intelligent Transport System (ITS) and Metro Rail Projects.

New Initiatives

- Swachh Bharat Mission (SBM): The SBM aims at making India free from open defecation and at achieving 100 per cent scientific management of municipal solid waste in 4041 statutory towns/ cities in the country. The targets set for the mission which have to be achieved by 2 October 2019 are: construction of 1.04 crore individual household latrines (IHHL), 2.52 lakh community toilet (CT) seats and 2.56 lakh public toilet (PT) seats; and achieving 100 per cent door-to-door collection and scientific management of municipal solid waste (MSW). The estimated cost of implementation of the SBM is ₹62,009 crore. As on 1 December 2015, 5.91 lakh IHHLs and 28,948 community and public toilets have been completed under the SBM. In 33,278 wards out of a total of 78,633, 100 per cent door-to-door collection is taking place under Municipal Solid Waste Management and 17.62 per cent of the total waste generated is being processed.
- National Heritage City Development and Augmentation Yojana (HRIDAY): The HRIDAY scheme aims at preserving and revitalizing the soul and unique character of heritage cities in India. In the first phase, with a total outlay of ₹500 crore fully funded by the central government, twelve cities--Ajmer, Amaravati, Amritsar, Badami, Dwarka, Mathura, Puri, Varanasi, Velankanni, Kanchipuram, Gaya and Warangal--have been identified for development.
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT): AMRUT was launched on June 25, 2015 with the objective of improving basic urban

Box 6.6: Smart Cities

The Government of India has launched a mission on Smart Cities, with the collaboration of states and UTs for implementation of the flagship programme for urban development. The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to smart outcomes.

The Smart Cities Mission targets promoting cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'smart' solutions. The focus is on sustainable and inclusive development and the idea is to look at compact areas and create a replicable model which will act like a lighthouse to other aspiring cities. The core infrastructure development in a smart city includes adequate water supply; assured electricity supply; sanitation, including solid waste management; efficient urban mobility and public transport; affordable housing, especially for the poor; robust IT connectivity and digitalization; good governance, especially e-Governance and citizen participation; sustainable environment; safety and security of citizens, particularly women, children and the elderly; and health and education.

Strategy

The strategic components of area-based development in the Smart Cities Mission are city improvement (retrofitting), city renewal (redevelopment) and city extension (greenfield development) plus a pan-city initiative in which smart solutions are applied covering larger parts of the city. Retrofitting will introduce planning in an existing built-up area to achieve smart city objectives, along with other objectives, to make the existing area more efficient and liveable. In retrofitting, an area consisting of more than 500 acres will be identified by the city in consultation with citizens. Redevelopment will effect a replacement of the existing built-up environment and enable co-creation of a new layout with enhanced infrastructure using mixed land use and increased density. Redevelopment envisages an area of more than 50 acres, identified by ULBs in consultation with citizens. Greenfield development will introduce most of the smart solutions in a previously vacant area (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor. Greenfield development is required around cities in order to address the needs of the expanding population.

Finance

The Mission will cover 100 cities which have been distributed among the states and UTs on the basis of equitable criteria. The distribution of smart cities will be reviewed after two years of the implementation of the mission. Based on an assessment of the performance of states/ULBs in the challenge, some reallocation of the remaining potential smart cities among states may need to be done by the Ministry of Urban Development (MoUD). The Smart City Mission will be operated as a Centrally Sponsored Scheme and the central government proposes to give it financial support to the extent of ₹48,000 crore over five years, i.e. on an average ₹100 crore per city per year. An equal amount, on a matching basis, will have to be contributed by the state/ULB; therefore, nearly ₹one lakh crore of government/ULB funds will be available for smart cities development. In the first phase of implementation, twenty cities have been shortlisted to roll out the programme.

The pace of migration from the rural areas to the cities is increasing. A neo middle class is emerging which has aspirations of better living standards. With all these challenges to the successful implementation of the mission, the centre of attention is the citizen. In other words, a smart city will work towards ensuring the best for all people, regardless of social status, age, income levels and gender, only when citizens will actively participate in governance and reforms. Smart Cities Mission requires involvement of smart people involve themselves in the process of making decisions on deploying smart solutions, implementing reforms, doing more with less, maintaining oversight during implementation and designing post-project structures in order to make the smart city developments sustainable.

infrastructure in 500 cities/ towns which will be known as mission cities/towns. The total outlay for AMRUT, which is being operated as a Centrally Sponsored Scheme (CSS), is ₹50,000 crore for five years from financial year 2015-16 to 2019-20. Cities with a population of 10 lakh or above are entitled to central assistance of one-third of the project cost and all other cities, one half of the project cost. Balance funding is to be arranged by state governments/ urban local bodies (ULB), including through private investment.

Moving Towards Higher Industrial Growth

6.77 Supply-side bottlenecks, infrastructural and structural constraints hindering the achievement of medium-term growth and job creation, are being addressed on priority basis. Programmes like Make in India, Ease of Doing Business, Skill India, Startup India and reforms in various industrial and infrastructure sectors are some of the major initiatives in the direction of attracting more investment to ensure high industrial growth. Make in India and Ease of doing Business in India are focusing on more and faster industrial growth while Startup India aims at nurturing an entrepreneurial mind set among youth in an inclusive manner.

Startup India: Wings to Fly above the Sky

6.78 Startup India is a flagship initiative of the Government of India to build a strong ecosystem for nurturing innovation, driving sustainable economic growth and generating large-scale employment opportunities. Apart from the technology sector the start-up movement will extend to a wide array of other sectors including agriculture, manufacturing, healthcare and education.; and from existing tier 1 cities will extend to tier 2 and tier 3 cities including semi-urban and rural areas.

Proposed Action Plans under Startup Initiative:

- Creating a compliance regime based on self-certification to reduce the regulatory burden on start-ups, thereby allowing them to focus on their core business and keep compliance cost low.
- Setting up Startup India hub to create a single point of contact for the entire Startup ecosystem and enable knowledge exchange and access to funding.
- Rolling out of mobile app and portal to serve as the single platform for start-ups to interact with government and regulatory institutions for all business needs and information exchange among various stakeholders.
- Relaxed norms of public procurement for start-ups to provide an equal platform to start-ups (in the manufacturing sector) vis-à-vis entrepreneurs/ companies experienced in public procurement
- Legal support and fast-tracking of patent examination at lower costs to promote awareness and adoption of Intellectual Property Rights (IPR) by start-ups and facilitation for them in protecting and commercializing the IPRs
- Faster exit for start-ups
- Providing funding support through a fund of funds with a corpus of ₹10,000 crore
- Credit Guarantee Fund for start-ups to catalyse entrepreneurship by providing credit to innovators across all sections of society
- Tax exemption on capital gains
- Tax exemption for three years
- Launch of Atal Innovation Mission with (SETU) programme to serve as a platform for promotion of world-class innovation hubs, start-up businesses and other self-employment activities, particularly in technology-driven areas
- Building innovation centres at national institutes to propel successful innovation through augmentation of incubation and R&D efforts
- Setting up of 7 new research parks modelled on the research park at IIT Madras
- Promoting start-ups in the biotechnology sector to foster and facilitate bio-entrepreneurship
- Launching of innovation-focused programmes for students to foster a culture of innovation in the field of science and technology

6.79 Startup India will turn Indian youths from job seekers into job creators. It will encourage entrepreneurship, innovation and creation of revolutionary new products in India, that will be used by people around the world.

Services Sector

07
CHAPTER

The services sector has emerged as the most dynamic sector of the world economy, contributing almost one-third of world gross value added, half of world employment, one-fifth of global trade and more than half of the world foreign direct investment flows. It remains the key driver of India's economic growth, contributing almost 66.1 per cent of its gross value added growth in 2015-16, important net foreign exchange earner and the most attractive sector for foreign direct investment inflows. However, the global slowdown has cast a shadow even on this promising sector.

International Comparison

World Services GVA

7.2 In the US$ 74.0 trillion world gross value added (GVA) in 2014, the share of services (at current prices), and growth rate (at constant prices), improved marginally to 66.0 per cent and 2.5 per cent respectively over 2013. But in the last thirteen years, the share of services in world GVA has declined by 2.7 percentage points (pp). Among the world's top 15 countries in terms of gross domestic product (GDP), the US ranks first in both services GVA and overall GDP, followed by China in second and Japan in third position. India ranked ninth in terms of overall GDP and tenth in terms of services GVA in 2014, climbing one rung in both rankings. However, among these top 15 nations, in the period 2001-13, the maximum increase in services share to GVA was recorded by Spain (9.7 pp), followed by India (7.8 pp) and China (6.8 pp).

7.3 As in the case of overall GDP, services GVA also did not fully recover from the impact of the 2008 global financial crisis with a general slowdown trend in the growth rate of services for the world and across nations (except Brazil) in the post crisis period (2010-14) compared to the pre-crisis period (2001-8). Brazil was an exception, showing good growth in services in 2012 and 2013, which in turn was due to very high growth in the wholesale, retail trade, restaurants and hotels category. The compound annual growth rate (CAGR) of world services in the post crisis period (2010-14) at 2.5 per cent was lower than the 3.0 per cent in the pre-crisis period (2001-8). Despite the slowdown in the post crisis period, India showed the fastest service sector growth with a CAGR of 8.6 per cent, followed by China at 8.4 per cent. In 2014 India's service sector growth at 10.3 per cent was noticeably higher than that of China at 8.0 per cent (Table 7.1).

7.4 Latest GDP estimates available for some countries show positive signs for the services sector in China, India and the US. In China, there was a rise in the growth rate of the sector to 8.3 per cent in 2015, while industrial growth slowed down. In the US, real GDP growth in 2015 was 2.4 per cent,

the same as in 2014, but growth of personal consumption expenditure on services accelerated to 2.8 per cent from 2.4 per cent in 2014. In India, the growth rate in the sector was at 10.3 per cent in 2014. It continued to be high though there was slight deceleration at 9.2 per cent in 2015-16. However, in the case of Brazil, in line with the fall in overall growth by 4.5 per cent in the third quarter (Q3) of 2015, services growth also fell by 2.9 per cent, mainly due to a 9.9 per cent drop in internal trade and a 7.7 per cent fall in transportation and communication. In both the first and second quarters (Q1 and Q2) of 2015, services growth in Brazil fell by 0.7 per cent.

World Services Employment

7.5 As per the World Bank, the share of services in global employment has increased by 15 pp from 35.9 per cent in 2001 to 50.9 per cent in 2010. Among the top 15 services producer countries, the share of services in employment is high, contributing more than two-thirds of total employment in 2014 in most of them except India and China, where the shares are low. India has the lowest share of 28.7 per cent. Of the 15 countries, in the last 13-year period between 2001 and 2014, China had the highest increase in the share of services employment (34.3 pp), followed by Brazil (17.2 pp) and Spain (14.3 pp). For India, the increase was by only 4.7 pp (Figure 7.1).

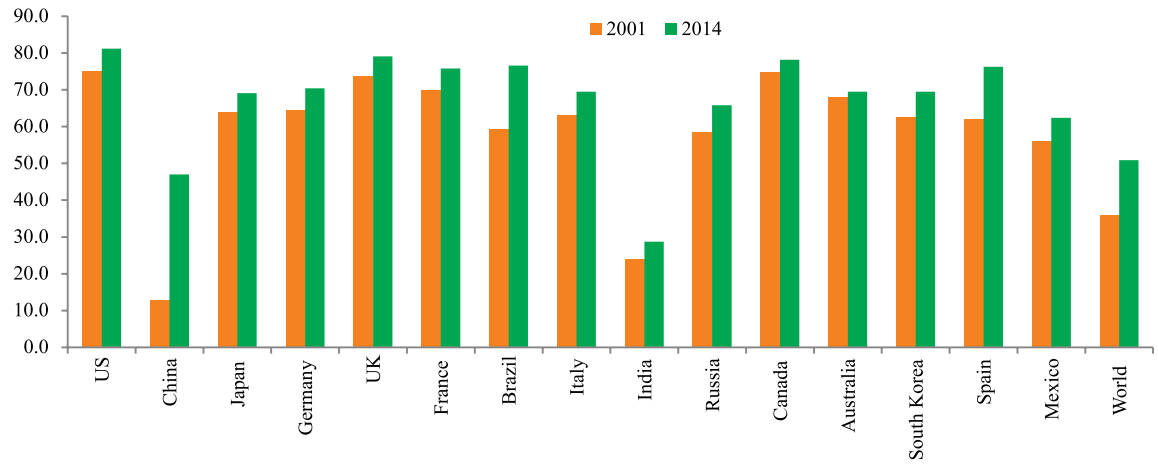
Table 7.1: Performance in Services: International Comparison

Country	Rank in		Services growth rate (per cent) Y-o-Y						Share of services in						Services export growth (per cent) Y-o-Y					
	Overall GDP	Services GVA	2001	2009	2013	2014	CAGR 2001-08	CAGR 2010-14	GVA 2001	GVA 2014	employ-ment 2001*	employ-ment 2014*	total exports 2001	total exports 2014	2001	2009	2013	2014	CAGR 2001-08	CAGR 2010-14
US	1	1	2.0	-2.0	0.9	2.3	2.2	1.8	77.4	78.4	75.0	81.2	27.2	29.8	-3.6	-4.2	5.1	3.7	9.5	6.1
China	2	2	10.2	11.1	8.2	8.0	11.7	8.4	40.9	47.7	12.7	47.0	11.0	9.0	9.1	-13.4	-3.9	12.4	25.9	7.9
Japan	3	3	1.3	-3.1	1.3	0.1	0.9	0.9	69.0	72.0	63.9	69.1	13.6	18.8	-6.9	-14.6	1.2	19.2	11.8	5.2
Germany	4	4	3.1	-3.0	0.4	1.3	1.4	1.3	68.7	69.0	64.6	70.4	12.8	15.0	5.6	-8.5	8.4	4.3	15.8	4.9
UK	5	5	3.5	-2.6	2.8	2.8	2.9	2.6	73.6	78.4	73.7	79.1	30.1	40.0	-0.8	-13.8	2.3	7.9	14.5	5.8
France	6	6	1.9	-2.0	0.8	0.7	1.8	1.2	74.7	78.9	69.9	75.8	19.8	31.4	-0.5	-13.6	7.4	5.3	15.8	7.4
Brazil	7	8	2.3	2.1	11.9	1.1	3.9	6.9	68.2	71.0	59.4	76.6	13.0	14.8	-2.7	-8.9	-1.7	4.7	18.6	6.8
Italy	8	7	2.3	-2.7	-1.1	0.0	0.8	-0.6	70.5	74.3	63.1	69.5	18.9	18.0	2.1	-16.3	4.8	3.6	10.5	3.8
India	9	10	7.2	10.7	8.9	10.3	9.3	8.6	45.2	53.0	24.0	28.7	27.9	32.6	4.8	-12.5	2.2	5.0	30.1	7.5
Russia	10	12	3.3	-5.1	2.2	1.0	7.6	2.6	55.9	60.0	58.6	65.8	9.9	11.5	17.3	-19.8	12.4	-6.1	26.0	7.5
Canada	11	9	3.5	1.2	1.9	2.4	2.9	2.3	65.9	69.9	74.8	78.2	12.7	15.2	-3.6	-8.7	-0.1	-4.0	9.9	3.0
Australia	12	11	3.8	1.8	2.8	2.6	3.4	2.8	69.9	70.1	67.9	69.5	21.8	18.1	-8.9	-7.6	-0.8	1.5	13.3	3.9
S. Korea	13	14	4.9	1.4	2.9	3.1	4.2	3.0	59.0	59.4	62.6	69.5	16.3	15.6	-4.9	-20.5	0.2	3.1	17.4	6.6
Spain	14	13	4.0	-0.9	-0.8	1.1	3.9	0.4	65.3	75.1	62.0	76.3	32.2	29.2	6.0	-14.8	5.0	4.3	13.2	4.6
Mexico	15	15	1.1	-3.7	2.3	2.0	3.6	3.4	57.6	59.0	56.1	62.4	7.2	5.0	-7.5	-16.1	24.6	4.6	5.3	8.4
World			**2.6**	**-0.8**	**2.2**	**2.5**	**3.0**	**2.5**	**68.7**	**66.0**	**35.9**	**50.9**	**19.4**	**20.6**	**19.9**	**-10.9**	**5.4**	**4.9**	**15.0**	**6.4**

Source: **Computed from UN National Accounts Statistics for GDP/GVA, World Bank database for employment and World Trade Organization (WTO) database for services trade.**

***Notes*: Rank and share are based on current prices (2014); growth rates are based on constant prices (US$); construction sector is excluded in services GDP; * for employment data in 2001 and 2014, the available data of nearest preceding years is used.**

Figure 7.1: Share of Services Employment: 2001 and 2014



Source: **Based on World Bank data**

As per the International Labour Organization's (ILO) Report on 'Global Employment and Social Outlook: Trends 2015', job creation in the coming years will be mainly in the services sector.

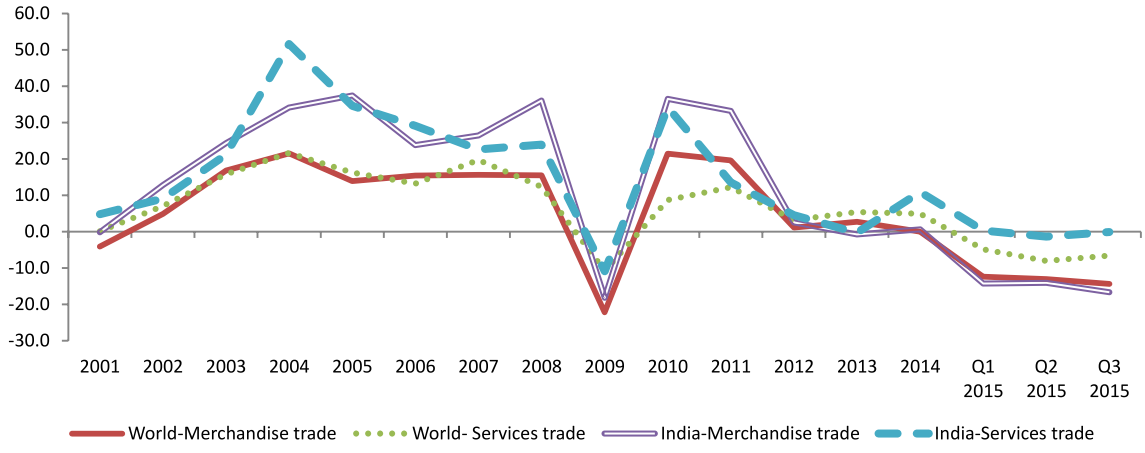
World Services Trade

7.6 The impact of the global financial crisis was more pronounced in services trade than services GVA, with the CAGR of world commercial services exports during the post-crisis period decelerating to 6.4 per cent compared to the 15.0 per cent during the pre-crisis period. In the pre-crisis period, among the top 15 services producer countries, the services exports CAGR of India was the fastest at 30.1 per cent, followed by China at 25.9 per cent. However, during the post crisis period, it decelerated in both India and China, with Mexico registering the highest growth at 8.4 per cent, followed by China at 7.9 per cent and India at 7.5 per cent.

7.7 In 2014, the growth of the US$ 4.9 trillion world commercial services exports contributing almost one-fifth of total trade, decelerated to 4.9 per cent from 5.4 per cent in 2013. While, services exports of the United States, the largest exporter of commercial services, decelerated to 3.7 per cent in 2014, those of Japan, China, and the UK, accelerated to 19.2 per cent, 12.4 per cent and 7.9 per cent respectively, due to base effect. India's services exports also accelerated to 5.0 per cent.

7.8 As per the latest World Trade Organization (WTO) data for 2015, services trade growth is in negative territory from Q1 to Q3 for the world and in Q2 and Q3 for India. The situation is similar in many important services trading countries. Merchandise trade growth figures show a steeper fall than services trade growth in Q1 to Q3 of 2015 as in 2009 for both the world and India. In the first three quarters of 2015, there was negative growth in world commercial services exports at - 4.9 per cent, - 8.1 per cent and - 6.6 per cent respectively. During these periods, services export growth of the US was positive for two quarters and negative for one quarter at 3.4 per cent, -0.8 per cent and 1.3 per cent respectively, whereas for the EU, it was highly negative at -10.1 per cent, -12.3 per cent and -9.4 per cent respectively. Significant declines in exports and imports of EU in 2015 are due two depreciation of the euro against the US dollar. India's services trade growth was negative at - 1.4 per cent and - 0.1 per cent in Q2 and Q3 of 2015, but services export growth, though low, was positive at 2.3 per cent, 0.4 per cent and 1.0 per cent in Q1, Q2 and Q3 of 2015 respectively (Figure 7.2).

Figure 7.2: Growth of Merchandise and Services Trade: World and India



Source: **Based on WTO data.**

Foreign Direct Investment in World Services Sector

7.9 According to the Global Investment Trend Monitor January 2016 Edition of the United Nations Conference on Trade and Development (UNCTAD), global foreign direct investment (FDI) flows jumped 36 per cent in 2015 to an estimated US$1.7 trillion, which is the highest since the global economic and financial crisis of 2008-9. However, the growth was largely due to cross-border mergers and acquisitions (M&A), with only a limited contribution from greenfield investment projects in productive assets. Moreover, a part of the FDI flows was related to corporate reconfigurations involving large values in the financial account of the balance of payments, with little movement in actual resources. As per the World Investment Report 2015, the shift towards services FDI has continued over the past 10 years in response to increasing liberalization in the sector, the increasing tradability of services and the growth of global value chains in which services play an important role. In 2014, services accounted for 51 per cent of global FDI projects. Globally, the services sector recorded a high growth in the value of cross-border M&As (37 per cent), against a decrease in the value of greenfield projects (-15 per cent). FDI in China and India at US$129 billion and US$34 billion, increased by 4 per cent and 22 per cent respectively over 2013, mainly due to increase in FDI in the services sector.

India's Services Sector

7.10 The services sector in India remained the most vibrant sector in terms of contribution to national and state incomes, trade flows, FDI inflows, and employment. India's services sector covers a wide variety of activities such as trade, hotel and restaurants, transport, storage and communication, financing, insurance, real estate, business services, community, social and personal services, and services associated with construction.

Services GVA and Gross Capital Formation

7.11 As per the first revised estimates (RE) of real gross value added (GVA) released by the Central Statistical Office (CSO) for the year 2014-15, i.e. GVA at constant (2011-12) basic prices, services sector growth accelerated to 10.3 per cent from 7.8 per cent in the previous year. This growth acceleration was mainly due to higher growth in sub-sectors like trade, repair, hotels & restaurants (10.7 per cent), financial services (7.9 per

cent), public administration and defence (9.8 per cent) and other services (11.4 per cent) (Table 7.2).

7.12 In 2015-16, as per the advance estimates (AE), the services sector accounting for 53.3 per cent of India's GVA at basic prices (current prices), grew by 9.2 per cent (constant prices), marginally lower than in 2014-15. The slight slowing down was mainly due to the deceleration in growth of the combined category of public administration, defence and other services to 6.9 per cent from 10.7 per cent in 2014-15.

7.13 As in the case of total gross capital formation (GCF) to GVA, the rate of GCF to GVA at current (2011-12) prices in the services sector also declined marginally from 40.1 per cent in 2013-14 to 39.3 per cent in 2014-15. However, the share of the services sector in the GCF has increased consistently over the last four years from 53.3 per cent in 2011-12 to reach 58.3 per cent in 2014-15, with services GCF growing at 8.7 per cent in 2014-15 compared to total GCF growth of 5.6 per cent.

State-wise Comparison of Services

7.14 Out of the 33 states and union territories(UT) for which data is available, the services sector is the dominant sector contributing more than half of the gross state domestic products (GSDP) in 21 states and UTs and more than 40 per cent in all states except Sikkim and Arunachal Pradesh. The major services in most of the states are trade, hotels and restaurants, followed by real estate, ownership of dwellings and business services.

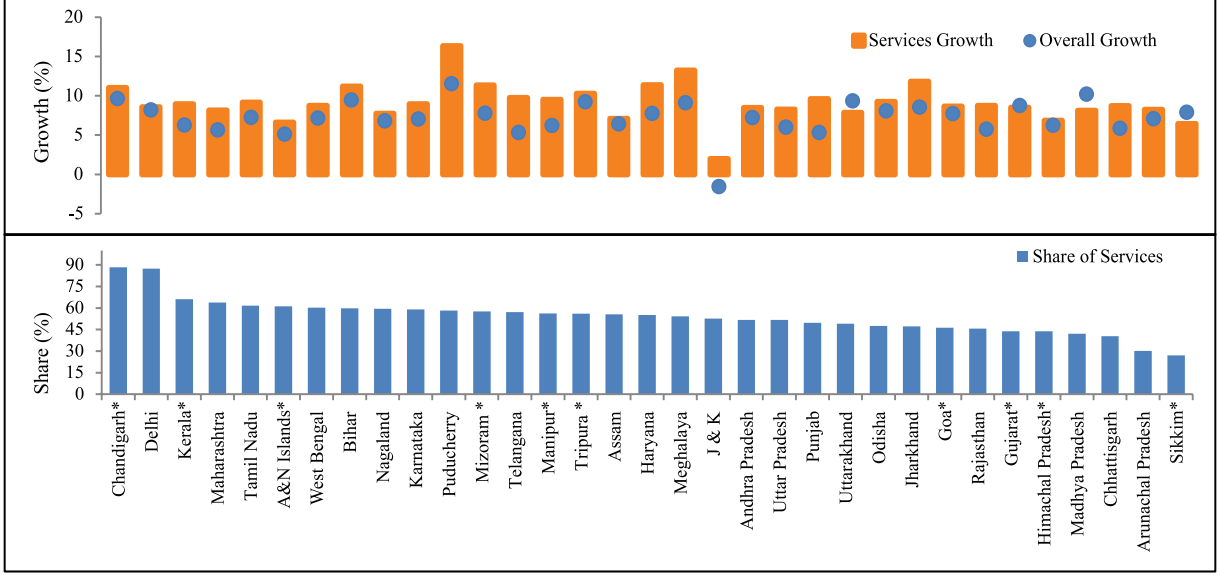
Table 7.2: Share and Growth of India's Services Sector (GVA at basic price)

	GVA (per cent)			GCF (per cent)	
	2013-14	**2014-15®**	**2015-16#**	**2013-14**	**2014-15®**
Total Services	**50.9(7.8)**	**52.6(10.3)**	**53.3 (9.2)**	**56.5(5.1)**	**58.3(8.7)**
Trade, repair, hotels and restaurants	11.5(7.2)	11.8(10.7)	18.6 (9.5)*	7.4(-26.9)	8.9(25.0)
Trade & repair services	10.5(7.7)	10.7(10.8)	NA	6.7(-28.4)	7.5(18.9)
Hotels & restaurants	1.0(2.4)	1.1(9.5)	NA	0.8(-10.6)	1.3(77.2)
Transport, storage, communication & services related to broadcasting	6.7(8.7)	6.9(8.4)	NA	8.9(24.2)	8.9(4.8)
Railways	0.8(6.0)	0.8(7.7)	NA	1.2(6.9)	1.4(22.4)
Road transport	3.2(6.2)	3.2(6.3)	NA	1.8(-46.4)	0.8(-50.4)
Air transport	0.1(8.7)	0.2(12.8)	NA	0.1(-16.1)	0.2(94.1)
Financial services	5.8(4.8)	5.7(7.9)	20.6(10.3)^	0.9(-3.4)	1.2(35.3)
Real estate, ownership of dwelling & professional services	14.3(12.5)	14.9(11.8)	NA	25.3(7.2)	23.8 (-1.0)
Public administration and defence	5.9(3.2)	6.2(9.8)	14.1 (6.9)@	8.6(14.9)	9.9(21.2)
Other services	6.7(5.6)	7.2(11.4)	NA	5.3(19.0)	5.7(14.0)
Construction	9.0(4.6)	8.8(4.4)	8.2 (3.7)	5.4(-28)	5.4(4.6)
Total services (+ construction)	59.8(7.3)	61.4(9.4)	61.5 (8.4)	62.0(1.0)	63.7(8.4)
TOTAL (All Sectors)	**100.0(6.3)**	**100.0(7.1)**	**100.0 (7.3)**	**100(2.1)**	**100(5.6)**
GDP (market price constant 2011-12)	**(6.6)**	**(7.2)**	**(7.6)**		

Source: **Computed from CSO data.**

Notes: Shares are in current prices and growth in constant 2011-12 prices; Figures in parentheses indicate growth rate; ®First RE; #AE for 2015-16; * Also includes transport, storage, communication & services related to broadcasting; ^ Also includes real estate and professional services; @ Also includes other services.

Figure 7.3: Share and Growth of the Services Sector in 2014-15



Source: **Computed from CSO data.**

Note: **Share at current prices, growth rate at constant (2004-5) prices; * indicates 2013-14 data.**

Out of the 23 states and UTs for which data is available for 2014-15, Delhi is at the top in services GSDP with a share of 87.5 per cent followed by Maharashtra at 63.8 per cent, with growth rates of 8.2 per cent and 5.7 per cent respectively. Puducherry had the highest services growth at 16.3 per cent followed by Meghalaya at 13.2 per cent, owing to increase in growth rate of high weighted sectors like trade, hotels and restaurants and real estate and business services in the case of the former and other services in the case of the latter. Jammu and Kashmir had the lowest services growth at 2.0 per cent, mainly due to low and negative growth in most of the sectors except public administration. Bihar's services sector growth was among the fastest with a consistent double-digit growth in the last seven years due to high growth in the high weighted sectors like trade, hotels and restaurants, and real estate and business services besides transport by other means (Figure 7.3).

FDI in India's Services Sector

7.15 There has been a significant growth in FDI inflows in 2014-15 and 2015-16 (Apr-Oct) in general and to the services sector in particular. 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 under services sector, telecommunications, trading, computer hardware and software, construction, hotels and tourism, hospital and diagnostic centres, consultancy services, sea transport, information and broadcasting can be taken as the best estimate of services FDI, though it could include some non-service elements. This share is 53.3 per cent of the cumulative FDI equity inflows during the period April 2000-October 2015 and 53 per cent during 2014-15. If the shares of some other services or service-related sectors like retail trading, ports, agriculture services, education, and air transport are included, then the total share of cumulative FDI inflows to the services sector would increase to 55.6 per cent and 54.5 per cent respectively for the above two periods (Table 7.3).

7.16 In 2014-15, while total FDI equity inflows grew by 27.3 per cent to US$ 30.9 billion, FDI equity inflows to the

services sector (top 10 services including construction) grew by a whopping 70.4 per cent to US$16.4 billion. This rising trend is continuing in the first seven months of 2015-16 with the FDI equity inflows in the services sector growing by 74.7 per cent to US$14.8 billion, while total FDI equity inflows grew by 26.1 per cent to US$27.1 billion. The high growth in services FDI inflows is mainly due to higher growth of three major categories, namely computer software and hardware; services sector category which itself consists of a basket of items like financial, banking, insurance, non-financial, outsourcing and R&D; and trading. This was in spite of the high negative growth at - 61.6 per cent in FDI equity inflows in telecommunications.

7.17 The government has made significant changes in the FDI policy regime in recent times, to ensure that India remains an increasingly attractive investment destination. In order to provide simplicity to the FDI policy and bring clarity on application of conditionalities and approval requirements across various sectors, different kinds of foreign investments have been made fungible under one composite cap. Significant FDI-related liberalization has taken place in a number of sectors/ areas of the economy including some services and service-related sectors like construction development, broadcasting, civil aviation, cash and carry wholesale trading, wholesale trading (including sourcing from micro and small enterprises [MSE]), single brand retail trading and duty free shops, private sector banking, and credit information companies.

India's Services Trade

7.18 Services exports have been a dynamic element of India's trade and globalization in recent years. WTO data shows that India's services exports grew from US$16.8 billion in 2001 to US$155.6 billion - which constitutes 7.5 per cent of the GDP - in 2014, making the country the eighth largest services exporter in the world. The share of India's services exports in global services exports at 3.2 per cent in 2014, is nearly double its share of merchandise exports in global merchandise exports at 1.7 per cent. The overall openness

Table 7.3: FDI Equity Inflows in the Services Sector

Sr	Sub-Sectors	Value (in US$ million)			Percentage to total		Growth rate (%)	
		2014-15	2015-16 (Apr to Oct)	April 2000 to Oct 2015	2014-15	April 2000 to Oct 2015	2014-15	2015-16 (Apr to Oct)
1	Services sector*	4443.3	3874.1	46586.8	14.4	17.2	99.7	134.5
2	Telecommunications	2894.9	949.6	18007.7	9.4	6.7	121.5	-61.6
3	Trading	2728.0	2372.1	10432.5	8.8	3.9	103.1	52.5
4	Computer software & hardware	2296.0	4122.5	19139.8	7.4	7.1	103.9	530.9
5	Construction #	1639.4	1151.0	28649.5	5.3	10.6	-4.2	33.6
6	Hotel & tourism	777.0	714.6	8631.0	2.5	3.2	59.8	46.0
7	Hospital & diagnostic centres	567.9	377.2	3322.4	1.8	1.2	-17.1	67.2
8	Consultancy services	458.1	384.8	3194.1	1.5	1.2	60.3	11.2
9	Sea transport	333.2	295.7	1841.6	1.1	0.7	1526.3	119.9
10	Information & broadcasting	255.0	515.1	4484.5	0.8	1.7	-40.5	813.7
Top 10 service categories (1-10)		**16392.8**	**14756.9**	**144289.9**	**53.0**	**53.3**	**70.4**	**74.7**
Total FDI equity		**30930.5**	**21873.7**	**270506.8**	**100.0**	**100.0**	**27.3**	**26.1**

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, other; #Combined with infrastructure activities and townships, housing, built-up infrastructure and construction-development projects.**

of the economy reflected by total trade including services as a percentage of GDP shows a higher degree of openness at 50 per cent in 2014-15 compared to 38 per cent in 2004-5. The openness indicator based only on merchandise trade stood at 38 per cent in 2014-15 compared to 28 per cent in 2004-5.

7.19 However, the recovery of India's services trade in the aftermath of the 2008 global financial crisis has been tepid, with the CAGR of services exports in the post crisis period at just 7.5 per cent compared to 30.1 per cent in the pre-crisis period. In the case of services imports, the CAGR fell from 23.6 per cent in the pre-crisis period to just 6.5 per cent in the post crisis period. With uncertain global conditions and weak external demand continuing to hamper India's services exports, they grew marginally in 2014-15 to 4.1 per cent from 4.0 per cent in the previous year. The sluggishness in services exports is much more discernible since the second half (H2) of 2014-15 with a 3.7 per cent growth which decelerated further to 0.7 per cent in the first half (H1) of 2015-16. The impact of the global slowdown on services exports is evident.

7.20 Sector-wise performance of services exports in 2014-15 and H1 of 2015-16 has been uneven, with some sectors exhibiting a turnaround and higher growth while others registered considerable decline. With significant moderation in foreign tourist arrivals (FTAs), travel receipts with a 12.9 per cent share in services exports in 2014-15, witnessed a decelerated growth of 4.1 per cent in H1 of 2015-16 compared to 13.5 per cent in 2014-15 and 18.0 per cent in H1 of 2014-15. Transportation services export growth was negative at - 17.0 per cent in H1 of 2015-16 as against a growth of 0.6 per cent in 2014-15 and 7.6 per cent in H1 of 2014-15, reflecting the slowdown in international trade. Growth in computer services, accounting for around 46.4 per cent of total services exports in 2014-15, improved marginally to 5.8 per cent in H1 of 2015-16 from 5.3 per cent in 2014-15 and 5.1 per cent in H1 of 2014-15. Other business services, another major services export segment with a share of 18.0 per cent in 2014-15, posted modest growth of 6.3 per cent in H1 of 2015-16 compared to negative growth of - 0.2 per cent in 2014-15 and - 3.9 per cent in H1 of 2014-15. Of this, growth in professional and management services clocked up to 9.4 per cent in H1 of 2015-16 from negative growth of - 6.9 per cent in 2014-15 and - 6.7 per cent in H1 of 2014-15, while export of technical, trade-related and other business services grew by a paltry 1.1 per cent in H1 of 2015-16 compared to 7.5 per cent in 2014-15 and - 1.4 per cent in H1 of 2014-15 (Table 7. 4).

7.21 India's services imports at 81.1 billion grew by 3.3 per cent in 2014-15. They grew by 4.2 per cent in H1 of 2015-16, which is lower than in the corresponding period of the previous year. Growth of net services, a major source of financing India's trade deficit in recent years, decelerated to 5.0 per cent in 2014-15 from 12.4 per cent in 2013-14 and turned negative at -3.1 per cent in H1 of 2015-16. While surplus on account of services trade at US$76.6 billion in 2014-15 financed 52.8 per cent of merchandise trade deficit, in H1 of 2015-16, net services exports at US$35.3 billion financed only 49.4 per cent of merchandise trade deficit.

7.22 The government has taken a number of policy initiatives to promote services exports which include the Service Exports from India Scheme (SEIS) for increasing exports of notified services from India; organizing Global Exhibitions on Services (GES) and services conclaves to augment exports of various services and position India as a key player in world services trade; besides some initiatives in sectors like tourism and shipping. Given the potential of India's services exports, services-sector negotiations both at multilateral and bilateral/regional levels are of vital importance to India (See Box 7.1).

Table 7.4: Export Performance of Major Services

	Value (US$ Billion) 2014-15	Share (per cent) 2014-15	Growth rate (per cent)			
			2013-14	2014-15	2014-15 H1	2015-16 H1
Total services exports	**157.70**	**100.0**	**4.0**	**4.1**	**4.5**	**0.7**
Transport	17.49	11.1	0.3	0.6	7.6	-17.0
Travel	20.33	12.9	-0.4	13.5	18.0	4.1
Financial, insurance & pension services	7.9	5.0	22.2	-10.3	-12.0	-0.9
Telecommunications services	2.00	1.3	43.0	-17.1	-22.2	15.4
Computer services	73.11	46.4	5.4	5.3	5.1	5.8
Other business services	28.42	18.0	0.1	-0.2	-3.9	6.3
R&D services	1.26	0.8	24.0	9.7	6.2	22.9
Professional and management consulting services	14.43	9.1	10.4	-6.9	-6.7	9.4
Technical, trade-related, and others	12.73	8.1	-12.2	7.5	-1.4	1.1
Total services imports	**81.11**	**100.0**	**-2.8**	**3.3**	**5.4**	**4.2**
Net services	**76.59**	**-**	**12.4**	**5.0**	**3.5**	**-3.1**

Source: **Based on Reserve Bank of India's (RBI) balance of payments (BoP) data (BPM-6).**

Box 7.1: WTO Services Negotiations and Bilateral Negotiations including Services Trade

WTO negotiations

- The 10th session of the WTO Ministerial Conference was held in Nairobi, Kenya, from 15 to 18 December 2015. In the area of services trade, the conference took decisions such as implementation of preferential treatment in favour of services and service suppliers of least developed countries (LDC) and increasing LDC participation in services trade; and moratorium on payment of customs duties on electronic transmissions until 2017.
- Preferential treatment for LDCs: So far, 21 members, including India, have notified preferential treatment to LDCs in services trade. India has offered this in respect of: (i) article XVI of the General Agreement on Trade in Services (GATS) (Market Access); (ii) technical assistance and capacity building; and (iii) waiver of visa fees for LDC applicants applying for Indian business and employment visas. The fee waiver will be valid until 31 December 2030. India is the only member which has offered waiver of visa fees. This is a unique and almost path-breaking offer by India. So far, visa issues have remained untouched in the WTO/free trade agreements (FTA). India's offer should give significant advantage to service suppliers from LDCs vis-à-vis service suppliers from any other country.
- E-commerce: The WTO Members agreed to maintain the current practice of not imposing customs duties on electronic transmissions until the next Ministerial Conference which will be held in 2017.

Bilateral agreements:

- India has signed comprehensive bilateral trade agreements, including trade in services, with the governments of Singapore, South Korea, Japan and Malaysia. An FTA in services and investment was signed with the Association of South East Asian Nations (ASEAN) in September 2014, which came into effect from 1 July 2015.
- India has joined the Regional Comprehensive Economic Partnership (RCEP) plurilateral negotiations. The RCEP is a proposed FTA which includes the 10 ASEAN countries and its six FTA partners, viz. Australia, China, India, Japan, South Korea and New Zealand. The RCEP 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 Canada, Israel, Thailand, the EU, the European Free Trade Association (EFTA), Australia and New Zealand. Dialogue is under way with the US under the India-US Trade Policy Forum (TPF), with Australia under the India-Australia Joint Ministerial Commission (JMC), with China under the India-China Working-Group on Services, and with Brazil under the India-Brazil Trade Monitoring Mechanism (TMM).

Source: **Based on inputs from the Department of Commerce, Government of India.**

Major Services: Overall Performance

7.23 The services sector has shown subdued performance in recent years with the slowdown in the global economy, though certain segments of the sector remain key drivers of economic growth. Analysis of the sector-wise performance of services activities based on firm-level data indicates a healthy rise in sales of the health services segment in the Q1 and Q2 of 2015-16, though profits declined on account of expense heads like professional fees to doctors and rent. The performance of the Indian aviation industry has improved following a fall in prices of aviation fuel, which accounts for nearly 40 per cent of the operating expenses of airlines in India. The telecom industry registered a healthy profit in Q1 of the year. However, muted order inflows and a stretched financial position impacted the execution capacity of many construction companies, while lower margins in the infrastructure sector impacted their profit margins. Some available indicators of the different services in India for 2015-16 show reasonably good performance in telecom, aviation and port services and information technology-business process management (IT-BPM) although the last is slightly muted compared to earlier years (Table 7.5).

Major Services: Sector-Wise Performance and some Recent Policies

7.24 This section covers some of the important commercial services for India based on their significance in terms of

Table 7.5: Performance of India's Services Sector: Some Indicators

Sector	Indicators	Unit	Period			
			2009-10	2013-14	2014-15	2015-16
IT-BPM^	IT-BPM service revenues	US $ billion	64	106	119	130
	Exports	US $ billion	50	87	98	108
	Domestic	US $ billion	14	19	21	22
Aviation	Airline passengers (domestic and international)*	Million	77.4	103.7	115.8	(85.3)98.8@
Telecom	Telecom connections (wireline and wireless)[b]	Million	621.3	933.0	996.1	(964.2)1035.2#
Tourism	Foreign tourist arrivals[a]	Million	5.2	7.0	7.7	8.0
	Foreign exchange earnings from tourism[a]	US $ billion	11.1	18.4	20.2	19.7
Shipping	Gross tonnage of Indian shipping[b]	Million GT	9.7	10.5	10.5	10.5@
	No. of ships[b]	Numbers	998	1209	1210	1251@
Ports	Port traffic	Million tonnes	850.0	972.5	1052.5	(515.8)525.5α
Railways	Freight traffic of railways[c]	Million tonnes	887.8	1051.6	1095.3	(806.4)814.7@
	Net tonne kilometres of railways[c]	Billion	600.6	665.8	681.7	(506.9)491.6@
Storage	Storage capacity	Lakh MT	107.2	105.6	106.2	113.1
	No. of warehouses	Numbers	487	471	464	470

Sources: Compiled from Telecom Regulatory Authority of India (TRAI), Ministry of Tourism, Ministry of Shipping, Ministry of Railways, Directorate General of Civil Aviation, Central Warehousing Corporation, and NASSCOM data.

Notes: a calendar years, for example 2009-10 for 2009; b As on 31 March of ensuing financial year; c data from 2009-10 to 2012-13 is on carried basis, while that for 2013-14 to 2015-16 is on originating basis; *foreign airlines included for international passenger; α data is up to September 2015; # data is up to November 2015; @ data is up to December 2015; data in parentheses is for same period of 2014-15. GT=gross tonnage; MT=metric tonnes, ^ Excluding hardware and e-commerce.

GDP/GVA, employment, exports and future prospects. Some important services covered in other chapters have been excluded to avoid duplication.

Tourism including Medical Tourism

7.25 Tourism is a major engine of economic growth, an important source of foreign exchange earnings and a generator of employment of diverse kinds in many countries including India. According to the World Travel and Tourism Council (WTTC), the total contribution of travel and tourism to world GDP was US$7.6 trillion (9.8 per cent of GDP) in 2014, and is forecast to rise by 3.7 per cent in 2015, and by 3.8 per cent per annum to US$11.4 trillion (10.5 per cent of GDP) in 2025. In 2014, the total contribution of this sector to employment, including jobs indirectly supported by the industry, was 9.4 per cent of total employment (276,845,000 jobs). This is expected to rise by 2.6 per cent in 2015 and by 2.3 per cent per annum in 2025 to reach 356,911,000 jobs (10.7 per cent of total jobs). The latest World Tourism Barometer of the United Nation's World Tourism Organization (UNWTO) (January, 2016 edition) also shows that international tourist arrivals reached 1.2 billion in 2015, a 4.4 per cent increase over the previous year and for 2016 the forecast is a 3.5-4.5 per cent increase. France has the highest share in international tourist arrivals (ITA) and the US in International tourism receipts (ITR) in 2014. India's share in ITAs is a paltry 0.7 per cent compared to 7.4 per cent of France, 6.6 per cent of the US, 5.7 per cent of Spain and 4.9 per cent of China. Even Vietnam and Indonesia have higher shares of ITAs than India. However, in terms of ITRs, India's share at 1.6 per cent is better than those of Vietnam and Indonesia though it is lower than that of China at 4.6 per cent and way below that of the US at 14.2 per cent (Table 7.6).

7.26 India's tourism growth which was in double digits at 10.2 per cent in terms of foreign tourist arrivals (FTA) and nearly so at 9.7 per cent in terms of foreign exchange earnings (FEE), in US $ terms, in 2014, decelerated to 4.5 per cent in terms of FTAs and fell by 2.8 per cent in terms of FEEs in 2015. With this FTAs stood at 8.0 million and FEEs at US$ 19.7 billion in 2015. The lower

Table 7.6: Tourism Performance: International Comparison 2014

Country	ITAs				ITRs			
	Numbers (in million)		Share (%)	Growth (%)	Value (US$ billion)		Share (%)	Growth (%)
	2013	2014	2014	2014	2013	2014	2014	2014
France	83.6	83.8	7.39	0.1	56.6	57.4	4.45	-2.3
US	70.0	75.0	6.60	6.8	172.9	177.2	14.24	2.5
Spain	60.7	65.0	5.74	7.1	62.6	65.2	5.24	4.2
China	55.7	55.6	4.91	-0.1	51.7	56.9	4.57	10.2
Turkey	37.8	39.8	3.51	5.3	28.0	29.6	2.37	5.6
Malaysia	25.7	27.4	2.42	6.7	21.5	22.6	1.75	1.5
Thailand	26.5	24.8	2.19	-6.7	41.8	38.4	3.09	-8.0
Singapore	11.9	11.9	1.05	-0.3	19.3	19.2	1.54	-0.5
Indonesia	8.8	9.4	0.83	7.2	9.1	10.3	0.79	8.0
Vietnam	7.6	7.9	0.69	4.0	7.3	7.3	0.59	1.1
India	7.0	7.7	0.68	10.5	18.4	19.7	1.58	7.1
World	**1088**	**1134**	**100.00**	**4.2**	**1199**	**1250**	**100.00**	**4.0**

Source: **Based on UNWTO data (January, 2016).**

growth in FTAs and fall in FEEs in 2015 is due to negative or low growth in FTAs from high spending tourists originating from European countries like France, (-6.2 per cent) Germany (3.9 per cent), and the UK (3.4 per cent), besides Japan (-5.5 per cent). There was also a high negative growth in FTAs from Russia at - 36.1 per cent. Though there was a high positive growth in FTAs from the second top source country, Bangladesh (20.3 per cent), it is a low spending tourist source country. India's tourism imports partly reflected in the numbers of departures of Indian nationals from India was 18.3 million in 2014, showing a growth of 10.3 per cent over 2013.

7.27 Domestic tourism continues to be an important contributor to the sector, providing much needed resilience. There has been a continuous increase in domestic tourist visits, with the CAGR of domestic tourist visits to all states/union territories (UT) from 1991 to 2014 being 13.75 per cent. In 2014, it grew by 12.9 per cent to reach 1290.11 million visits. The top five states in domestic tourist visits in 2014 were Tamil Nadu (327.6 million), Uttar Pradesh (182.8 million), Karnataka (118.3 million), Maharashtra (94.1 million) and Andhra Pradesh (93.3 million).

Various initiatives taken by the government in the tourism sector include the introduction of e–tourist visa (e-TV) facility for the citizens of 113 countries at 16 airports. Another initiative is the revision of visa fees, on the principle of reciprocity, which was uniform earlier for all countries at US$60 and bank charges of US$2, into four slabs of 0, US$25, US$48 and US$60 from 3 November 2015. Bank charges have also been reduced from US$2 to 2.5 per cent of the e-TV fee. During 2014 and 2015 (January to December) a total of 39,046 and 4,45,300 e-TV holders visited India, registering a growth of 92.4 per cent and 1040.4 per cent respectively.

7.28 In 2014-15, the government has launched two schemes for thematic development of tourism. These are Swadesh Darshan for development of theme-based tourist circuits in a way that caters to both mass and niche tourism in a holistic manner and the National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD) for the development and beautification of pilgrimage sites. The latter aims to tap the growth of domestic tourists driven by religious sentiments and to augment tourism infrastructure at places of pilgrimage to facilitate pilgrims/tourists.

7.29 To promote medical tourism, the Government of India has launched India's Healthcare Portal and Advantage Health Care India. India's Healthcare Portal is a comprehensive one-point information source and covers hospital-related and travel-related information on India. Presently, it covers 143 accredited medical facilities which include 99 medical centers, 28 ayurveda and 16 wellness and rejuvenation centers (including 1 special category centre) spread across tier I and tier II cities. An international summit on medical value travel, Advantage Health Care India (AHCI) 2015, was held from 5 to 7 October 2015 at Pragati Maidan, New Delhi, to showcase India and its immense pool of medical capabilities as well as create opportunities for health-care collaboration between participating countries. The second edition of AHCI is scheduled to be held from 19 to 21 September 2016 at New Delhi.

Shipping

7.30 Around 95 per cent of India's trade by volume and 68 per cent in terms of value is transported by sea. As on 30 November 2015, India had a fleet strength of 1246 ships with dead weight tonnage (DWT) of 15.37 million (10.45 million GT) including Indian controlled tonnage, with the public sector Shipping Corporation of India (SCI) having the largest share of around 36 per cent. Of this, around 369 ships with 13.65 million DWT (8.94 million GT) cater to India's overseas trade and the rest to coastal trade. Despite having one of the largest merchant

shipping fleets among developing countries, India's share in total world DWT is only 0.9 per cent as on 1 July 2015. As per UNCTAD, India with 11.7 million twenty-foot equivalent units of container (TEUs) and a world share of 1.7 per cent, ranked ninth in 2014 among developing countries in terms of container-ship operations.

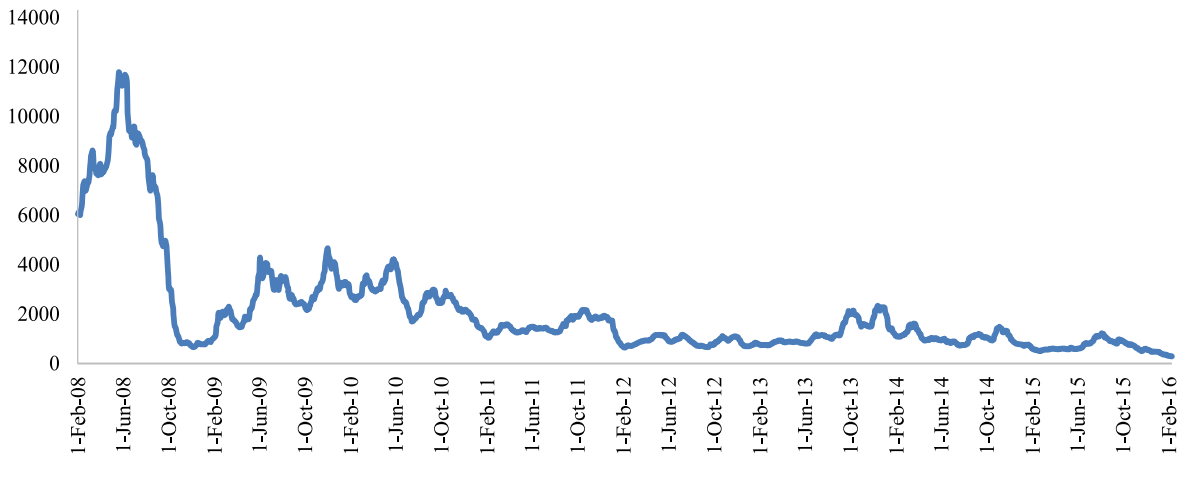
7.31 The shipping sector has been passing through stormy waters in recent years. The Baltic Dry Index, a freight index and a good proxy for the robustness of trade as well as an indicator of demand for shipping services had fallen from a peak of 11,793 on 20 May 2008 to a low of 663 on 8 December 2008. Though it picked up slightly in the following years, it has been in the lower range since then and is now in the red at 290 as on 10 February 2016, which is even lower than the lows of 2008. This, coupled with the fact that world and Indian services and merchandise trade growth was in negative territory in 2015 as in 2009, is a clear signal of the fragile international trade and shipping situation (Figure 7.4).

7.32 In this situation, the world order book position of 290.1 million DWT as on 1 July 2015 remains worrisome as these deliveries in 2016 will affect freight rates, and complying with the International Maritime Organization's (IMO) initiatives for green and sustainable shipping will raise costs further for Indian shipping.

7.33 Meanwhile, 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 7.45 per cent in 2014-15. The existing Indian fleet is also ageing, with the average age increasing from 15 years in 1999 to 17.89 years as on 31 December 2015 (42.42 per cent of the fleet is over 20 years old and 12.43 per cent in the 15-19 age group). Therefore, there is urgent need to increase India's shipping fleet. With asset prices currently being serendipitously low, the time is right to acquire new generation ships to replace ageing ones.

7.34 India continues to be a leading shipbreaking destination. It was in third on the list of ship recycling countries in 2015 (January to June) with a world share of 18.3 per cent, scrapping 105 ships of 4.4 million DWT as per the Institute of Shipping Economics and Logistics's (ISL) Shipping Statistics and Market Review. However, according to the 2015 Shipping Market Outlook of Clarkson Research Services, the shipbreaking sector is in turmoil with the average scrap price

Figure 7.4: Baltic Dry Index



Source: **Based on data accessed from http://in.investing.com/indices/baltic-dry**

for tankers and bulkers, which was in the range of US$500/ldt in September 2014, slumping over the last six months to around US$375/ldt for tankers and US$360/ldt for bulk carriers. Import of cheap Chinese steel billets into the major shipbreaking locations is one of the reasons for this, owing to falling demand for scrap ships. Further, the IMO has come up with the Hong Kong Convention on Recycling in 2009 to regulate the entire practice of ship recycling, compliance of which would mean continued business from European owners. The convention will require Indian shipbreaking yards to create facilities in compliance with the upcoming Hong Kong Convention. Though, India has not yet signed the convention, there has already been voluntary compliance by some Indian yards to ensure that business is not lost, though it is hurting their bottom lines .

7.35 Recognizing the need to encourage the growth of Indian tonnage and for higher participation of Indian ships in Indian EXIM 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; removing obstacles in the smooth implementation of the India Controlled Tonnage (ICT) scheme which allows Indian companies to directly own ships in foreign flags; and easing many procedural compliance issues like ship registration, procuring chartering permission and payment of chartering fees online.

7.36 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. The key elements of the initiative include development of coastal shipping as an end-to-end supply chain, integration of inland water transport (IWT) and coastal route, development of regional centres to generate cargo for coastal traffic, development of the domestic cruise industry and promotion of lighthouse tourism. Various actions are being taken to develop IWT infrastructure, particularly the implementation of the Jal Marg Vikas Project.

Port Services

7.37 The cargo traffic of Indian ports increased by 8.2 per cent to 1052.21 million tonnes in 2014-15, with traffic at non-major ports increasing at a faster rate than at major ports. During April-September 2015, while cargo traffic at all ports increased by 1.1 per cent, major ports reported an increase of 4.1 per cent and non-major ports a decline of 1.0 per cent as compared to the corresponding period in the previous year. In India's Maritime Agenda, the target for the year 2020 is 3130 million tonnes of port capacity with an investment of approximately ₹2,96,000 crore. More than 50 per cent of this capacity is to be created in the non-major ports. In 2014-15, 10 public private partnership (PPP) projects were awarded at an estimated cost of ₹ 9376.43 crore for capacity addition of 95.11 million tonnes in the major ports, comprising construction of berths and terminals and mechanization of existing berths. Some of the initiatives taken by the government to improve the performance of ports are deepening draft to 18 metres to handle large and modern vessels, establishing dry ports at the Jawaharlal Nehru Port Trust and Kandla and providing financial assistance to help them procure pollution response equipment.

7.38 The three prominent ports-related performance indicators have shown improvement with the average turnaround time and average pre-berthing detention time falling to 2.08 days and 0.17 day respectively and average output per ship berth day improving to 12,570 tonnes in 2015-16 (up to November 2015). Compared to 2000-1,

Table 7.7: Some Performance Indicators of Ports in India

Indicators	2000-01	2012-13	2013-14	2014-15	(Apr. to Nov.) 2015-16
Average turnaround time (days)	4.2	2.6 (0.0)	2.3 (-0.3)	2.1 (-0.1)	2.08 (-0.17)
Average pre-berthing time (days)	1.2	0.5 (0.0)	0.3 (-0.2)	0.2 (-0.1)	0.17 (-0.06)
Average output per ship berth day (in tonnes)	6961	11800 (688)	12468 (668)	12458 (-10)	12570 (338)

Source **: Ministry of Shipping.**

Note: **Changes from previous years are given in parentheses.**

the improvement in the three indicators is remarkable, though in the case of the first two it could partly be due to lower volumes handled at some ports on account of the global downturn (Table 7.7).

IT –BPM Services

7.39 India's technology and business services industry is one of the most dynamic in the world. From offering basic IT services when it began in the 1990s, the industry has moved ahead rapidly to offering functional IT later in the 1990s and enterprise resource planning and productivity software in the early 2000s, and has become a crucial component of the Indian economy. The Indian IT-BPM industry consists of IT services, which constitute the largest segment with a share of around 52 per cent, followed by BPM with share of around 20 per cent, software products, engineering research and development (ER&D) and product development, which together account for around 19 per cent share, and hardware with around 10 per cent share. The industry currently employs more than 3.7 million people and is India's largest private sector employer. It is also playing a key role in promoting diversity within the industry, with more than 34 per cent women employees, over 170,000 foreign nationals and a greater share of employees from non-tier I Indian cities.

7.40 The worldwide IT-BPM spend in 2015 was US$2.3 trillion including hardware. But the global technology industry is facing a tumultuous environment with multiple disruptive digital technologies. Over the next decade, 80 per cent of incremental expenditures may be driven by digital technologies, such as platforms, cloud-based applications, big data analytics, mobile systems, social media and cyber security, as well as services needed to integrate these technologies with remaining legacy core technologies. These factors have also impacted global technology spend. Worldwide IT-BPM (excluding hardware) spend in 2015 was clearly impacted by the volatility in global currencies, resulting in a near flat growth of 0.4 per cent (US$1.2 trillion) in 2015.

7.41 Despite turbulent economic conditions including the devastating rains in Tamil Nadu greatly affecting the small and medium sized companies with standalone facilities, India's IT-BPM sector demonstrated flexibility and resolve to adjust and is expected to touch an estimated share of 9.5 per cent in GDP and more than 45 per cent in total services exports in 2015-16 as per NASSCOM. Computer and related services with a share of 3.5 per cent in India's GVA grew by 9.7 per cent in 2014-15 as per the CSO.

7.42 Total revenue (exports plus domestic) of the IT-BPM sector for 2015-16 including and excluding hardware is expected to touch US$143 billion and US $129 billion, with growths of 8.3 per cent and 9.3 per cent over the previous year respectively. Exports including and excluding hardware are both

likely to record 10.2 per cent growth to reach US$108 billion and US$107.6 billion respectively. The domestic market including hardware is set to grow at 2.9 per cent over the previous year to reach US$35 billion (excluding e-commerce) and excluding hardware and e-commerce at 4.8 per cent to reach US$ 22 billion. E-commerce is expected to grow at 21.4 per cent in 2015-16 to reach US$17 billion. However, the IT-BPM sector is increasingly being challenged in its global journey, being negatively impacted by the alarming trend of increased protectionism and resulting barriers to free movement of skill and data. This is while India on its part is being urged to open up its markets under various trade agreements. Misconstruing mobility of skilled people as an immigration issue is a deterrent to the growth of this global business.

7.43 The government has been actively supporting the sector, it being the key partner in the various flagship programmes of the government like Digital India, Make in India, Skill India, E-governance and Startup India. The government's Digital India campaign, which envisages a US$ 20 billion investment covering mobile connectivity throughout the country, re-engineering of government process via technology and enabling e-delivery of citizen services, will give a further push to the IT sector. The domestic market offers huge potential that remains to be tapped. Software products with 4.5 per cent year-on-year growth are the fastest-growing segment in the Indian market, expanding on the back of demand for mobile app development, security software, system software and customer analytics products, and increased adoption of software as a service (SAAS) and cloud.

7.44 The Indian technology start-ups landscape has seen tremendous growth to move towards innovative start-ups. India, home to a new breed of young start-ups, has clearly evolved to become the third largest base of technology start-ups in the world. Within one year, the number of start-ups in India has grown by 40 per cent and crossed the 4200 mark, an addition of nearly 1200, creating 80,000-85,000 jobs in 2015. Start-ups in India are spread across the digital (social, mobile, analytics, and cloud), high-tech (augmented reality, internet of things, robotics) and vertical domains (edu-tech, health-tech, fin-tech, ad-tech) that are identifying whitespaces and delivering domain-specific solutions. This emerging sector is set to get a fillip with the Startup India programme.

Research and Development Services

7.45 The R&D sector grew by 20.8 per cent in 2012-13 and contributed 1.4 per cent of GDP (old method). As per the CSO's new method, there is no separate head for R&D. It is a part of the professional scientific & technical activities including R&D classification which grew at 3.8 per cent and 25.5 per cent respectively in 2013-14 and 2014-15. India's R&D expenditure has been low and the science, technology and innovation (STI) policy 2013 envisages raising it to 2 per cent of GDP with enhanced participation of the private sector.

7.46 The annual 'Global R&D Services Providers (GSPR) Rating and Landscape Study 2015' by Zinnov, put the overall India-based R&D globalisation and R&D services market at US$ 20 billion in 2015, up by 9.9 per cent over 2014. While the R&D services market stood at US$7.76 billion, the R&D globalization market (captives) stood at US$12.25 billion. India's R&D globalization and services market is set to almost double by 2020 to US$38 billion. According to the study, India-based R&D services companies, which account for almost 22 per cent of the global addressed market, grew at 12.67 per cent and India's ER&D services are expected to reach US$15-17 billion by 2020, with North America, contributing to 55 per cent of revenues, continuing to be the largest market.

7.47 However, according to the Global Competitiveness Report 2015-16, India's capacity for innovation has been lower than that of many countries like the USA, the UK, South Korea, and even South Africa (Table 7.8). Even in quality of scientific research institutions, India scores lower than China and South Africa. This is also exhibited through its poor score on university–industry collaboration on R&D as compared to some other BRICS (Brazil, Russia, India, China and South Africa) nations like China and South Africa. In terms of patents granted per million population, India fares badly compared to other BRICS countries. In terms of company spending on R&D also, India ranks below China. Only in terms of availability of scientists and engineers, does India score better or is equal to other BRICS countries.

7.48 The government has taken many initiatives to promote the R&D sector in India, which include the weighted tax deduction of 200 per cent for R&D expenditure and the Budget 2015-16 announcement for establishment of the Atal Innovation Mission (AIM) in the National Institution for Transforming India (NITI) Aayog. This will be an innovation promotion platform involving academics, entrepreneurs, and researchers and draw upon national and international experiences to foster a culture of innovation, R&D and scientific research in India. The platform will also promote a network of world-class innovation hubs. Initially, a sum of ₹150 crore has been earmarked for this purpose. This along with other initiatives like the Self Employment and Talent Utilization (SETU) programme, which aims to set up world class technology business incubators to promote start-up business in India coupled with Start-up-India, Make in India, which aims to make India the manufacturing hub and IMPRINT (Impacting Research Innovation and Technology), a Pan-IIT and IISc joint initiative to develop a roadmap for research to solve major engineering and technology challenges in ten technology domains relevant to India, will help in improving the research and innovation ranking of India in the world.

Consultancy Services

7.49 As per a 2015 report by Gartner , the leading IT research and advisory company, the worldwide consulting service market grew by 6.1 per cent to US$125.2 billion in 2014, from US$118.1 billion in 2013. Consultancy services are emerging as one of the fastest growing service segments in India,

Table 7.8: Global Competitiveness Index: R&D Innovation

Country	Capacity for innovation		Quality of scientific research institutions		Company spending on R&D		University – Industry collaboration on R&D		Availability of scientists and engineers		PCT patents granted/ million population	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
USA	5.9	2	6.1	4	5.6	3	5.8	2	5.4	4	160.3	11
UK	5.4	10	6.3	2	4.9	17	5.7	4	4.9	18	89.9	18
South Korea	4.8	24	4.8	27	4.6	21	4.6	26	4.4	40	220.7	7
South Africa	4.6	32	4.7	33	3.8	32	4.5	31	3.4	106	6.9	46
China	4.2	49	4.2	42	4.2	23	4.4	32	4.5	36	13.4	32
Brazil	3.8	80	3.6	80	3.3	60	3.8	54	3.3	115	3.5	51
India	4.2	50	4.1	45	3.9	31	3.9	50	4.2	49	1.6	61
Russia	3.8	84	4	58	3.2	75	3.6	67	4.1	64	7.7	41

Source: **Global Competitiveness Report 2015-16, World Economic Forum.**

Note: **PCT- Patent Cooperation Treaty.**

cutting across different sectors with some overlapping. A large number of consultancy firms and individual consultants are operating in India at various levels across the sectors. Technical consulting constitutes about two-thirds of the total consulting market, while management consulting constitutes about one-third. Technical consulting in India, which mainly consists of engineering consulting, is much stronger than management consulting in terms of the number of players, consulting capabilities and size of consulting firms. The Indian management consulting market, on the other hand, is mainly captured by large size foreign multinational consulting firms.

7.50 Though there are huge opportunities for the growth of the Indian consulting industry, there are some key inhibitors like low brand equity, inadequate international experience of Indian consultants working abroad, lack of local presence, lack of strategic tie-ups, low competency image, lack of market intelligence on consulting opportunities abroad and lack of a strong competency framework of consultants that improves quality in delivery of consulting assignments. Addressing these issues may help in increasing the global market share of the Indian consultancy Industry.

7.51 The Government of India has taken many initiatives to help the consulting industry, including the Marketing Development Assistance and Market Access Initiative schemes; coming out with guidelines on broad policies and procedures for selection, contracting and monitoring of consultants; and initiatives aimed towards capacity development of domestic consultants and sensitization of client organizations. Recent initiatives taken by the government such as Make in India, development of smart cities, skill development, along with the focus on improving industrial policies and procedures, have opened up a plethora of opportunities for consultants. Some of the key areas with enormous potential for Indian consultancy firms include building of urban & transport infrastructure, power generation, renewable energy, electricity transmission & distribution, roads & bridges, water supply & sewerage, IT & telecom, health care and manufacturing. Emerging sectors such as bio-technology, nano-technology and other advanced disciplines also offer tremendous opportunities to consultants. Consultancy services can also look forward to deriving revenues from newer services and newer geographies with Big Data, cloud, M2M and Internet of Things becoming a reality.

Real Estate and Housing

7.52 Real estate and ownership of dwelling is an important contributor to the Indian economy. It constituted 8.0 per cent of India's GVA in 2014-15 and grew by 9.1 per cent. It also generates significant income and employment owing to large forward and backward linkages through creation of demand in the input sectors and real estate services. The sector has grown at a CAGR of 8.1 per cent since 2011-12. However, the construction sector has witnessed a significant slowdown in last few years, with growth rates of 0.6 per cent in 2012-13, 4.6 per cent in 2013-14, 4.4 per cent in 2014-15 and 3.7 per cent in 2015-16 led by weakening of both domestic and global growth.

7.53 The slowdown in sales in the housing sector has resulted in a sharp increase in the inventory of unsold housing units, especially in the northern and western regions. It is estimated that at the current rate of monthly sale, the unsold housing stock in the northern region would need 65 months to be absorbed. The inventory overhang in the western and southern region is much better at 30 and 22 months. Despite weak sales and rising inventory, the housing prices in many cities and towns have increased in 2015, as per the National Housing Bank's RESIDEX (index of residential prices). In 2015, out of 26 cities, 20 witnessed increase in prices over 2014, with the maximum increase observed

in Guwahati (9 per cent) followed by Pune (8 per cent), while five saw decline, with the maximum fall witnessed in Chandigarh (-8 per cent) followed by Delhi (-4 per cent).

7.54 Realty prices are just holding up due to heavy inflow of capital in the sector over the last few years. It is estimated that since the beginning of 2015, about US$10 billion or ₹60,000 crore was invested in the sector by domestic and foreign investors, the highest in the last seven years. Most of these investments have come via structured deals and non-convertible debentures (NCD) together estimated at around US$9.5 billion. These investments, largely in the nature of debts and FDI equity inflows in the construction development sector, have been only to the extent of US$81 million between April and October 2015. High level of debt investment, while providing interim relief to the sector, poses a high refinancing risk if the housing sales continue to remain weak.

7.55 Procedural delay is another major constraint in this sector. According to the World Bank's 'Doing Business 2016', India ranked 183rd (out of 189 economies) in terms of construction permits, requiring on an average of 40 procedures to get permits as compared to an average of 15.1 in South Asia and 12.4 in OECD (Organisation for Economic Co-operation and Development) countries. It is estimated that about 25 per cent of housing projects in India are delayed, largely due to poor project management and delay in regulatory approval. It is estimated that over 40 different kinds of approvals and No Objection Certificates (NoC) are required for a building project, which can take anywhere between two and three years for construction to start.

7.56 Several policy initiatives were taken in 2014-15 to help this sector, including amendment of the FDI policy and removing the minimum floor area and minimum capital requirement provisions. The RBI and the National Housing Bank have also reduced risk weight for individual housing loans of up to ₹75 lakh from 50 per cent to 35 per cent for Banks and Housing Finance Companies, respectively. Further, the loan-to-value ratio has been increased to 90 per cent for loans up to ₹30 lakh. The government also announced plans to build six crore houses by the year 2022 under the Housing for All scheme. Further, the government identified 98 cities to be developed as smart cities and announced 20 cities to be taken up in the first place.

Internal Trade

7.57 Internal trade refers to the movement of goods and services across different geographical regions in the country. It includes self-employed and persons engaged in both wholesale and retail trade. Presently internal trade is governed by a diversity of controls, multiple organizations and a plethora of orders. This has resulted in a fragmented market, hindering the free flow of goods within the country, higher transportation costs and in general a lower level of efficiency and productivity. Unfettered flow of goods and services is an essential pre-requisite for building a common market that will promote growth, trade across regions and also enable specialization and higher levels of economic efficiency. The ₹12,31,073 crore trade and repair services sector, with a 10.7 per cent share in GVA, grew by 10.8 per cent in 2014-15.

7.58 The retail sector, which is increasingly becoming important, is an important component of internal trade. A 2015 (July) KPMG-FICCI (Federation of Indian Chambers of Commerce and Industry) report, put the overall size of the Indian retail sector at ₹ 40 trillion in 2014 and projected it to reach ₹70 trillion by 2020 at a CAGR of 9.6 per cent. The penetration of modern retail is expected to reach 18 per cent from the current 9.8 per cent in this period, driven by the increasing appeal of modern retail among shoppers as well as changes in shoppers' expectations and behaviour. Retail is a key sector for skill

development, with a projected employment of 58 million people by 2022 and accounting for 14 per cent of the incremental human resource and skill requirement from 2013 to 2022. With organized retail penetrating the smaller towns and cities, there would be a need for skilled manpower in this sector.

7.59 As per the AT Kearney's Global Retail Development Index (GRDI) report, India's retail trade ranking has risen to 15 from 20 in 2014, mainly due to solid expansion in retail sales and strong prospects for future GDP growth. India's retail market is expected to grow to US$1.3 trillion by 2020, making India the world's fastest-growing major developing market. Real estate availability could be the biggest barrier to retail expansion in India since it has four times the population of the United States but just one-tenth of the mall space. This market still has a long way to go as online remains just 0.5 per cent of the total retail market, Internet penetration is just 20 per cent of the population, and infrastructure needs to improve significantly.

7.60 According to ASSOCHAM and Deloitte report (April 2015), E-commerce market has grown steadily from US$ 4.4 billion in 2010 to US$ 13.6 billion in 2014. The e-commerce market in India is expected to reach US $16 billion by the end of 2015 on the back of growing internet population and increased online shoppers. Online travel accounts for nearly 61 per cent of e-commerce business while e-tailing constitutes about 29 per cent. Some estimates indicate that companies will spend between US $1 billion and US $2 billion on e-commerce-related infrastructure over the next five years.

7.61 No official data is available on the direct selling/multi-level marketing (MLM) sector. According to a KPMG-FICCI study (December 2015), the direct selling market in India has grown at a CAGR of 16 per cent over the last five years from ₹ 41 billion in 2009-10 to ₹75 billion in 2013-14. Total employment in this sector is around 5.8 million. There is at present no separate legislation for regulation of direct selling activities, hence they come directly under the purview of the Prize Chits & Money Circulation Schemes (Banning) Act 1978, administered by the Department of Financial Services. As it is a banning act, there is no provision for differentiating the genuine direct selling business from banned pyramid/money circulation schemes, and this has resulted in alleged harassment/ criminal action against the industry. An inter-ministerial committee was constituted on 12 November 2014 to examine the need for a separate legislation for this sector. Based on the decision taken in the last meeting, a draft guidelines is under examination and it intends to focus on all aspects linked to the industry, including definition, conditions for the setting up of direct selling business, conduct of direct seller, prohibition of pyramid and money circulation schemes, appointment of monitoring authority, compensation/ commission payments, penalty provision and protection of consumer interests. The committee is actively considering issuing guidelines on direct selling/MLM to state governments/ UTs.

Media and Entertainment Services

7.62 The Indian media and entertainment industry consists of various segments, like television, print, films, radio, music, animation, gaming & visual effects and digital advertising. The industry has recorded unprecedented growth over the last two decades, making it one of the fastest growing industries in India. According to a report by FICCI-KPMG, the Indian media and entertainment industry grew by 11.7 per cent to ₹1026 billion in 2014 from ₹ 918 billion in 2013 and it is projected to grow at a CAGR of 13.9 per cent to reach ₹1964 billion by 2019. Digital advertising and gaming, which grew by 44.5 per cent and 22.4 per cent respectively in 2014, are projected to drive the growth of this sector in the coming years.

7.63 India is the world's second largest TV market after China with 168 million TV households, implying a TV penetration of 61 per cent. There are about 847 satellite television channels, 243 FM radio channels and 190 community radio stations operating in India. India's broadcasting distribution network comprises 6000 multi system operators (MSO) and 7 direct to home (DTH) operators. The Government of India has embarked on an ambitious exercise to digitize its cable network in four phases, leading to a complete switch off of analog TV services by 31 December 2016. Digitization, thus achieved, would usher a new era in broadcasting as it would enhance the viewing experience of the users and upgrade the service. As per the preliminary data it is observed that central and state governments have gained significantly, as transparency in the subscriber base through digitization has led to increase in the tax collection. In order to achieve universal digitalization by 2017, the government is implementing the Broadcasting Infrastructure Network Development Scheme for modernization and upgradation of Prasar Bharati - the public broadcaster. India has been experiencing higher volume of content consumption due to increasing per capita consumption, media penetration and use of 3G devices. DTH in India is also growing at a rate of about one million per year. HITS (headend in the sky) technology will play a key role in achieving the goal of 100 per cent digital distribution in India. At present two HITS operators have been permitted by the Government of India to operate their set up. The Indian radio industry is expected to grow to ₹33.6 billion by 2018 from ₹8.4 billion in 2008. There exists a large demand for FM radio in many cities which remain untapped by private FM radio broadcasting. The Government of India has taken a decision to allow 839 more private FM radio channels in 294 cities and towns under FM Phase-III in addition to the existing 243.

7.64 India continues to be world's biggest producer of films, with more than 1000 films each year in all languages. The size of the Indian film industry was 12,640 crore in 2014. Domestic theatricals continued to be the main source of revenue for the industry, contributing ₹9,350 crore. The industry is projected to be worth ₹18,630 crores by 2018. Overseas theatricals witnessed a 3.5 per cent increase from ₹8.3 billion in 2013 to ₹8.6 billion in 2014. Digitization of screens has allowed distributors to release films simultaneously across thousands of screens. During 2015-16 (April-December), the government has accorded permission for 25 foreign productions to shoot films in India. It has recently accorded administrative approval for setting up of the Film Facilitation Office (FFO) with a view to promoting and facilitating film shootings by foreign filmmakers in India. The National Film Development Corporation (NFDC) has been designated to operate FFO units at Mumbai, Delhi, Chennai and Kolkata.

7.65 The animation, visual effects, gaming and comics (AVGC) sector is estimated at around ₹4490 crore in 2014, with estimated projected growth of 13 per cent. In order to address the issue of skilling in the animation, gaming and visual effects sector, the government is in the process of setting up a National Centre of Excellence in Animation, Gaming and Visual Effects (NCOE). Towards promoting Indian cinema, the Government of India organizes and participates in various film festivals/markets in India and abroad which includes selection of films for the Indian panorama section of the International Film Festival of India (IFFI) and its organization in Goa.

Postal Services

7.66 India Posts is the largest postal network in the world and provides access to affordable postal services to all citizens in the country through its vast network. Out of 1.55 lakh

post offices, 1.39 lakh are in rural areas and the remaining 15,736 in urban areas. The Department of Posts plays a crucial role in disbursing wages to Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) beneficiaries. Nearly 6.92 crore MGNREGS accounts have been opened in post offices up to December 2015. Towards financial inclusion, the number of post office savings bank (POSB) accounts has increased from 30.86 crore to 33.97 crore and total deposits in POSB accounts and cash certificates to ₹6.53 lakh crore in the last one year. More than 80 lakh Sukanya Samriddhi Yojna accounts have been opened with a cumulative investment of more than ₹2900 crore since the launch of the scheme on 22 January 2015. More than 1.84 crore kisan vikas patras have been sold, attracting an investment of more than ₹16,429 crore since launch on 18 November 2014. The PM Suraksha Bima Yojna, PM Jeewan Jyoti Yojna and Atal Pension Yojna were rolled out for POSB account holders in core banking solution (CBS) post offices. So far, more than 1,35,000 policies have been sold to POSB customers.

7.67 The IT Modernization Project of the Department of Posts, with a total outlay of ₹4909 crore, involves computerization and networking of all the post offices, mail offices, accounts offices and administrative offices in the country, including approximately 1,30,000 branch post offices in rural areas run by gramin dak sevaks. At present the project is at implementation stage and is likely to be completed by 2017. So far 27,736 departmental post offices, including mail offices and administrative offices, have been networked at a single wide area network (WAN) and connected to a data centre. It is the largest single organization WAN in the country. A data centre has been established at Navi Mumbai and has been functioning since April 2013, while a disaster recovery centre has been operationalized in May 2015. CBS has been rolled out in 16,461 post offices. ATMs have been installed in 430 locations. Core insurance solution (CIS-PLI) has been rolled out in 25,406 post offices. Rural information and communication technology (ICT) project has been launched in three pilot circles, namely Rajasthan, Bihar and Uttar Pradesh, on 28 December 2015.

7.68 The department has so far equipped 926 mail-carrying vehicles with global positioning system (GPS) devices in order to monitor mail transmission and delivery more effectively. In order to ensure safe and secure transmission of speed post articles/ parcels, particularly e-commerce articles, a Plan scheme, Development of Road Transport Network, has been approved for the department and 48 routes have been identified in 16 postal circles which will cover secure transmission of speed post articles, including e-commerce articles, between 107 cities. Containerised movement of mail and parcels is already being done in 11 major routes.

Conclusion and Suggestions

7.69 The services sector is like an uncharted sea with plenty of opportunities that have not been fully tapped. A targeted policy of removing bottlenecks in major and potential services can result in large dividends in the form of higher services growth and services exports, which in turn can help in pulling up the economy to higher growth levels (Box 7.2).

7.70 India's services sector, which showed resilient growth after the recovery of the global economy following the global financial crisis, has been showing subdued performance in recent times. Despite the slowdown, the prospects continue to be bright for many segments of the sector. Looking ahead, the government's focus on infrastructure development, favourable regulatory policies like liberalization of FDI norms, increasing number of multi-modal logistics service providers, growing

Box 7.2: Selected Policy Issues and Suggestions for Some Major Services

Some important issues and practical suggestions for three major services sectors that can boost the services sector growth and exports are listed here.

Tourism including Medical Tourism:

- Need for improvements in the e-tourist visa and ordinary visa which include extension of the eTV window to 180 days instead of the current 30 days before the tour; need for multiple entry eTV instead of the existing single-entry eTV; extension of duration of stay to 60 days under eTV instead of 30 days; making available biometric facility in major ports to help cruise passengers get eTV; need for proper display at eTV counters; increasing the counters for eTV tourists to avoid delays; extending eTV facility for medical tourists; and streamlining the biometric process in overseas missions by having more biometric locations.
- Tax issues like the place of provision clause in service tax resulting in tourism services not being treated as export of service and being taxed and need for lower goods and services tax (GST) for tourism-related services as in many OECD countries.
- Finance- and investment-related issues which include positioning India as a convention centre by creating a global fund; examining the possibility of giving special incentives like tax-free bonds and income tax exemptions on profits used in reinvestment in the tourism sector; development of tourism infrastructure on PPP basis and by channelizing corporate social responsibility (CSR) spends into India's heritage development; support for SMEs in the tourism sector with the help of venture capital funds and examining the extension of the MUDRA Yojana to SMEs in the tourism sector; setting up India haats in major cities/ towns with miniature cultural India by channelizing CSR spending or under PPP mode.
- Issues related to medical tourism include promoting medical tourism in the Brand India Campaign instead of the current fragmented approach, where individual hospitals have been promoting themselves as hospital destinations; rapid immigration clearances for medical tourists; enhanced basic infrastructure for medical tourists at airports; streamlining the medical visa process and extending eTV to medical tourists; promoting geriatric healthcare by leveraging our expertise in ayurveda, yoga and unani; getting international accredition for Indian hospitals; addressing the exchange risk factor for medical tourists; and promoting telemedicine.
- Others like the need for a national cruise strategy; making railways more tourist friendly with cleanliness and hygiene, e-booking with special quotas for foreign visitors; introducing smart cards for e-payments across all tolls in India and national permit for tourist vehicles; considering global parameters while deciding coastal regulation zone (CRZ) norms and organizing India tourism fairs in Indian embassies abroad.

Shipping and Port Services:

- Need for cheaper finance and longer tenure for funds in light of the fact that Indian ships are ageing and need to be replaced and asset prices are serendipitously low. At least the issue of longer tenure for loans to the shipping sector could be urgently addressed. An institutional mechanism can also help the shipping sector in acquiring assets at the right time.
- Need to address issues like the high capital costs and need for aiding import of quality machines in maintenance dredging; allowing pre-payment of external commercial borrowings (ECB) to help shipping companies to borrow for the purpose of fresh acquisition of a suitable asset; allowing opening of a joint ESCROW account for purchase of asset which is not permitted at present; making India a bunkering hub by allowing 'nil' duty on bunkers for all segments of coastal shipping and not just for containers as is being done at present; exploring the possibility of creating an Indian production and indemnity (P&I) company; restoring the exemption from withholding taxes on interest payments on ECB loans taken by shipping companies; and the issue of refinancing through ECB funds which is not permitted at present for shipping sector.
- Need to address port infrastructure on a war footing; and the relatively higher prices for port services in India.

IT including Software:

- Resolving visa issues like the impact of the Grassley-Durbin Reform Bill (if passed by US Congress) on H1B visas and even L1 visas and US visa fee hikes through bilateral negotiations; focusing on high-end

Contd....

software products to be competitive; promoting our own domestic 'Apps'; comprehensive approach to start-ups and entrepreneurship which is presently being done with the Startup India policy; clarity under the proposed GST given the dual levies of value added tax (VAT) and service tax; e-commerce taxation issue; difficulty in getting outstanding payments for government work released; extending the 200 per cent weighted deduction on R&D expenditure to the IT industry on the lines of R&D incentives to the IT sector in the UK and many other countries; extending the Services Exports from India Scheme (SEIS) to the IT sector in the light of proposed phasing out of SEZ (special economic zone) benefits and phased out STPI (software technology parks of India) exemptions; uniformity in exchange rate calculations for different taxes; addressing pending issues related to transfer pricing; and streamlining exit route for STPs.

Source: **Based on working paper, by Dr H.A.C. Prasad and S.S.Singh: *India's Services Sector: Performance, Some Issues and Suggestions*, Department of Economic Affairs, February 2016.**

trend of outsourcing logistics to third party service providers and entry of global players are expected to provide impetus to logistics services. Though shipping services are at a low key at present, with increased imports of POL (petroleum, oil and lubricants) for stocks build up to take advantage of low crude oil prices, containerization of export and import cargo and modernization of ports with private sector participation, recovery of the shipping and port services sector can be expected.

7.71 The prospects for Indian aviation services have improved following the fall in prices of aviation fuel, which accounts for nearly 40 per cent of the operating expenses of airlines in India; liberalization of FDI policies in civil aviation; and strong growth in passenger traffic which is expected to continue in the near future. The outlook for the Indian retail industry remains positive as India continues to remain an attractive long-term retail destination despite the various challenges faced by the sector. Announcements like the allocation of ₹1000 crore to technology and startup sectors, promotion of cashless transactions via RUPay debit cards and growth of e-commerce, could give a fillip to this sector.

7.72 The government's focus on the tourism sector including easing visas by eTV and building tourism infrastructure could help in the recovery of the tourism sector. Despite challenges in the global market, the Indian IT industry is expected to maintain double- or near-double- digit growth as India offers depth and breadth across different segments of this industry - IT services, BPM, ER&D, internet & mobility and software products. In the telecom sector, the introduction of 4G which could be a game changer and inclusion of fiber optic connectivity which will tremendously increase the reach and bandwidth along with greater use of mobiles in government's social sector programmes could give a further boost to this fast growing sector.

7.73 Overall, the growth prospects of the services sector are promising as also indicated by some other estimates like the Nikkei/Markit Services PMI for India which rose to 54.3 in January 2016 from 53.6 in December 2015, the highest figure since June 2014. However, slowing global growth is a dampner.

Climate Change and Sustainable Development

08
CHAPTER

The year 2015 witnessed two landmark international events: the historic climate change agreement under the UNFCCC in Paris in December 2015 and the adoption of the Sustainable Development Goals in September 2015. The Paris Agreement aims at keeping the rise in global temperatures well below 2°C,which will set the world towards a low carbon, resilient and sustainable future, while the Sustainable Development Goals, which replace the Millennium Development Goals, set the development agenda for the next fifteen years. On the domestic front too some important climate-related initiatives were taken, including the launching of the historic International Solar Alliance and the submission of the ambitious Intended Nationally Determined Contribution.

INTRODUCTION

8.2 The adoption of a new climate change agreement at the 21st Conference of Parties (COP 21) by 195 nations in Paris in December 2015 represents another milestone in the climate change front. The Paris Agreement sets a roadmap for all nations in the world to take actions against climate change in the post-2020 period. It seeks to enhance global action against climate change and limit global warming while reflecting the principles of equity and common but differentiated responsibilities and respective capabilities (CBDR-RC), in the light of different national circumstances. An important feature of this new agreement is that it seeks to elicit ambitious action by each country by basing it on a country-driven approach with the contribution by each country to the global fight against climate change determined at national level.

8.3 The Millennium Development Goals (MDG) that were in place from 2000 to 2015 were replaced by the Sustainable Development Goals (SDG) with the aim of guiding the international community and national governments on a pathway towards sustainable development for the next fifteen years. A new set of 17 SDGs and 169 targets were adopted by the world governments in 2015.

8.4 On the domestic front, India continued to take ambitious targets in its actions against climate change. As a part of its contributions to the global climate change mitigation efforts, India announced its intended nationally determined contribution (INDC) which set ambitious targets for domestic efforts against climate change. Including other efforts, the country has set itself an ambitious target of reducing its emissions intensity of its gross domestic product (GDP) by 33-35 per cent by 2030, compared to 2005 levels, and of achieving 40 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

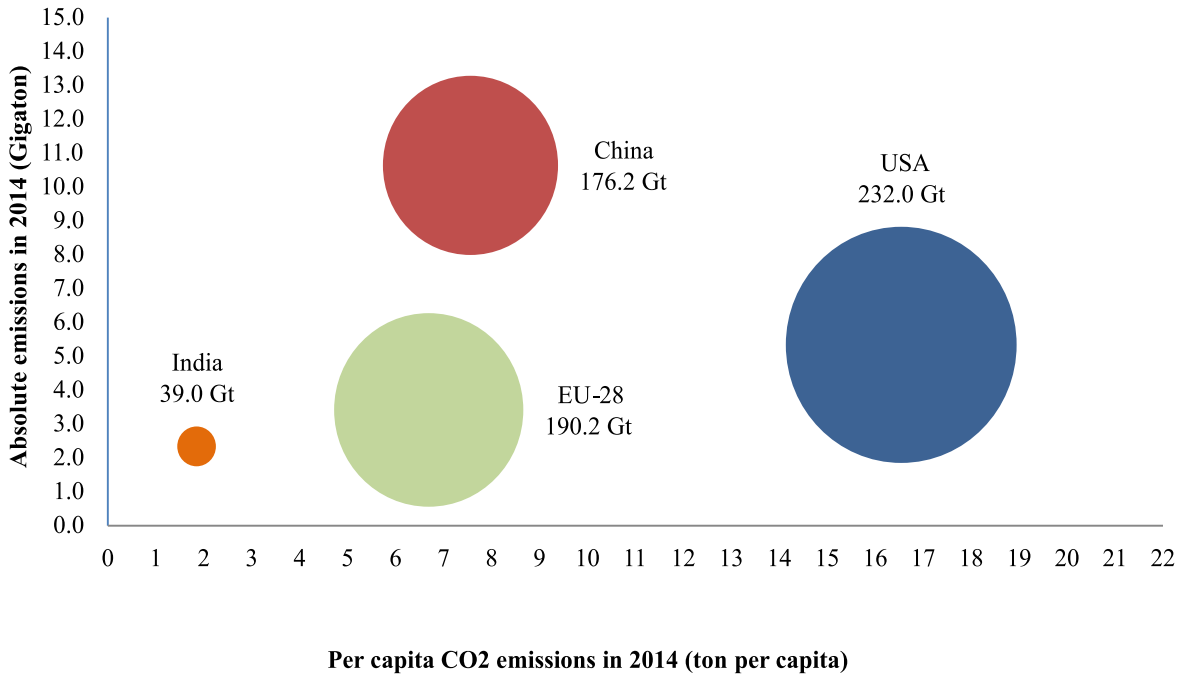
Climate Change

Emissions from major countries

8.5 According to the World Meteorological Organization, 2015 was the warmest year, with temperature 1°C above the pre-industrial era. This was owing to El Nino and warming caused by greenhouse gases (GHG). Anthropogenic emissions have been increasing at an unprecedented rate since the industrial revolution. According to an International Energy Agency (IEA) report (2015), concentration of CO_2 in 2014 was 40 per cent higher than in the mid-1800s. The energy sector is the largest contributor to GHG emissions and, within this, CO_2 emissions from combustion of fuels have the largest share. The global emissions profile shows that emissions have been distributed very unequally among different countries. If historical CO_2 emissions from 1970 to 2014 are considered, India with 39.0 Gt is way behind the top three emitters – the USA, the EU and China. The USA's emissions, for example, were around six times India's. Even if historical levels are discounted and only present levels considered, both in terms of absolute and per capita emissions, India is way behind the three major CO_2 emitters (Figure 8.1). In 2014, in terms of absolute emissions, China was at the top, while in terms of per capita emissions, the USA was at the top. India's per capita emissions are among the lowest in the world.

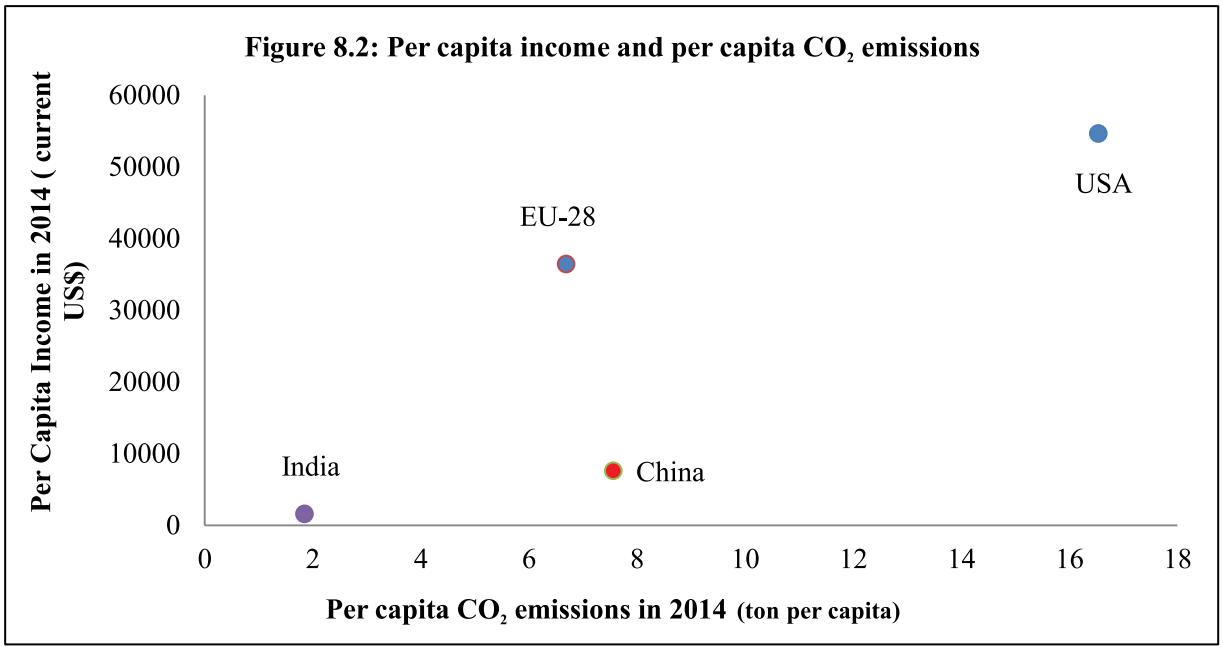
8.6 If the different levels of development and differentiated responsibilities and equity are considered, the USA has the highest per capita CO_2 emissions and per capita income while India has the lowest of both among the four (Figure 8.2).

Figure 8.1: Historical (1970-2014), Absolute and Per Capita CO2 emissions of select economies in 2014



Note: **Width of the bubbles indicates the total emissions between 1970 and 2014 for the respective countries and have been indicated beside the bubbles.**

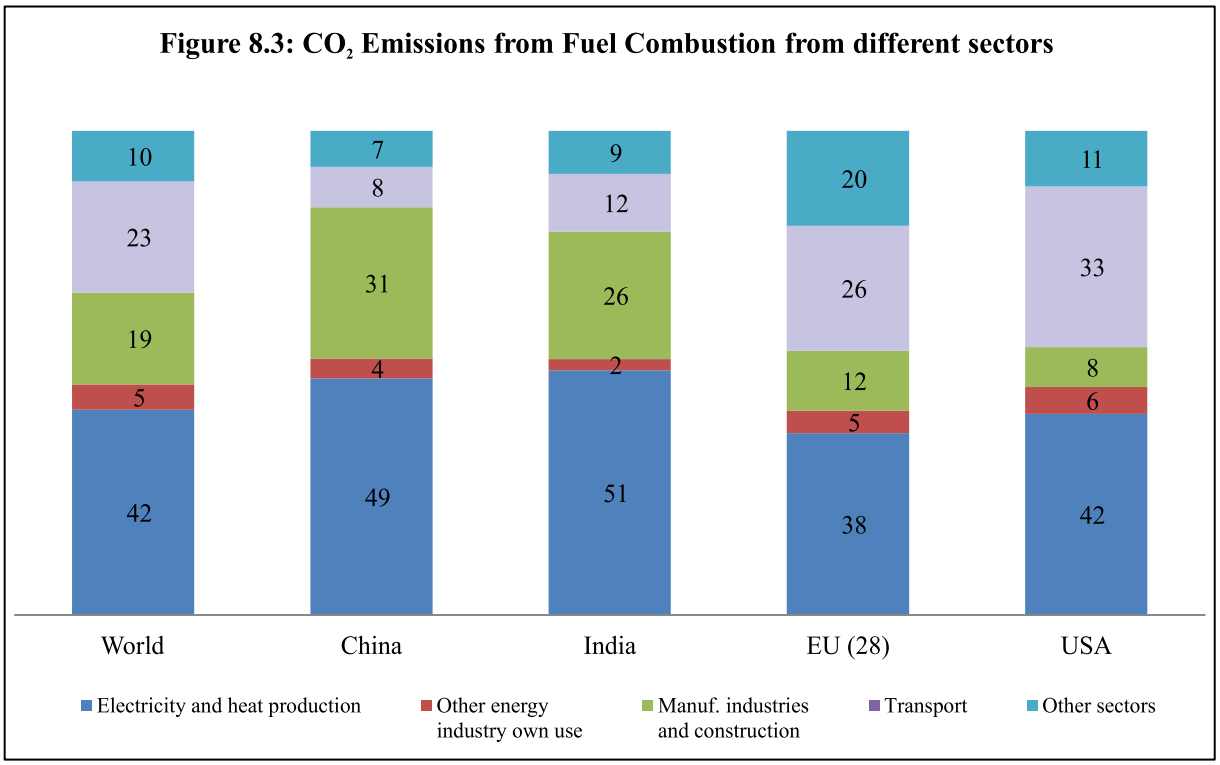
Source: **Based on PBL Netherlands Environmental Assessment Agency data used in 'Trends in Global CO_2 Emissions 2015 Report'.**



Source: **Based on PBL Netherlands Environmental Assessment Agency data used in 'Trends in Global CO_2 Emissions 2015 Report' and World Bank Data.**

Sector-wise emissions

8.7 In terms of sectoral CO_2 emissions from fuel combustion, electricity and heat production was the largest contributor for China, India, the EU and the USA, more so for China and India, followed by the manufacturing industry for India and China and the transport sector for the US and the EU (Figure 8.3). These compositional patterns reflect the different priorities of these countries.



Source: **Based on data from IEA CO2 Emissions from Fuel Combustion, OECD/IEA, Paris, 2015.**

Paris Agreement

8.8 The 21st Conference of Parties (COP 21) under the United Nations Framework Convention on Climate Change (UNFCCC) successfully concluded in Paris after intense negotiations by the Parties followed by the adoption of the Paris Agreement on post-2020 actions on climate change. This universal agreement will succeed the Kyoto Protocol. Unlike the Kyoto Protocol, it provides a framework for all countries to take action against climate change. Placing emphasis on concepts like climate justice and sustainable lifestyles, the Paris Agreement for the first time brings together all nations for a common cause under the UNFCCC. One of the main focus of the agreement is to hold the increase in the global average temperature to well below 2°C above pre- industrial level and on driving efforts to limit it even further to 1.5°C. The Paris Agreement comprises of 29 articles and is supported by 139 decisions of the COP. It covers all the crucial areas identified as essential for a comprehensive and balanced agreement, including mitigation, adaptation, loss and damage, finance, technology development and transfer, capacity building and transparency of action and support (Box 8.1).

8.9 A marked departure from the past is the Agreement's bottom-up approach, allowing each nation to submit its own national plan for reducing greenhouse gas emissions, rather than trying to repeat a top-down approach advocated by the Kyoto Protocol, giving each country an emission reduction target.

Key Provisions of the Paris Agreement

8.10 **CBDR-RC:** The principle of CBDR-RC has been maintained across all the important pillars of the agreement (mitigation, adaptation, finance, technology

Box 8.1: Salient features of the Paris Agreement

- The Paris Agreement acknowledges the development imperatives of developing countries by recognizing their right to development and their efforts to harmonize it with the environment, while protecting the interests of the most vulnerable.
- The Agreement seeks to enhance the 'implementation of the Convention' while reflecting the principles of equity and CBDR-RC, in the light of different national circumstances.
- Countries are required to communicate to the UNFCCC climate action plans known as nationally determined contributions (NDCs) every five years. Each Party's successive NDC will represent a progression beyond the Party's then current NDC thereby steadily increasing global effort and ambition in the long term.
- The Agreement is not mitigation-centric and includes other important elements such as adaptation, loss and damage, finance, technology development and transfer, capacity building and transparency of action and support.
- Climate action will also be taken forward in the period before 2020. Developed countries are urged to scale up their level of financial support with a complete road map towards achieving the goal of jointly providing US$ 100 billion by 2020. At the same time, a new collective quantified goal based on US$ 100 billion floor will be set before 2025.
- The Agreement mandates that developed countries provide financial resources to developing countries. Other Parties may also contribute, but on a purely voluntary basis.
- Developed countries are urged to take the lead in mobilization of climate finance, while noting the significant role of public funds in the mobilization of finance which should represent a progression beyond their previous effort.
- The Agreement includes a robust transparency framework for both action and support.
- Starting in 2023, a global stocktake covering all elements will take place every five years to assess the collective progress towards achieving the purpose of the Paris Agreement and its long term goals.
- The Paris Agreement establishes a compliance mechanism, overseen by a committee of experts that operates in a non-punitive way, and is facilitative in nature.

development and transfer, capacity building and transparency of action and support). This was one of the contentious issues between developed and developing countries during the negotiations, with developed countries arguing that the world has changed since 1990 and fast-growing economies like India and China should also take deeper emission cuts despite the fact that they have historically contributed less to the global emission of greenhouse gases.

8.11 **NDCs:** The Paris Agreement invites Parties to submit their first nationally determined contributions prior to the submission of their instruments of ratification, accession, or approval of the Agreement. However, this requirement stands satisfied if a Party has already communicated its INDC prior to joining the Agreement. The Parties whose intended nationally determined contributions have a time frame up to 2025-2030 are required to communicate or update these contributions by 2020 and to do so every five years thereafter. Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution. It also recognizes the need to support developing country Parties for the effective implementation of the agreement. NDCs may also include quantifiable information, time frames for implementation, scope and coverage, planning processes, assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gases.

8.12 **Mitigation:** To achieve the long-term temperature goal of holding temperature increase to below 2°C, in the context of sustainable development and efforts to eradicate poverty, Parties in the Agreement aim to reach global peaking of greenhouse gas emissions as soon as possible. The Paris Agreement operationalizes differentiation between developed and developing countries mitigation actions through three main elements, namely, (a) by acknowledging that peaking of emission in developing countries will take longer; (b) by calling upon developed countries to take the lead in mitigation actions; and (c) by calling upon support to be provided to developing countries for implementation of climate change actions, recognizing that enhanced support will allow for higher ambition in their action.

8.13 **Adaptation:** Given the trends in global warming, even if the temperature rise is restricted to below 2°C, adaptation support would be required for developing countries like India. The agreement establishes the global goal on adaptation – of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change – with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the 2°C goal. Countries are required to update periodically their adaptation communication, but are given flexibility on the timing and method of communication.

8.14 **Finance:** The agreement sets a binding obligation on developed countries to provide financial resources to developing countries for both mitigation and adaptation while encouraging other countries to provide support on a voluntary basis. It reaffirms that developed countries will take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds. The decision also sets a new collective quantified goal from a floor of US$ 100 billion per year prior to 2025, taking into account the needs and priorities of developing countries.

8.15 The agreement marks a step forward in terms of providing transparent and consistent information on support provided and mobilized by developed countries to developing countries. Though the modalities and procedure for reporting such information would be decided at a later stage, this could

help in avoiding double counting in terms of mobilized finance.

8.16 **Technology Development and Transfer:** The Paris Agreement contains strengthened provision on technology development and transfer with a new technology framework being established.

8.17 In addition, there is now a link established between the Technology Mechanism and the Financial Mechanism to allow for collaborative approaches in Research and Development (R&D), and for facilitating access to technologies. This reflects the concern of developing countries to ensure provision of financial resources to facilitate access to technologies.

8.18 The emphasis on R&D and innovation in the Paris Agreement is a critical step in furthering the implementation of the provisions of the Convention. Similarly, the technology framework providing guidance to the Technology Mechanism (which comprises of the Technology Executive Committee and the Climate Technology Centre and Network) in promoting and facilitating enhanced action on technology development and transfer is a step forward.

8.19 **Transparency:** The transparency mechanism of action and support under the UNFCCC was differentiated for developed and developing countries. The information provided by the developed countries in their National Communications, Biennial Reports (BR), etc. is subject to international assessment and review (IAR) while that provided by developing countries in their National Communications and Biennial Update Reports (BUR) is subject to international consultation and analysis (ICA). As per the Paris Agreement now, the Transparency Framework will build on and enhance the arrangements under the UNFCCC, and the information provided by all countries will be subject to technical expert review. However, the review process will give due consideration to the respective national capabilities and circumstances of developing countries. Countries will be required to report on their anthropogenic emissions by sources and removals by sinks of greenhouse gases, and regularly track progress on achieving their NDCs.

8.20 **Global stocktake:** The agreement also establishes a framework for global stocktake to assess the collective action towards achieving the long-term goals mentioned in the Agreement. This stocktake would be an assessment of the aggregate level of ambition communicated through the NDCs in relation to the level needed, while considering mitigation, adaptation and the means of implementation and support, and in the light of equity. The first stocktake is slated for 2023.

8.21 The Paris Agreement also clearly states in its decision that it is under the aegis of the UNFCCC and will come into force only when at least 55 Parties to the Convention, accounting for at least an estimated 55 percent of total global greenhouse gas emissions, have deposited their instruments of ratification, acceptance, approval or accession. A new Ad Hoc Working Group on the Paris Agreement (APA) has also been set up to work on issues requiring further rules or guidance, including preparing for entry into force of the Agreement and the first session of the Conference of Parties serving as the Meeting of Parties to the Agreement.

8.22 Going forward, there is a clear direction and positives for clean energy sectors, energy efficiency and green finance (Box 8.2). Focus on renewable energy sectors like solar and wind energy can send strong market signals for technology development, particularly clean technology. However, there could be pressure on emerging economies to announce a peaking year of their emission in the future. The new transparency framework calling for regular reporting is an added obligation.

Box 8.2: Green Finance

The term green finance has gained a lot of attention in the past few years with the increased focus on green development. The Rio+20 document clearly states what green economy policies should result in and what they should not. While there is no universal definition of green finance, it mostly refers to financial investments flowing towards sustainable development projects and initiatives that encourage the development of a more sustainable economy (Höhne et al. 2012). Green finance includes different elements like greening the banking system, the bond market and institutional investment. Several working definitions and sets of criteria of green finance have also been developed. Examples include the China's Green Credit Guidelines, the Climate Bonds Taxonomy of Green Bonds, the International Development Finance Club's (IDFC) approach to reporting on green investment, the World Bank/International Finance Corporation's (IFC) Sustainability Framework and the UK Green Investment Bank Policies. An initial review of the current definitions in use reveals sizeable intersections of the various definitions in thematic areas such as clean energy, energy efficiency, green buildings, sustainable transport, water and waste management, as well as areas of controversy such as nuclear and large-scale hydro energy, biofuels and efficiency gains in conventional power.

Over the past decade there have been advances in mainstreaming of green finance within financial institutions and financial markets. Voluntary standards such as the Equator Principles have enhanced environmental risk management for many financial institutions. The World Bank Group has set up an informal "Sustainable Banking Network" of banking regulators, led by developing countries, to promote sustainable lending practices. In 2015, green bonds issued by governments, banks, corporates and individual projects amounted to US$42 billion. Globally, more than 20 stock exchanges have issued guidelines on environmental disclosure, and many green indices and green ETFs (exchange-traded funds) have been developed. The Financial Stability Board (FSB) has established a climate-related financial disclosures task force that is expected to complete its first stage of the work by end-March 2016. A growing number of institutions, including the Bank of England and Bank of China (Industrial and Commercial Bank of China), have begun to assess the financial impact of climate and environmental policy changes. Germany, the US and the UK have developed interest subsidy and guarantee programmes for green financing, and over a dozen government-backed green investment banks are operating globally. The G-20 has also recently set up a green finance study group (GFSG).

One topical issue in the context of green finance is that of enhancing the ability of the financial system to mobilize private green finance, thereby facilitating the green transformation of the global economy which has been widely discussed in different fora including the G20. However, for developing countries like India, private finance will not readily be forthcoming and public finance both international and domestic needs to be used to leverage private finance.

Green development is also important for India though green finance is yet to pick up. Attaining the ambitious solar energy target, development of solar cities, setting up wind power projects, developing smart cities, providing infrastructure which is considered as a green activity and the sanitation drive under the 'Clean India' or 'Swach Bharath Abhiyan' are all activities needing green finance. India has created a corpus called the National Clean Energy Fund (NCEF) in 2010-11 out of the cess on coal produced/imported ('polluter pays' principle) for the purpose of financing and promoting clean energy initiatives and funding research in the area of clean energy. Some of the projects financed by this fund include innovative schemes like a green energy corridor for boosting the transmission sector, the Jawaharlal Nehru National Solar Mission's (JNNSM) installation of solar photovoltaic (SPV) lights and small capacity lights, installation of SPV water pumping systems, SPV power plants, grid-connected rooftop SPV power plants and a pilot project to assess wind power potential.

So far four banks have issued green bonds in India. Proceeds from these bonds are mostly used for funding renewable energy projects such as solar, wind and biomass projects and other infrastructure sectors, with infrastructure and energy efficiency being considered as green in their entirety. The Securities and Exchange Board of India (SEBI) has also recently approved the guidelines for green bonds.

While mobilization and effective use of green finance is of primary importance, there are some issues which need to be taken note of.

- For a developing country like India, poverty alleviation and development are of vital importance and resources should not be diverted from meeting these development needs. Green finance should not be limited only to investment in renewable energy, as, for a country like India, coal based power accounts for around 60 per cent of installed capacity. Emphasis should be on greening coal technology. In fact, green finance

for development and transfer of green technology is important as most green technologies in developed countries are in the private domain and are subject to intellectual property rights (IPR), making them cost prohibitive.

- Green bonds are perceived as new and attach higher risk and their tenure is also shorter. There is a need to reduce risks to make them investment grade.
- There is also a need for an internationally agreed upon definition of green financing as its absence could lead to over-accounting.
- While environmental risk assessment is important, banks should not overestimate risks while providing green finance.
- Green finance should also consider unsustainable patterns of consumption as a parameter in deciding finance, particularly conspicuous consumption and unsustainable lifestyles in developed countries.

Source: **Based on G20's GFSG backgrounder and internal study.**

Reference: **Höhne / Khosla / Fekete / Gilbert (2012): Mapping of Green Finance Delivered by IDFC Members in 2011, Ecofys.**

Intended Nationally Determined Contribution (INDC)

8.23 INDCs are plans by governments communicated to the UNFCCC regarding the steps they will take to address climate change domestically. As per the COP 19 decision (Warsaw 2013), all Parties were requested to prepare their INDCs, without prejudice to the legal nature of the contributions towards achieving the objectives of Article 2 of the Convention and communicate them well in advance of COP 21. Accordingly, India submitted its INDC to the UNFCCC on 2 October 2015 (Box 8.3).

8.24 India's INDC is comprehensive and covers all elements, i.e. adaptation, mitigation, finance, technology and capacity building. India's goal is to reduce the overall emission intensity and improve the energy efficiency of its economy over time. It also covers concerns to protect the vulnerable sectors and segments of its society. The principle of equity and CBDR, historical responsibilities and India's development imperatives and enhanced adaptation requirements have been recurring themes in the INDC document.

8.25 India houses 30 per cent of the global poor, 24 per cent of global population without access to electricity, and 92 million people

Box 8.3: India's INDC: Climate Change Contributions

1. To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation.
2. To adopt a climate friendly and cleaner path than the one hitherto followed by others at a corresponding level of economic development.
3. To reduce the emissions intensity of its GDP by 33 to 35 per cent of the 2005 level by 2030.
4. To achieve about 40 per cent cumulative electric power installed capacity from non-fossil fuel- based energy resources by 2030 with the help of transfer of technology and low cost international finance including from the Green Climate Fund (GCF).
5. To create an additional carbon sink of 2.5 to 3 billion tonnes of CO_2 equivalent (CO_2eq.) through additional forest and tree cover by 2030.
6. To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, the Himalayan region, coastal regions, health and disaster management.
7. To mobilize domestic and new and additional funds from developed countries for implementing these mitigation and adaptation actions in view of the resources required and the resource gap.
8. To build capacities, create a domestic framework and an international architecture for quick diffusion of cutting-edge climate technology in India and for joint collaborative R&D for such future technologies.

without access to safe drinking water. Coupled with its vulnerability in terms of the impact of climate change, this entails that India faces formidable and complex challenges in terms of balancing the sustainable development agenda. Given the challenges it faces, it has prepared an ambitious plan in terms of clean energy, energy efficiency and lower emission intensity while addressing the critical issue of poverty and food security.

8.26 India's INDC sets ambitious renewable energy targets mainly in terms of solar and wind energy. With a potential of more than 100 GW, the target is to achieve 60 GW of wind power and 100 GW of solar power installed capacity by 2022. Given that in 2014 the world's entire installed solar power capacity was 181 GW, this target is extremely ambitious and clearly places India as a major potential renewable energy player (World Resource Institute, October 2015). India has also launched a historic International Solar Alliance (ISA) which is envisaged as a coalition of solar resource-rich countries to address their special energy needs and will provide a platform to collaborate on addressing the identified gaps through a common, agreed approach. Although there is lot of emphasis on boosting the renewable energy sector, the INDC clearly state that coal would continue to be the dominant source of power generation in the future. However, the INDC incorporates a lot of initiatives to improve the efficiency of coal-based power plants and to reduce their carbon footprint. Clean coal technologies would be critical to meeting the demand for power generation in the future.

8.27 In addition to mitigation-related activities, the INDC also incorporates adaptation-related activities. Out of the eight National Missions on Climate Change in India, five focus on adaptation in sectors like agriculture, water and forestry. The INDC also highlights India's major initiatives taken for rural livelihood security and disaster management. India's INDC have been welcomed as fair and ambitious, specifically in the renewable energy and forestry sectors. However, the task is enormous as can be seen from a comparison on some actuals with the targets (Table 8.1).

Table 8.1: INDC Targets

	Current	INDC target
Wind power installed capacity	25.08 GW	60 GW by 2022
Solar power installed capacity	4.88 GW	100 GW by 2022

Source: **Compiled from Ministry of New and Renewable Energy data and India's INDC.**

8.28 Mobilizing finance is critical to achieving the ambitious targets set by India. Preliminary estimates suggest that at least US$ 2.5 trillion at 2014-15 prices will be required for meeting India's climate change action under the INDC between now and 2030. While the maximum share of the country's current climate finance comes from budgetary sources, India is not relying solely on them and is experimenting with a careful mix of market mechanisms together with fiscal instruments and regulatory interventions. However, it needs to be emphasized that international finance is a critical enabler for the scaled up climate action plans.

International Assessment of INDCs

8.29 The 'Synthesis Report on the Aggregate Effect of the Intended Nationally Determined Contributions' (October 2015) of the UNFCCC, states that 119 INDCs were communicated by 147 Parties representing 86 per cent of global greenhouse gas emissions in 2010. Out of the 119 INDCs submitted, 100 had an adaptation component, which reflects the relevance of adaptation to all areas of social and economic activity and the strong interest of Parties in continuing to strengthen their adaptation efforts together with their mitigation ones. The INDCs of most countries are national in scope and can be implemented through their national action plan (NAP) and they cover a large number of sectors. In addition to adaptation, some of the

INDCs also have quantified loss and damage projections. Parties have also highlighted the crucial role of enhanced international support for implementing their INDCs.

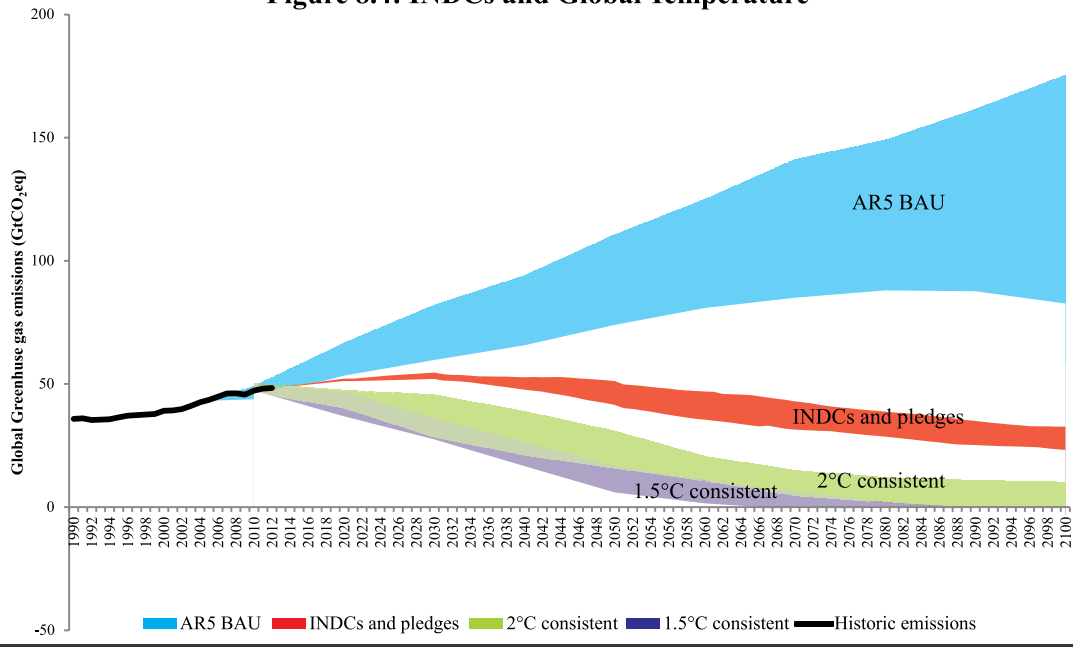
8.30 Further, the report states that the implementation of the communicated INDCs would result in aggregate global emission levels of 55.2 Gt CO_2 eq. in 2025 and 56.7 Gt CO_2 eq. in 2030. Global aggregate emission levels resulting from the implementation of INDCs do not fall within the 2°C scenarios by 2025 and 2030 and are expected to be higher by 34 - 46 per cent in 2025 and 37 - 52 per cent in 2030 in relation to the global emission level in 1990. However, as compared to the 1990 and 2010 levels, global average per capita emissions are expected to decline by 8 and 4 per cent by 2025 and by 9 and 5 per cent by 2030 respectively.

8.31 Figure 8.4 shows the impact of current pledges including those in the INDCs submitted by countries as well as other scenarios on the global greenhouse gas emissions. As per the Climate Action Tracker Report, under the baseline scenario of the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (AR5) Working Group III, global rise in temperatures is expected to reach 4.1°C – 4.8°C above pre-industrial levels by the end of the century. Under the pledges and INDCs, it is likely to be limited to around 2.7°C above pre-industrial levels. Under the AR5 business as usual (BAU) scenario, greenhouse gas emissions are expected to be between 60 and 82 $GtCO_2eq$. in 2030 while with the implementation of the INDCs and pledges it is expected to lie between 52 and 55 $GtCO_2eq$. in 2030. The 2°C consistent emissions are much lower and lie between 28 and 45 $GtCO_2eq$. However, the amount of finance needed to achieve even the communicated INDCs would be huge.

Tracking Climate Finance

8.32 Policymakers around the world are alive to the compulsion of combating climate

Figure 8.4: INDCs and Global Temperature



Source: **Climate Action Tracker Project. http://climateactiontracker.org/global.html**

Note: **AR5 BAU refers to the baseline scenario taken from IPCC AR5 Working Group III.**

INDCs and pledges refers to the unconditional pledges or promises that governments have made including those in the submitted INDCs as of 7 December 2015.

change as unmitigated climate change risks pose irreversible costs. Complexity arises in the case of financing for addressing adaptation and mitigation of GHG emissions. Provision of finance is embedded in the convention and has also been mentioned in the Paris Agreement for addressing the adaptation and mitigation needs of developing countries. Equally important is the tracking of climate finance. Lack of a clear definition of climate finance has led to controversies in recent estimates of climate finance. The 'Climate Finance in 2013-14 and the US$100 Billion Goal' report released by the Organisation for Economic Co-operation and Development (OECD) and Climate Policy Initiative states that the mobilization of climate finance from developed to developing countries had reached US$62 billion in 2014. The report seems to include the full value of multilateral development bank (MDB) loans as well as official development assistance (ODA), some private finance, export credits, etc. as climate finance, leading to double counting. Also it includes the promises, pledges and multi-year commitments and not actual disbursements as climate finance. The decline in allocation of ODA to the least developed countries (LDC) in the past year, could perhaps be linked to higher allocation to 'climate-related objectives', implying that ODA is being diverted to climate-related activities.

8.33 The Paris Agreement mandates that transparent and consistent information on support provided and mobilized through public interventions for developing country Parties be provided by developed countries. However, it is silent on the definition of climate finance. While the question of what counts as climate finance would be decided at a later stage by the Standing Committee on Finance under the UNFCCC, it is important that it should highlight certain basic elements like sources of funding, terms of funding and purpose of funding in addition to resources being committed/disbursed/new. Moreover, while defining climate finance, it is also important to define what cannot be counted towards climate finance. Aid money meant for development purpose should not be counted as climate finance. With reference to funds provided for multiple purposes, only the share provided solely for climate change should be included under climate finance. Also systems should be in place to check for double counting or treatment of ODA as climate finance. There is an even greater gap in tracking adaptation finance and segregating it from development funds as a whole; as a result, very often the entire amount allocated to a project is erroneously treated as adaptation finance. Any climate finance tracking exercise needs to carefully account for these problems.

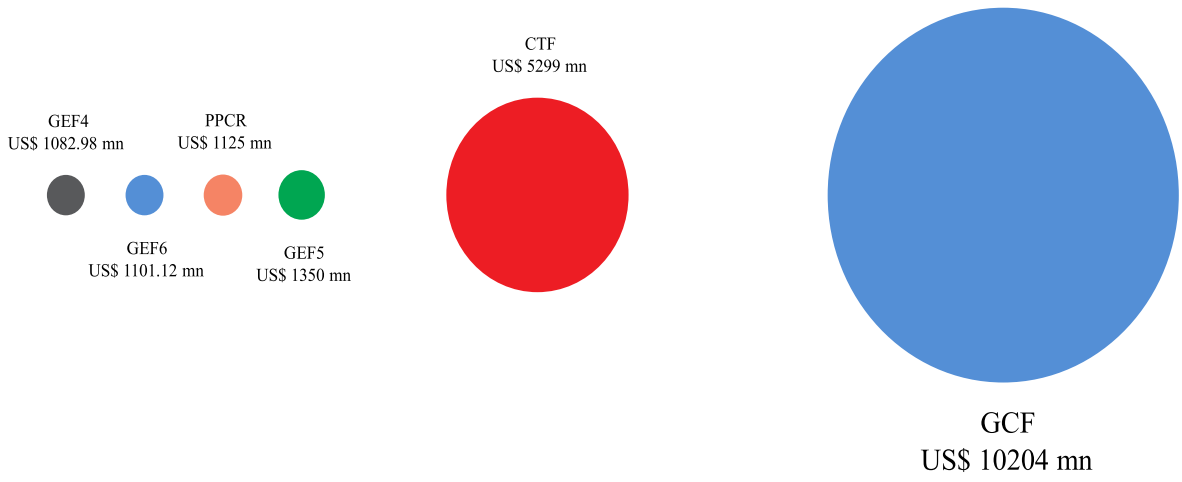
Multilateral Climate Funds

8.34 International climate funds can either be multilateral or bilateral depending on the participating countries. Funds may further be classified according to their area of focus, namely mitigation, adaptation or REDD (reducing emissions from deforestation and forest degradation). Figure 8.5 shows some of the major multilateral climate funds in terms of their relative sizes according to the pledges made by different countries. Currently, the Green Climate Fund (GCF) is the largest, with pledges amounting to US$10.2 billion. The second largest is the Clean Technology Fund (CTF) with pledges amounting to US$5.3 billion. With the capitalization of the GCF and the sunset clause of the CTF, there is ambiguity about the role of the CTF in the climate finance architecture post-2020.

The GCF

8.35 The GCF was established as an operating entity of the financial mechanism of the UNFCCC in 2011 and is expected to be a major channel for climate finance from developed to developing countries. The GCF has so far been pledged US$10.2 billion by 38 governments. These include some developing

Figure 8.5: Major Multilateral Climate Funds based on pledges made by countries



Data source: **Climate Funds Update website: climatefundsupdate.org. Status as of November, 2015.**

Note: **PPCR - Pilot Program for Climate Resilience**

countries with small contributions. The highest contribution of US$3 billion has been announced by the USA, followed by Japan (US$1.5 billion), the UK (US$1.2 billion), France (US$1.03 billion) and Germany (US$1.0 billion). Out of this total of US$ 10.2 billion, only US$ 5.9 billion has been converted into contribution agreements, with Japan, the UK, France and Germany fully signing the pledged amounts. Some countries including the USA are yet to sign the pledged amounts. The initial resource mobilization period extends from 2015 to 2018. At the 11th GCF board meeting (November 2015), the board approved commitment of US$168 million to eight specific projects, subject to certain conditions being met by the project proponents. The board aims to approve US$2.5 billion in commitments to additional projects in 2016.

Global Environment Facility

8.36 The Global Environment Facility (GEF) was established as a pilot programme for environmental protection. The current project cycle is GEF-6 over the years 2014-18. In 1992, when the Biodiversity and Climate Change Conventions were adopted at Rio de Janeiro, the GEF was adopted as a financial mechanism for helping developing countries meet their financing needs for achieving their climate change goals. As of November 2015, the GEF has directly invested a total of US$14.5 billion in 3946 projects in 167 countries, out of which US$4.2 billion is in 1010 projects for climate change mitigation. Till date, India has received US$516.6 million of GEF grant, of which US$324.69 million is for climate change mitigation projects while US$10 million is for climate change adaptation projects.

International Carbon Markets

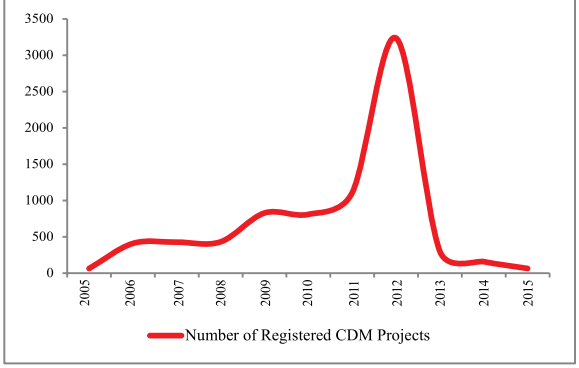
8.37 The Clean Development Mechanism (CDM), created multilaterally under the UNFCCC is one of the mitigation instruments under the Kyoto Protocol. Lack of mitigation ambition in the pre-2020 period has slowed its momentum. Moreover, low ambition for emissions reductions expressed by developed countries under the Kyoto Protocol and some major players pulling out of Kyoto Protocol has further suppressed the demand for certified emissions reduction (CER) credits. At present, the CDM is facing its most severe crisis since it was set up a decade ago.

8.38 The CDM has witnessed a steady decline in the number of projects being registered since 2013 (Figure 8.6) owing to the crash in the price of CERs since 2012. In 2015 only 68 fresh CDM projects were registered and as on 31st January 2016, a total of 7691 projects were registered. Given that pre-2020 mitigation ambition is limited, the demand for CERs is expected to remain subdued. The potential supply of CERs till the end of 2020 is expected to be 7,758,428,513.

8.39 Analysis of the INDCs submitted to the UNFCCC reveals that many of the Parties to the Convention have shown interest in using market mechanisms or are positively inclined towards them. The Paris Agreement mentions voluntary cooperation among Parties through the use of internationally transferred mitigation outcomes. This indicates that market-based mechanisms are likely to be developed in the coming years to help Parties meet their post-2020 mitigation commitments. It remains to be seen whether the Kyoto flexibility mechanisms would be continued beyond 2020 or what form the mechanism takes.

8.40 In addition to the multilateral market-based mechanisms, many regional and national market mechanisms are under implementation. According to a World Bank Report (2015), around 40 countries and 20 regions around the world have regional carbon-pricing instruments under implementation. These represent about one-fourth of global greenhouse gas emissions. These instruments are either in the form of a carbon tax or an emissions trading scheme. There are at least 19 major emissions-trading schemes under implementation at national and regional levels across the world. The major regional emissions-trading scheme currently under implementation is the European Union Emission Trading System (EU ETS). The EU ETS covers 28 EU countries as well as Iceland, Liechtenstein and Norway.

Figure 8.6: Annual Increase in the Number of Registered CDM Projects



Source: **UNEP Technical University of Denmark (DTU) Partnership CDM Pipeline analysis and database as of 1 January 2016.**

CDM projects in India

8.41 As on 4 January 2016, 1593 out of a total of 7685 projects registered by the CDM executive board are from India, which so far is the second highest in the world with China taking the lead with 3764 projects registered. Indian projects have been issued 191 million CERs, 13.27 per cent of the total number of CERs issued. These projects are in the energy efficiency, fuel switching, industrial processes, municipal solid waste, renewable energy and forestry sectors and are spread across the country. About 90-95 per cent of the CDM projects are being developed by the private sector, facilitating investments of about ₹583,751 crore (US$ 87.77 billion) in the country, which is more than the total of multilateral grants available for climate change related activities.

Domestic Actions on Climate Change

National Action Plan on Climate Change

8.42 A major component of India's domestic actions against climate change is the National Action Plan on Climate Change (NAPCC). The Prime Minister's Council on Climate Change (PMCCC) has directed the missions under the NAPCC to enhance their ambition in respect of adaptation, mitigation and capacity building and reprioritize them, besides recommending the setting up of some new missions in addition to the existing

eight. Considering the adverse impacts that climate change could have on health, a new Mission on Climate Change and Health is currently under formulation and a National Expert Group on Climate Change and Health has been constituted. The proposed waste-to-energy mission will incentivize efforts towards harnessing energy from waste and is aimed at lowering India's dependence on coal, oil and gas for power production. The National Mission on Coastal Areas (NMCA) will prepare an integrated coastal resource management plan and map vulnerabilities along the entire (nearly 7000-km-long) shoreline. The Ministry of Earth Sciences will provide it scientific and technical advice and the Ministry of Environment, Forest and Climate Change (MoEF&CC) will manage and implement the NMCA.

State Action Plans on Climate Change

8.43 The State Action Plans on Climate Change (SAPCC) aim to create institutional capacities and implement sectoral activities to address climate change. These plans are focused on adaptation with mitigation as co-benefit in sectors such as water, agriculture, tourism, forestry, transport, habitat and energy. So far, 28 states and 5 union territories (UTs) have submitted their SAPCCs to the MoEF&CC. Out of these, the SAPCCs of 32 states and UTs have been endorsed by the National Steering Committee on Climate Change (NSCCC) at the MoEF&CC.

National Adaptation Fund for Climate Change

8.44 A National Adaptation Fund for Climate Change (NAFCC) has been established with a budget provision of ₹350 crore for the year 2015-2016 and 2016-2017. It is meant to assist in meeting the cost of national- and state-level adaptation measures in areas that are particularly vulnerable to the adverse effects of climate change. The overall aim of the fund is to support concrete adaptation activities that reduce the adverse effects of climate change facing communities, sectors and states but are not covered under the ongoing schemes of state and central governments. The adaptation projects contribute towards reducing the risk of vulnerability at community and sector level. Till date, the NSCCC has approved six detailed project reports (DPR), amounting to a total cost of ₹117.98 crore, submitted by Punjab, Odisha, Himachal Pradesh, Manipur, Tamil Nadu and Kerala.

Coal Cess and the National Clean Energy Fund

8.45 India is one of the few countries around the world to have a carbon tax in the form of a cess on coal. Not only has India imposed such a cess but it has also been progressively increasing it. The coal cess which was fixed at ₹50.00 per tonne of coal since 22 June 2010 and increased to ₹100.00 per tonne of coal in Budget 2014-15, was further doubled to ₹ 200.00 per tonne in the 2015-16 Budget.

8.46 The National Clean Energy Fund (NCEF) which is supported by the cess on coal was created for the purposes of financing and promoting clean energy initiatives, funding research in the area of clean energy and for any other related activities. Till date 56 projects have been recommended by the inter ministerial group (IMG) with total viability gap funding (VGF) of ₹34,784.09 crore spread over several years. For 2015-16, ₹4700 crore has been allocated in the Budget for NCEF projects. VGF is also being provided for Namami Gange or the Integrated Ganga Conservation Mission.

Perform Achieve and Trade

8.47 The Perform Achieve and Trade (PAT) scheme under the National Mission on Enhanced Energy Efficiency was introduced as an instrument for reducing specific energy consumption in energy-intensive industries with a market-based mechanism that allowed the trading of ESCerts (energy saving

certificate). The first PAT cycle which ended on 31 March 2015 included 478 industrial units in eight sectors. The monitoring and verification phase lasted from 1 April 2015 to 14 August 2015. The verification of the performance of designated consumers (DC) was carried out by accredited energy auditing firms. Currently, scrutiny of performance assessment documents by state designated agencies and by the Bureau of Energy Efficiency (BEE) is under process. After the scrutiny, on the recommendations of the BEE, the central government will issue ESCerts which will be traded through power exchanges. The activities for PAT cycle II such as deepening, that is including more designated consumers from the existing sectors, and widening, that is including more sectors, have already started.

Progress on the Renewable Energy Front in India

8.48 Renewable energy has become a major focus area of the government with the ambitious target of achieving 40 per cent cumulative electric capacity from non-fossil fuel-based energy resources by 2030. India is currently undertaking the largest renewable capacity expansion programme in the world. The total renewable energy capacity target has been increased to 175GW by the year 2022, out of which 100GW is to be from solar, 60 GW from wind, 10 GW from biomass and 5 GW from small hydro power projects.

8.49 The First Renewable Energy Global Investment Promotion Meet and Expo (RE-INVEST) were organized in February 2015 to provide a platform for the global investment community to connect with stakeholders in India. The objective of the RE-INVEST series of conference expos is to showcase India's renewable energy potential and the government's efforts to develop and scale up the country's installed renewable energy capacity to meet the national energy requirement in a socially, economically and ecologically sustainable manner. The event has attracted participation from118 exhibitors, 200 global investors and financers, 202 speakers and 2500 delegates from 32 countries. A total of 273,000 MW green commitments, including 62,000 MW of renewable manufacturing, were received in the event.

8.50 The Indian Prime Minister launched the ISA at COP 21 in Paris on 30 November 2015. The ISA will provide a special platform for mutual cooperation among 121 solar-resource-rich countries lying fully or partially between the Tropic of Cancer and Tropic of Capricorn. The Secretariat of the ISA will be hosted by India. Another ambitious programme of the government is the Development of Solar Cities Programme under which 56 solar cities projects have been approved. The government has also approved a scheme for setting up 25 solar parks, each with the capacity of 500 MW and above, and ultra mega solar power projects to be developed in the next five years in various states.

8.51 Another major renewable energy policy initiative is the National Offshore Wind Energy Policy 2015 to help in offshore wind energy development, including setting up of offshore wind power projects and research and development activities in waters, in or adjacent to the country, up to the seaward distance of 200 nautical miles exclusive economic zone (EEZ) of the country from the base line. Another development in the wind energy sector is that the accelerated depreciation benefits for wind power projects which were withdrawn with effect from 1 April 2012 have been restored on 18 July 2014. This is expected to help in creating a robust manufacturing base for wind turbines in the country. The Reserve Bank of India has issued guidelines for the inclusion of renewable energy in priority sector lending for scheduled commercial banks.

Sustainable Development

8.52 The United Nations General Assembly (UNGA) in its 17th session in September 2015 has announced a set of 17 SDGs and 169 targets which will stimulate action over the next 15 years. This set of goals replaces the MDGs which were coming to an end in 2015 and will try to work in the areas which could not be completed earlier. Unlike the MDGs, the SDGs were adopted after one of the largest consultation exercises in UN history. In the June 2012 RIO+20 United Nations Conference on Sustainable Development, the UN General Assembly's Open Working Group proposed SDGs covering a broad range of sustainable development issues, including ending poverty and hunger, improving health and education, making cities more sustainable, combating climate change and protecting oceans and forests, and were adopted by the General Assembly as part of the broader post-2015 development agenda in September 2015. The SDGs are effective from January 2016 and will end in 2030.

8.53 The agenda highlights poverty eradication, combating inequalities, promoting gender equality and the empowerment of women and girls as the ambient goals and has at its core the integration of the economic, social and environmental dimensions of sustainable development. This also calls for an invigorated global partnership for sustainable development, including multi-stakeholder partnerships, in addition to enhancing capacities of stakeholders in better quality measurement and compilation of data or information on sustainable development. One of the core elements of the outcome document of the SDGs was an effective follow-up and review architecture which is crucial for supporting the implementation of the new agenda.

8.54 India had made significant progress on the MDGs and has already achieved the target of gender parity in primary school enrolment and halved the proportion of population without access to clean drinking water and is on track on the poverty reduction target. But it is lagging on targets for achieving universal primary school enrolment, reducing child and infant mortality, and improving access to adequate sanitation. In comparison to the MDGs, the SDGs have very comprehensive targets and finding indicators for each of the 169 targets will be a challenge. Moreover, financing and adequate monitoring mechanisms will pose other major challenges. Taking leads from its progress on the MDGs, India will have to prioritize its SDGs, as it will be difficult to target each goal.

Conclusion

8.55 Making different countries from the world agree to a common framework on climate change and a set of SDGs in a single year was indeed a monumental achievement. But what is more important is the mobilization of the funds needed for realizing the bold targets envisaged under both and to have a clear action plan for implementation, taking note of the INDCs of individual countries. Successful implementation of the Paris Agreement, the SDGs and the ambitious targets set out in the INDCs will require huge financial resources which cannot be met through budgetary sources alone. Leveraging private finance along with public finance, both international and national, will be critical.

Social Infrastructure, Employment and Human Development

09
CHAPTER

The economic performance of a country goes beyond increases in Gross Domestic Product and Per Capita Incomes and encompasses enhancement of opportunities and improvement in social infrastructure such as education, health, housing and housing amenities; levels of employment and employability of the nationals, proportion and number of poor; is reflected by individual indices such as enrolment and literacy ratios, mortality rates, spread of immunisation, control of major diseases; access to safe drinking water and toilets and captured by an aggregate human development index, which needs to be calculated annually state-wise. All this economic development has to be in an inclusive manner covering the deprived/marginal sections including women and all states.

9.2 Social infrastructure with its positive externalities has a significant role in the economic development of a country. It is empirically proven and widely recognized that education and health impact the growth of an economy. Investing in human capital by way of education, skill development, training and provision of health care facilities enhances the productivity of the workforce and welfare of the population. In India, the proportion of economically active population (15-59 years) has increased from 57.7 per cent to 63.3 per cent during 1991 to 2013, as per Sample Registration System (SRS) data for 2013. If India has to reap the benefits of this 'demographic dividend' in the years ahead, it is imperative that investments in social infrastructure are made in appropriate measure to achieve the desired educational and health outcomes. India has to evolve a multi-pronged strategy with focus on bridging the gaps in access to social infrastructure through appropriate use of innovative technologies for enhancement of human potential for productive employment in various sectors and for improving the quality of life.

Trends in Social Sector Expenditure

9.3 As a proportion of the Gross Domestic Product (GDP), expenditure on education has hovered around 3 per cent during 2008-09 to 2014-15. Similarly, there has not been any significant change in the expenditure on health as a proportion of GDP and it has remained stagnant at less than 2 per cent during the same period. During 2013-14, out of the total expenditure on social services, 11.6 per cent was spent on education, while 4.6 per cent was spent on health (Table 9.1).

9.4 At the state level, in 2013-14, the total state capital expenditure on education was ₹110,894 million. Of this, Tamil Nadu had the highest share in the expenditure of about 12 per cent, followed by Uttar Pradesh with a share of 8.67 per cent and Gujarat with 6.67 per cent. However, in terms of per student expenditure, Sikkim and Goa spent more than ₹2000, while Tamil Nadu spent about ₹726. States such as

Table 9.1: Trends in Social Services Expenditure by Government (Centre and States)

Item/ Year	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15 RE	2015-16 BE
As percentage to GDP								
Total Expenditure	28.4	28.6	27.6	27.4	27.0	26.2	28.1	27.0
Expenditure on social services	6.8	6.9	6.8	6.6	6.6	6.5	7.0	6.7
of which:								
i) Education	2.9	3.0	3.1	3.1	3.1	3.0	3.1	3.0
ii) Health	1.3	1.4	1.3	1.2	1.3	1.2	1.3	1.3
iii) Others	2.6	2.5	2.4	2.2	2.2	2.3	2.6	2.4
As percentage to total expenditure								
Expenditure on social services	23.8	24.1	24.7	24.0	24.4	24.8	24.9	24.9
of which:								
i) Education	10.1	10.6	11.4	11.4	11.6	11.6	10.9	11.2
ii) Health	4.6	4.8	4.7	4.6	4.7	4.6	4.8	4.9
iii) Others	9.0	8.7	8.6	8.0	8.2	8.6	9.1	8.9
As percentage to social services								
i) Education	42.6	44.1	46.1	47.7	47.5	46.7	44.0	44.9
ii) Health	19.5	19.7	19.0	19.0	19.1	18.6	19.3	19.5
iii) Others	37.9	36.1	34.9	33.3	33.4	34.7	36.7	35.6

Source: **Budget Documents of Union and State Governments.**

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 Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Castes (OBC); labour and labour welfare; and social security and welfare, nutrition, relief on account of natural calamities.**

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. Data for states from 2013-14 onwards is provisional and pertain to budgets of 25 state governments.

5. GDP data from 2011-12 is based on new base year 2011-12.

Rajasthan and Madhya Pradesh spent as little as ₹37 and ₹40 per student respectively.

9.5 Though the expenditure on social sectors in India has not reflected an increasing trend, an increase in expenditure *per-se* may not always guarantee appropriate outcomes and achievements. The efficiency of expenditure incurred so far can be assessed by the performance of social sectors through various social indicators. An overall assessment of social sector expenditures in terms of achievements shows that wide gaps still exist in educational and health outcomes and there is need for substantial improvement and the need to remove inequalities in India.

Educational Challenges

9.6 The trends in enrolment reflect a decline in the percentage of enrolment in government schools in rural areas, from 72.9 per cent in 2007 to 63.1 per cent in 2014, as per the Annual Status of Education Report (ASER) 2014. This decline is partly made up by private schools which have registered an increase in enrolment from 20.2 per cent in 2007 to 30.7 per cent in 2014. In addition to the need to increase the percentage of enrolment substantially to

achieve universalization of education, concerns about the decline in enrolment in government schools need to be identified and addressed. Decline in enrolment in government schools and some shift to private schools might be largely related to the poor quality of education offered in government schools, since it is free or offered for a nominal fee.

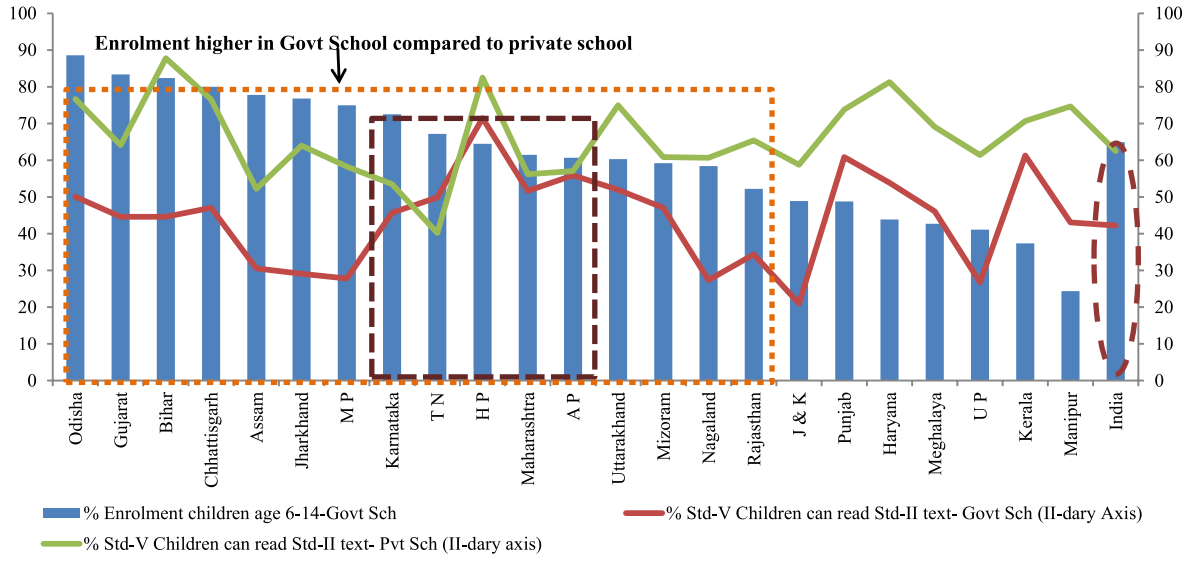
9.7 According to ASER 2014, there is a sharp decline in the number of children in standard V who can read a textbook of standard II in both government and private schools. In Government schools, the decline is from 56.7 per cent in 2007 to 42.2 per cent in 2014, and the percentage of children who can do division in standard V has declined from 41 per cent in 2007 to 20.7 per cent in 2014 in rural areas. In the case of standard V children in private schools who can read a standard II textbook, the decline is from 69 per cent in 2007 to 62.5 per cent in 2014. The percentage of children who can do division in standard V has declined from 49.4 per cent in 2007 to 39.3 per cent in 2014 in private schools. The decline in educational outcomes in private schools warrants equal attention since there is an increase in the share of private providers of schooling and education across India.

9.8 The all India and State-wise enrolment and reading outcomes in rural areas (Figure 9.1) show that in Himachal Pradesh, Maharashtra, Tamil Nadu and Andhra Pradesh, the reading outcomes of standard V children in both government and private schools are good and there is relatively less divergence between the two. The reading outcomes for standard V children in Government schools are low in Jammu and Kashmir, Uttar Pradesh, Madhya Pradesh and Assam.

9.9 The quality of education determines the quality of human capital and a lot more effort needs to be made to improve the spread of education in India through enrolment and by improving the quality of education in both government and private schools.

9.10 A related issue is professional qualification and training received by the teachers. According to the latest report by the Unified-District Information System for Education (U-DISE) on 'School Education in India', for the country as whole, only 79 per

Figure 9.1: State-wise Enrolment and Learning Levels (in per cent) at Primary Levels- Rural 2014



Source: **ASER 2014.**

Table 9.2: Professionally Trained Teachers and Pupil-Teacher Ratio in India, 2014-15

Class level	Professionally qualified teachers (%)	PTR
Primary only	73.18	24
Upper primary only	76.18	17
Secondary only	77.88	27
Higher secondary only	69.73	38
All teachers 2014-15	79.03	na
All teachers 2013-14	78.12	na

Source: **U-DISE, 2014 -15, School Education in India.**

Notes: **PTR - Pupil-Teacher Ratio; na- Not applicable.**

cent of teachers are professionally qualified (Table 9.2). For the higher secondary level, the percentage of qualified teachers is around 69 per cent. There is need to increase the percentage of qualified teachers and also the training of both qualified and under-qualified teachers.

9.11 Table 9.3 gives the Gender Parity Index (GPI) at various levels of school education. The data shows an improvement in girls education, with parity having been achieved between girls and boys at all levels of education, except higher education in the case of total and Scheduled Caste (SC) students. In the case of Scheduled Tribe (ST) students, parity between girls and boys has not been achieved across all levels of school and higher education. There is need to bridge the gender disparity in higher education among total and SC students and, at all levels of education for ST students.

9.12 Taking into account the gender bias which is inherent across most sections of society, a 'Digital Gender Atlas for Advancing Girl's Education in India' was launched on International Women's Day in March 2015. The tool has been developed in partnership with the United Nations Children's Fund (UNICEF) to help identify low-performing geographic pockets for girls, particularly from marginalized groups. It provides comparative analysis of individual gender-related indicators over the years. The Gender Atlas is available on the Ministry of Human Resource Development's website.

9.13 The Government's endeavour to build an inclusive society aims to provide education to underprivileged, vulnerable and marginalized people such as SCs, STs, Other Backward Classes (OBC) including Minorities and other Economically Backward Classes through various programmes of education. A number of scholarship schemes to encourage enrolment and learning levels among different groups are in operation. National Scholarship Portal, a single window system for various types of scholarship schemes administered by different Ministries/ Departments (like Pre-matric from Class I to X, Post-matric from XI to Ph.D. and Merit-

Table 9.3: GPI at All Levels of Education, 2013-14 (Provisional)

Level	Total	SC	ST
Primary (I to V)	1.03	1.01	0.98
Upper primary (VI to VIII)	1.06	1.04	0.99
Elementary (I to VIII)	1.04	1.05	0.98
Secondary (IX to X)	1.00	1.00	0.99
Senior secondary (XI- XII)	1.00	1.03	0.94
Class I to XII	1.03	1.02	0.98
Higher education*	0.89	0.89	0.79

Source: **Educational Statistics at a Glance 2014, MHRD.**

Notes: *** For the year 2012-13; GPI is the ratio of the female-to-male values of a given indicator. A GPI of 1 indicates parity between sexes.**

Table 9.4: Employment in the Organized Sector (as on 31 March)

Sector	Employment (in lakh)			Percentage change	
	2010	2011	2012	2011/2010	2012/2011
Public	178.62	175.48	176.09	(-)1.8	0.4
Private	108.46	114.52	119.70	5.6	4.5
Total	287.08	289.99	295.79	1.0	2.0
Women	58.59	59.54	60.54	1.6	1.7

Source: **Directorate General of Employment, Ministry of Labour and Employment.**

cum-Means for technical and professional courses), has been introduced under Direct Benefit Transfer (DBT) mode. During 2015-16, about 90 lakh Minority students are to be benefited under the Pre-matric, Post-matric and Merit-cum-Means scholarship schemes, while about 23.21 lakh SC students benefited under Pre-matric, 56.30 lakh under Post-matric and 3354 under the Rajiv Gandhi National Fellowship including the Top Class Education scholarship scheme are to be assisted.

Employment

9.14 Comprehensive data on employment and unemployment for the country as a whole is available with large lags. Employment growth in the organized sector, public and private combined, increased by 2.0 per cent in 2012 over 2011, as against a growth of 1.0 per cent in 2011 over 2010. The annual growth rate for the private sector was 4.5 per cent in 2012 against a growth of 5.6 per cent in 2011; whereas the public sector registered a marginal growth of 0.4 per cent in 2012 against a decline of 1.8 per cent in 2011. The share of women in organized sector employment was around 20 per cent over the three years (Table 9.4).

9.15 According to the fourth Annual Employment-Unemployment Survey conducted by the Labour Bureau during the period January 2014 to July 2014, the Labour Force Participation Rate (LFPR) (usual principal status) is 52.5 for all persons (Table 9.5). The LFPR for rural areas at 54.7 is greater than that for urban areas at 47.2. The LFPR for women is significantly lower than that for males in both rural and urban areas. The Worker Population Ratio (WPR) reflects a similar pattern, with women having lower participation rate in comparison to men in both rural and urban areas. As per Census 2011 also, the workforce participation rates for females trails behind that for males.

9.16 The Unemployment Rate (UR) for persons aged 15 years and above according to Usual Principal Status (UPS) is 4.7 per cent in rural areas and 5.5 per cent in urban areas. The total UR reported is 4.9 per cent (Table 9.5). The Labour Bureau

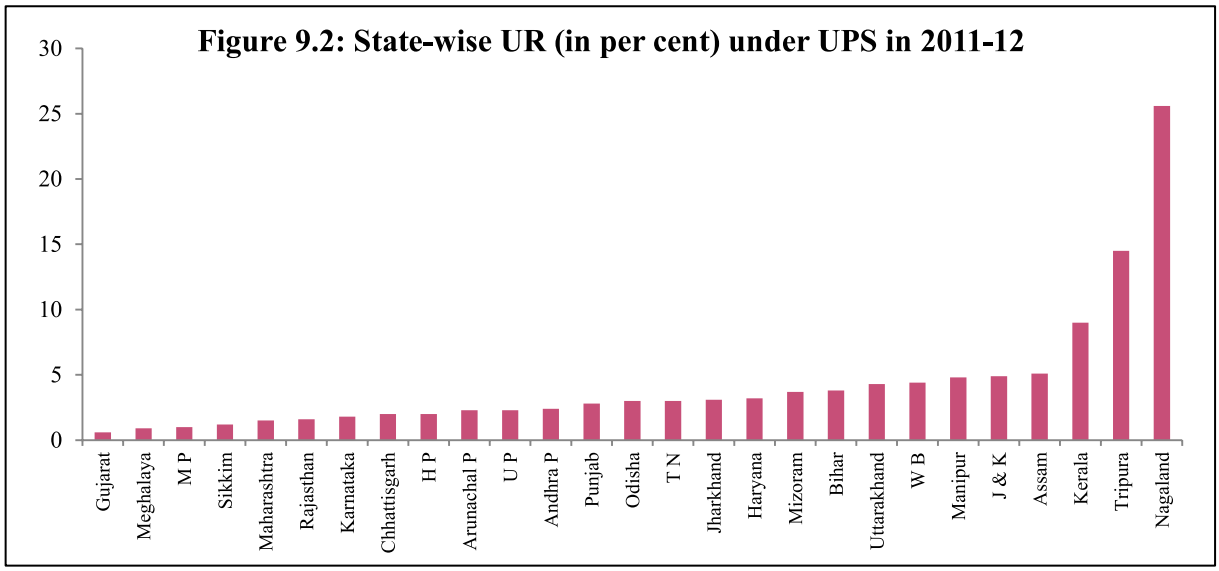
Table 9.5: LFPR, WPR and UR for Persons Aged 15 Years (in per cent)

Parameter	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
LFPR	74.7	29.1	54.7	73.8	18.5	47.2	74.4	25.8	52.5
WPR	71.6	27.2	52.1	70.9	16.2	44.6	71.4	23.8	44.9
UR	4.2	6.4	4.7	3.9	12.4	5.5	4.1	7.7	4.9

Source: **Fourth Annual Employment-Unemployment Survey 2013-14, Labour Bureau.**

Notes: **LFPR is labour force participation rate; WPR is worker-population ratio; UR is unemployment rate; UPS is usual principal status.**

Figure 9.2: State-wise UR (in per cent) under UPS in 2011-12



Source: **NSSO 2011-12.**

survey figures are much higher than the all-India unemployment rates arrived at by the National Sample Survey Office (NSSO, 2011-12), which reported URs of 2.3 per cent for rural areas, 3.8 per cent for urban areas and 2.7 per cent for India as a whole. The URs varied widely across States as can be seen in Figure 9.2.

9.17 The Government is keen to address the issue of low female LFPR and WPR and has launched various legislation based schemes and other programmes/schemes where the emphasis is on female participation. For example, the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), guaranteeing at least 100 days of employment to every household in rural areas has been enacted with a stipulation of one-third participation by women. During the current financial year (as on 1 January 2016), about 3.63 crore households have been provided employment of 134.96 crore person days under MGNREGA. Of the above person days, 76.81 crore person days (57 per cent) were availed of by women. The participation by women under the MGNREGA has been more than the stipulated 33 per cent since its inception. Similarly, the National Rural Livelihoods Mission (NRLM), a restructured version of the Swarnajayanti Gram Swarozgar Yojana (SGSY), has been in operation since 3 June 2011. It aims at organizing all rural poor households and nurturing and supporting them till they come out of abject poverty, by organizing one woman member from each household into affinity-based women Self-Help Groups (SHG) and their federations at village and higher levels by 2024-25. The mission has covered 1.7 lakh villages and mobilized around 24.61 lakh SHGs, of which 8.3 lakh are new.

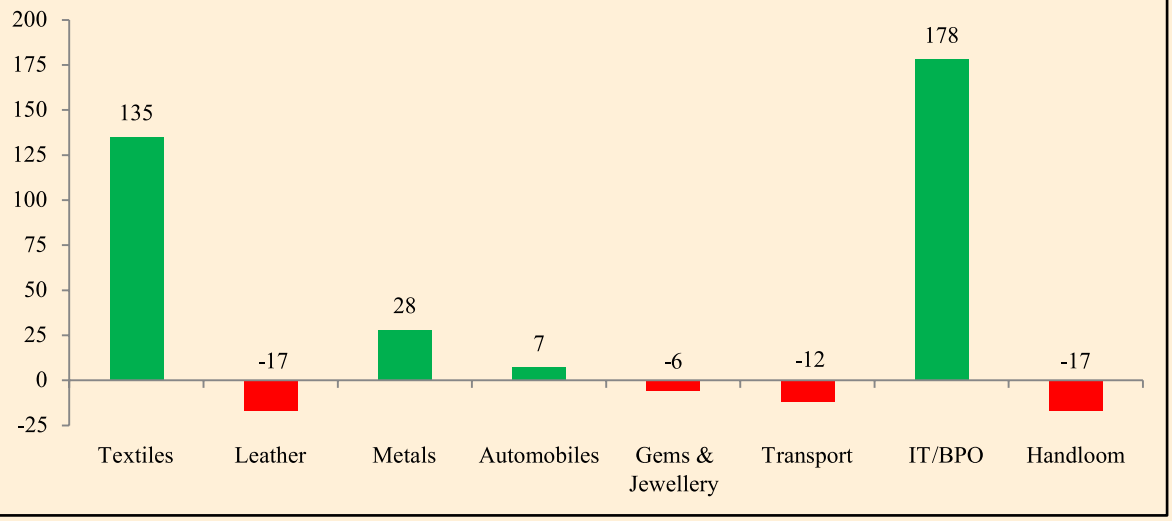
9.18 The Quarterly Survey Report of the Labour Bureau is based on a sample of selected labour-intensive industries and export-oriented sectors, which since 2009 have been sampled on a regular basis to assess the effect of economic slowdown on employment in India. As per the latest Quarterly Quick Employment Survey Report of the Labour Bureau, the overall estimated employment in all the selected sectors has shown a net addition of 37.67 lakh (persons) starting from the first survey (October 2008 to December 2008) till the 26th survey (April 2015 to June 2015). Box.9.1 shows employment generated in eight select industries.

9.19 A notable aspect of the employment situation in India is the large share of informal employment and growth in informal

Box 9.1: Quarterly Survey Report on Employment in Select Sectors

The employment scenario in the selected eight sectors in June 2015 over June 2014 is presented in Figure 9.3. At the industry level, the highest increase in employment is observed in the IT/ BPO (Information Technology/ Business process Outsourcing) over the period, June 2014 to June 2015. Between June 2014 and June 2015, in the eight selected sectors, employment has increased by about 0.3 million persons.

Figure 9.3: Employment Generation (in 000) in Eight Selected Sectors (June 2014- June 2015)



The 26th Quarterly Quick Employment Survey for the period April-June 2015 conducted in July 2015, covered a total of 2013 sample units for the quarter. At overall level, employment decreased by 43,000 during the quarter ended June 2015 over March 2015. At industry level, the highest increase in employment is observed in the leather sector where employment has increased by 8000 during June 2015 over March 2015. However, the automobile sector has seen a decrease in employment by 18000. The decrease in employment in textiles including apparels, handloom/ powerloom, IT/BPO, Gems & Jewellery and transport was to the tune of 17000, 6000, 5000, 3000 and 2000 respectively. There was no change in employment in the metals sector.

Source: **Labour Bureau.**

employment in the organized sector. The share of informal employment in the organized sector increased from 48 per cent to 54.6 per cent in 2004-5 to 2011-12. Its share in total employment remained above 90 per cent throughout this period. While growth and economic development ought to ensure adequate livelihood security and decent working conditions, the growth in informal employment and its heterogeneity have to be given due consideration to achieve the stated development objectives. In order to bring compliance in the system, catalyze job creation and ensure ease of doing business while safeguarding safety, health and social security of all workers in both the organized and unorganized sectors, the Central Government as well as the State Governments have initiated reforms in the labour market. The Central Government's labour reforms are briefly detailed in Box 9.2.

9.20 According to the India Labour and Employment Report 2014 [prepared by the Institute for Human Development (IHD), New Delhi], the low labour force participation in India is largely because the female LFPR, which is amongst the lowest in the world and the second lowest in South Asia after Pakistan. The participation of women in the labour force and employment rates are heavily impacted by economic, social and cultural issues and care work distributions in the home (Human Development Report-HDR, 2015).

Box 9.2: Labour Reforms

The Payment of Bonus (Amendment) Act 2015: The Payment of Bonus (Amendment) Act 2015 received the assent of the President on 31 December 2015. The eligibility for bonus payment as defined under section 2 (13) of the Payment of Bonus Act 1965 has been increased from ₹10,000 to ₹21,000 per month. Section 12 of the principal Act states that the calculation of bonus with respect to certain employees where the salary or wage of an employee exceeds ₹7000 (or the minimum wage for the scheduled employment as fixed by the appropriate government, whichever is higher) shall be paid per month, the bonus payable to such employee under section 10 or, as the case may be, under section 11, shall be calculated as if his/her salary or wage were ₹7000 per month (or the minimum wage for the scheduled employment as fixed by the appropriate government, whichever is higher).

National Career Services Portal: The Government is mandated to maintain a free employment service for its citizens. This is now being transformed with the launch of the National Career Service (NCS) Portal on 20 July 2015. The NCS is envisaged as a digital portal that will provide a nationwide online platform for job seekers and employers for job matching in a dynamic, efficient and responsive manner. As of 31 December 2015, approximately 3.58 crore job seekers, 9 lakh employers and 27,000 skill providers are registered on the portal. The Government has also approved the establishment of 60 model career centers and these are likely to become functional during 2016-17.

Shram Suvidha Portal: The features of the Shram Suvidha Portal launched by the Government are: unique Labour Identification Number (LIN) to units/ establishments registered on it (the unique LIN has been issued to 9,70,242 units as on 14th February, 2016); transparent labour inspection scheme; unified annual returns under nine central acts and unified electronic challan-cum-return for filling of monthly contribution with Employees Provident Fund Organization (EPFO) & Employee State Insurance Corporation (ESIC).

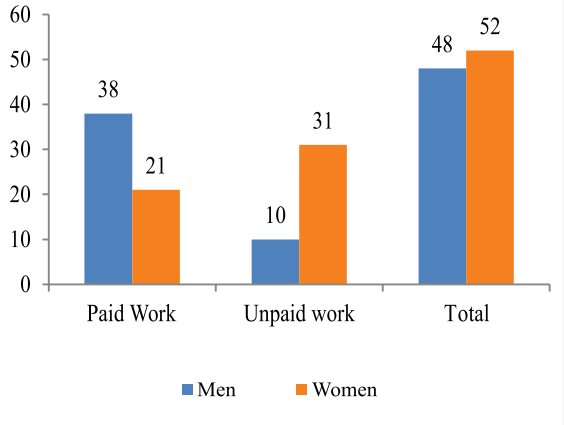
Universal Account Number: As part of the Pandit Deen Dayal Upadhyay Shramev Jayate Karyakram, portability feature has been launched through the Universal Account Number (UAN) by EPFO. So far, a total of 6,13,25,767 workers have already been provided UANs.

Source: Ministry of Labour and Employment.

9.21 The conventional employment and unemployment surveys have not been able to capture the various types of unpaid work that women engage in both within and outside households in rural and urban areas in India. Globally, men's share in paid work is around 1.8 times that of women, while women have a share three times that of men in unpaid work (Figure 9.4). Therefore, paid work which is visible and accounted for by the System of National Accounts (SNA) is dominated by men, while unpaid work which is not accounted for is dominated by women and remains unrecognized and unaccounted for.

9.22 Valuing unpaid work is important since women's work gets subsumed under several types of activities (Box.9.3). A Time Use Survey (TUS) was conducted in India in six select states on a pilot basis from July 1998 to June 1999. The results of the survey revealed the hidden contribution of women to the economy. Out of 168 hours in a week, males on an average spent about 42 hours in SNA-captured activities as compared to only about 19 hours by females. However, in the extended SNA activities, women spent 34.6 hours which included unpaid work at

Figure 9.4: Global Share of Men and Women in Paid/Unpaid Work (in per cent)



Source: **Human Development Report 2015.**

Box. 9.3: Capturing Women's Participation in Work: Unearthing the Potential of TUS Statistics

Paid/Unpaid work activities identified by the TUS 1998-1999

The TUS classification was based on the grouping of activities under the following three broad categories:

SNA activities

- Primary production activities
- Secondary activities
- Trade, business and services

Extended SNA activities

- Household maintenance, management and shopping for own household
- Care for children, the sick, elderly and disabled for own household
- Community service and help to other households

Non-SNA activities

- Learning
- Social and cultural activities, mass media, etc.
- Personal care and self-maintenance

NCATUS 2013

The NCATUS classifies activities into five groups:

- Economic activities of the self-employed, job workers and outworkers/home-based workers, i.e. those in the SNA 1993 production boundary
- Activities for which remuneration is in the form of cash or in kind
- Economic activities covered under SNA 1993 but not covered under Indian System of National Accounts (ISNA), like processing farm produce for home consumption, or not reckoned as economic activity under Employment and Unemployment Surveys (EUSs) like free collection of minor forest products for home consumption
- Activities relating to domestic work and family care, which fall within the general production boundary but are outside the production boundary of SNA 1993
- Activities relating to personal care and self-maintenance.

Source: **Based on the TUS July 1998- June 1999 and NCATUS 2013.**

home and outside, as opposed to only about 3.6 hours by men. The declining female participation rates in conventional surveys are largely explained by the high share of women in unpaid work. Based on the findings of the pilot TUS, the National Classification of Activities for Time Use Studies (NCATUS), which also provides a classification of unpaid activities that is crucial for capturing the various activities of women in the economy, has been developed.

9.23 Accordingly, the Ministry of Statistics & Programme Implementation (MOSPI) has conducted a pilot TUS in the states of Bihar and Gujarat in 2013 to test the NCATUS. The findings of this pilot will form the basis of extending TUS to all states. To design gender-sensitive policies for employment and to make women's and men's work visible, TUS is a crucial statistical tool which will provide profile of work in unpaid forms in the country.

Child Labour

9.24 A multi-pronged strategy which comprises statutory and legislative measures, rehabilitation of children withdrawn from work through specific schemes and universal

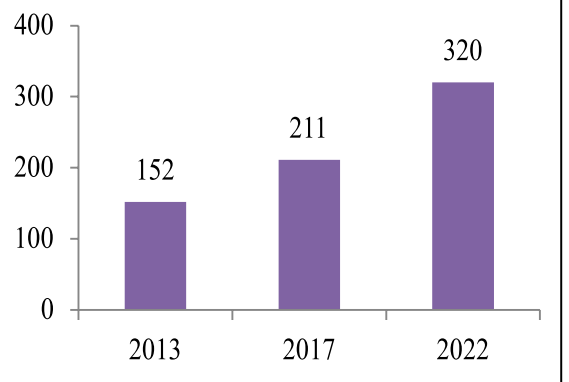
elementary education supplemented with economic rehabilitation of their families by way of convergence with existing programmes and schemes is required to tackle the problem of child labour. The National Child Labour Project (NCLP) Scheme was launched as a project-based intervention under which children rescued/withdrawn from work in the age group of 9-14 years are enrolled in NCLP special training centers, where they are provided bridge education, vocational training, midday meal, stipend, health care, etc., before being mainstreamed into formal education system. Children in the age group of 5-8 years are directly linked to the formal education system through close coordination with the Sarva Shiksha Abhiyaan (SSA). Complete prohibition on employment of children below 14 years along with linking the age of prohibition with the age under the Right of Children to Free and Compulsory Education Act 2009, and stricter punishment for employers contravening the provisions have been proposed as amendment to the Child Labour (Prohibition & Regulation) Act, 1986.

Skills Gap and Employment

9.25 Imparting vocational education and training is an effective way of developing skills at various levels and sub-sectors of industries for improving the employability of the population. However, there is a perception that vocational education and skill development are meant for people who have failed to join mainstream education. This perception is strengthened by the significantly lower wages paid to employees with vocational training vis-à-vis those with formal education. According to the National Skill Development Corporation (NSDC), there is a severe quality gap and lack of availability of trainers in the vocational education and training sector. By 2017, this skill gap within the vocational training sector including both teachers and non-teachers will reach a figure of 211,000. The workforce requirement is projected to increase to 320,000 by 2022 (Figure 9.5). Government has to invest in bridging the skill gap in the vocational education and training sector to improve the employability of people. Across industries and their sub- sectors, there are substantial skill gaps that need to be filled up through appropriate skill development plans that leverage the private sector along with public initiatives.

9.26 With the setting up of the NSDC, progress is being made towards creating increased awareness about the skill gap and a thrust towards skill development in both the government and private sector employers as well as the Indian masses. The establishment of the National Skill Qualification Framework (NSQF) will also facilitate increased adoption of skill development programmes, with availability of pathways for progression between higher education and skill development. A multipronged policy approach to enable skill development including but not limited to initiatives such as setting up of Sector Skill Councils (SSCs), definition of Occupation Standards, drawing up of the NSQF and funding initiatives such as the Standard Training and Assessment Reward (STAR) scheme are likely to create a widespread positive impact on the skill ecosystem in India.

Figure 9.5: Work Force Requirement in Vocational Training (in thousand)



Source: **NSDC.**

9.27 The SSCs as autonomous industry-led bodies through the NSDC create National Occupational Standards (NOSs) and Qualification Packs (QP) for each job role in the sector, develop competency frameworks, conduct training of trainers, conduct skill gap studies and assess through independent agencies and certify trainees on the curriculum aligned to NOSs developed by them. Till date, 38 SSCs have been approved and they have created 1433 QPs and 6819 NOSs.

9.28 Under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY), which targets offering 24 lakh Indian youth meaningful, industry-relevant, skill-based training and a government certification on successful completion of training along with assessment to help them secure a job for a better future, 5.32 lakh persons have already been enrolled. Of this number, 4.38 lakh have successfully completed training throughout India. The actual success of this initiative can be gauged by the number of trained personnel being employed, which also needs to be measured and periodically reported.

9.29 In addition, the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), a placement-linked skill development scheme for rural youth who are poor, as a skilling component of the NRLM has also been launched. During 2015-16, against a target of skilling 1.78 lakhs candidates under the DDU-GKY, a total of 1.75 lakh have been trained and 0.60 lakh placed till November 2015.

9.30 With a view to increasing the scope of employability among differently-abled persons, the Government has launched a National Action Plan (NAP) for skill training which will establish a network of skill-training providers led by training partners from government and non-government sectors including vocational rehabilitation centres. The plan has a target of skilling 5 lakh differently-abled persons in next three years. Plans are also on the anvil to extend the NAP with an online skill-training platform with a target of 5 lakh every year.

9.31 The National Policy on Skill Development and Entrepreneurship 2015 aims to ensure 'Skilling on a large Scale at a Speed with high Standards and promote a culture of innovation based entrepreneurship to ensure sustainable livelihoods'. Accordingly, a Policy Implementation Unit (PIU) will identify all the stakeholders involved and flag the actionable points to the responsible agency. Given that India has one of the youngest populations in the world, there is immense potential for overseas employment opportunities for skilled persons from India. The process of mapping such opportunities through the NSDC is also in progress.

Towards A Healthy India

9.32 Providing accessible, affordable and equitable quality health care, especially to the marginalized and vulnerable sections of the population is one of the key objectives of the Government. There are innumerable challenges to the delivery of efficient health services in India, given the paucity of resources and the plethora of requirements in the health sector. Population health is also significantly influenced by social and environmental determinants such as age at marriage, nutrition, pollution, access to potable water and hygienic sanitation facilities.

9.33 The Indian health sector has a mix of both public and private providers of health services. The private sector and the quality of care provided is variable, ranging from informal providers (quacks) to individually run nursing homes to large polyclinics and multiplex hospitals. The regulation for cost and quality of care is largely absent in most of the states. In the case of public sector, the health services are delivered through a network of health facilities including

ASHA (a volunteer health worker) at the community level, Health Sub-Center (HSC), Primary Health Centres (PHCs), Community Health Centres (CHCs), District Hospitals, Government Medical College Hospitals and the state and central government assisted ESI hospitals and dispensaries. Outreach and community level services are provided through coordination between ASHA, Anganwadi Workers (AWW) and the Auxiliary Nurse Midwife (ANM) at the HSC.

9.34 The data on health by the NSSO, 'Key Indicators of social consumption in India: Health', 2015, 71st Round (January –June 2014) throws some interesting findings. The private sector continues to play a significant role in the provision of outpatient and hospitalized care. However, it also points that there has been a nearly two-fold jump in the institutional deliveries since the last such survey. Further, over 60 per cent of all institutional deliveries are in the public sector and the Out of Pocket expenditures for childbirth in the public sector is about one-tenth that in the private sector. This is largely a result of sustained strengthening of health systems targeted towards maternal and child healthcare through programmes such as Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakram (JSSK). This is also reflected in 50 per cent sharper decline in MMR in the country as compared to global average rate of decline from the baseline of MDG of 1990.

9.35 As regards non-hospitalised care, the Survey points that as compared to the 60th round where 22 per cent sought health care in the public system, there was a small but significant shift in rural areas, with 28.3 per cent of care being provided by public sector. However, the share of public providers in treatment of non-hospitalised patients is very low at 11.5 per cent at HSC, PHC including ASHAs and ANMs. This percentage is even lower for urban areas where the public provisioning of primary health care has been largely absent. This reflects confinement of primary care to selective primary care limited to Reproductive and Child Health (RCH) services. The National Urban Health Mission (NUHM) launched over a year back is trying to address the issue of inadequacy of public provisioning of primary health care in urban areas.

9.36 NSSO (2015), reports that the average medical expenditure for treatment (excluding child birth) per hospitalized case if treated in private hospital was about four times than that of public hospital during January-June 2014. On an average, ₹25,850 was spent for treatment per hospitalized case by people in the private facilities as against ₹6,120 in the public health facilities. The average total medical and other related non-medical expenditure per hospitalization in rural and urban areas are ₹16,956 and ₹26,455 respectively. The average total medical expenditure for non- hospitalized treatment per ailing person in rural and urban areas is ₹509 and ₹639 respectively. These expenditures reflect the challenges that India faces in the provision of affordable and accessible health care to the population. The NSSO also reports that coverage by government-funded insurance schemes has risen to 13.1 per cent of rural India and 12 per cent of urban population.

Health in India: Select Indicators

9.37 As per Census 2011, the share of children (0-6 years) accounts for 13.6 per cent of the total population in the country. An estimated 26 million children are born every year in India. Under five, mortality has declined from 126 in 1990 to 49 in 2013, much faster than global rate of decline during the same period. Immunization is one of the thrust areas of the child health programme of the Government to achieve Goal 4 of Millennium Development Goals (MDGs) of reducing the child mortality.

9.38 According to the National Family

Health Surveys, the immunization coverage has improved substantially since NFHS-1, when only 36 percent of children were fully vaccinated and 30 percent had not been vaccinated at all. The full immunization coverage improved to 44 per cent as per NFHS-3. As per the latest survey, NFHS-4, only health indicators for 13 States and 2 UTs are available. Selected indicators of the 12 states are given in Table 9.6. As per NFHS-4, the percentage of children fully immunized in the age group (12-23 months) is above 80 per cent in Sikkim and West Bengal. All the 12 states have more than 50 per cent children fully immunized. The percentage of children who are fully immunized is lower in urban areas compared to rural areas in majority of the States (Table 9.6), indicating that although the private sector is more wide spread in urban areas, the availability of preventive health care is through the public health system, which needs strengthening in urban areas.

9.39 High-risk patients like children and pregnant women do require special preventive healthcare services. Targeting coverage of all those children by 2020 who are either unvaccinated, or are partially vaccinated against seven vaccine-preventable diseases which include diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B, Mission Indradhanush was launched in December 2014. In addition, vaccination against Japanese Encephalitis and Haemophilus influenza type B will be provided in selected districts/states of the country. Pregnant women are also to be immunized against tetanus. Since the launch of the programme, three rounds have been conducted with the aim of covering 201 high focus districts in the first phase, accounting for nearly 50 per cent of all unvaccinated or partially vaccinated children in the country. The progress so far has been coverage of 352 districts of the country with 20.8 lakh children and 5.8 lakh pregnant women immunized in the first phase, 17.2 lakh children and 5.1 lakh pregnant women immunized in the second phase and 17 lakh children and 4.8 lakh pregnant women immunized in the third

Table 9.6: Full Immunization of Children, age 12-23 months (in per cent)

State	NFHS-3			NFHS-4		
	Rural	Urban	Total	Rural	Urban	Total
Andhra Pradesh	42.9	51.2	46.0	67.2	**60.4**	65.3
Bihar	31.1	45.6	32.8	61.9	**59.7**	61.7
Haryana	60.3	(82.2)	65.3	65.1	**57.0**	62.2
Karnataka	52.2	59.6	55.0	64.8	**59.8**	62.6
Madhya Pradesh	31.5	68.7	40.3	50.2	63.0	53.6
Meghalaya	32.6	33.8	32.9	58.5	81.4	61.5
Sikkim	66.7	(85.4)	69.6	83.7	**(81.4)**	83.0
Tamil Nadu	83.7	77.8	80.9	66.8	73.3	69.7
Telangana	-	-	-	68.3	**67.8**	68.1
Tripura	47.9	*	49.7	51.2	64.2	54.5
Uttarakhand	57.4	67.2	60.0	58.2	**56.5**	57.7
West Bengal	62.8	70.3	64.3	87.1	**77.7**	84.4

Source: **NFHS-4 and NFHS-3.**

Notes: **Andhra Pradesh was undivided during NFHS- 3; Figures in parenthesis are based on 25-49 unweighted cases;**

*** Based on fewer than 25 unweighted cases.**

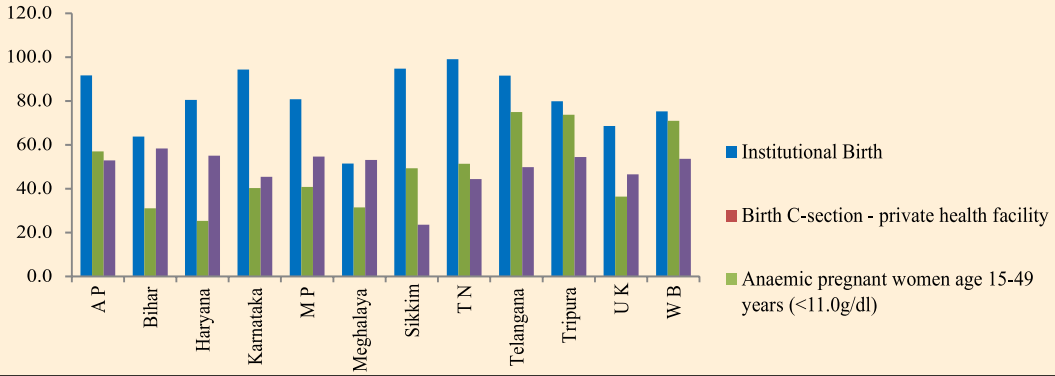
phase of Mission Indradhanush. All services available under national programmes are free to all and universally accessed with fairly good rates of coverage. Thus, India has one of the largest programmes of publicly financed ART drugs for HIV anywhere in the world. All drugs and diagnostics in all vector borne disease programmes, tuberculosis, leprosy, including rapid diagnostic kits and third generation anti-microbicidals are free and so are insecticide treated bed nets.

9.40 Further, under the Rashtriya Bal Swasthya Karyakram (RBSK), support is being provided to States/UTs for child health screening and early intervention services through early detection and early management of common health conditions. In addition to these initiatives, the National Iron Plus Initiative has been rolled out to address anaemia among children (6 months to 19 years) and women in reproductive age including pregnant and lactating women in both rural and urban areas throughout the country. Though there has been substantial improvement in institutional births particularly in public sector, expenditure towards private institutional births is on the rise, indicating the need to sustain and even expand the efforts of the public health system by increased investments. Anaemia among pregnant women continues to be high. This has been a chronic problem and will require efforts at improving iron levels by supplementation and improved diets (Box 9.4).

Box 9.4: Pregnancy and women

The prevalence of anaemia among pregnant women is a serious concern as it affects the health of the unborn child. Among the 12 States, Andhra Pradesh, Meghalaya, West Bengal, Tripura, Madhya Pradesh, Haryana and Bihar have reported anaemia among more than 50 per cent pregnant women in the age group 15-49 years. A majority of States have reported anaemia among pregnant women (Figure 9.6).

Figure 9.6: Status of Selected Health Indicators (in per cent)



The proportion of Caesarean section (C-section) births to the total births is considered an important indicator of emergency obstetric care. If it is below 5 per cent there are a substantial proportion of women who do not have access to surgical obstetric care or there is underuse of C-sections. However, if it is above 15 per cent, it implies an over-utilization of the procedure for reasons other than `life saving' as per WHO.

Though the percentage of women reporting institutional births has improved and is above 50 per cent in a majority of the States, an increasing proportion of births in private facility with C-sections is an issue of public health with growing concern. In addition to the financial implication of C-sections on average household expenditure, there is a health impact of C- sections on the mother and the infant that warrants a campaign for greater awareness by public health authorities. Among the 12 states, more than 50 per cent of the births are in a private health facility and are delivered by C-section in the States of Tamil Nadu, Andhra Pradesh, West Bengal, Tripura and Telangana. This also accounts for the high out of pocket expenditure (OOPE) in the private sector.

Source: Based on NFHS-4 (2015-16) and World Health Organisation, 2010.

Table 9.7: Universal Health Coverage (UHC) Index values (in per cent) for Select Countries

Country	Year	Immunization	Diarrhoea treatment	Inpatient admission	Impoverish-ment	UHC
Brazil	1998	67.6	44.1	92.3	94.1	82.0
	2006	67.6	43.0	85.9	93.6	81.6
India	**1998**	**26.0**	**10.3**	**71.6**	**85.2**	**51.6**
	2006	**34.5**	**22.1**	**71.6**	**83.7**	**56.9**
Indonesia	2000	49.4	49.7	27.9	93.4	47.3
	2009	59.5	48.2	27.9	93.1	47.0
Philippines	1998	68.5	23.0	64.7	95.7	66.2
	2008	72.6	54.3	64.7	95.0	75.2
South Africa	1997	61.7	53.0	96.6	95.9	78.8
	2003	61.7	53.0	96.6	96.7	79.3
Vietnam	1997	46.7	45.2	86.7	84.6	57.8
	2008	30.6	65.9	86.7	66.1	61.1

Source: **World Bank Group Policy Research Working Paper 7470 on Measuring Progress Towards Universal Health Coverage--With an Application to 24 Developing Countries, November, 2015.**

9.41 With limited resources and competing demands in the health sector, it is essential that Government to prioritize expenditure. As preventive health care has always been a priority area because of its long-term societal benefits, Government has taken several steps in the direction of preventive health care to reduce the burden of diseases in India. Some of the important programmes aimed at investigation/screening and treatment cover Malaria; Kala-azar, Filaria, Dengue; Japanese Encephalitis and Chikungunya; detection and treatment for Tuberculosis including MDR-TB; detection and treatment for Leprosy; detection, treatment and counselling for HIV/AIDs; and cataract surgery for blindness control.

9.42 Considering the rising incidence of Non-Communicable Diseases (NCDs), the Government of India has initiated an integrated National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) jointly by the Ministry of Health and Family Welfare and Ministry of AYUSH (Ayurveda, Yoga, Unani, Siddha and Homeopathy) on pilot basis in six districts.

UHC Index

9.43 The Universal Health Coverage (UHC) index has been developed by the World Bank to measure the progress made in health sectors in select countries of the World. India ranks 143 among 190 countries in terms of per capita expenditure on health ($146 PPP in 2011). It has 157th position according to per capita government spending on health which is just about $44 PPP. India's performance on the indicator on treatment of diarrhoea needs improvement in terms of enhancing the coverage (Table 9.7). The impoverishment indicator reflects the financial risk protection coverage, with a higher percentage reflecting better coverage.

Health Sector Schemes and Human Resource Shortfalls in the Sector

9.44 Various initiatives under the National Health Mission (NHM), which subsume the National Rural Health Mission (NRHM) for rural areas and the NUHM for urban areas with a population of more than 30,000, have been taken up for providing free health care through a nationwide network of public health facilities like CHCs, PHCs and Sub-Centres

(SCs) in both rural and urban areas. The NHM has enabled significant improvement in creation of new facilities and infrastructure and improved availability of drugs. It has facilitated comprehensive health care and improved quality of life of children through early detection. Besides continuing support to existing interventions, initiatives such as 'RBSK' and `Rashtriya Kishor Swasthya Karyakram' (RKSK) have been launched in 2013 and 2014 respectively under the NHM to provide comprehensive health care. Since drugs constitute the bulk of OOPE, the Government of India has intensified efforts for provision of free essential drugs in public health facilities under the NHM Free Drugs Initiative. 'Jan Aushadhi Scheme' for providing quality generic medicines at affordable prices in collaboration with the State Governments has also been launched.

9.45 Dedicated skilled health personnel are a pre-requisite for efficient and effective delivery of health services. However, the availability of such personnel to meet various needs of the health sector is a huge challenge in India. The shortage of specialists, doctors, staff nurses, anesthetists, and others, adversely affects the outreach of health services, especially in rural areas. An evaluation study of the NRHM (2011) conducted in seven select states --Uttar Pradesh, Madhya Pradesh, Jharkhand, Odisha, Assam, Jammu and Kashmir and Tamil Nadu-- assessed the levels of shortfalls faced by some of these states in health personnel. There was a 95 per cent shortage of skilled health personnel in Jharkhand, around 80 per cent in Madhya Pradesh and 70 per cent in Uttar Pradesh (Table 9.8). Assam reported only 11 per cent shortage, while Tamil Nadu did not report any shortage at all.

9.46 Rural Health Statistics 2015 reports that at the all-India level, CHCs are short of surgeons by 83 per cent of the total requirement. Only 27 per cent of the sanctioned posts have been filled. Adequate skilled personnel

Table 9.8: Shortfalls in Health Personnel under the NRHM

States	Number of specialists		Shortfall of specialists (per cent)
	Required	Available	
U P	2060	618	70
M P	1080	220	80
Jharkhand	776	40	95
Assam	412	365	11

Source: **NITI Aayog.**

are necessary for strengthening the health sector's efficiency and delivery of services in rural areas.

9.47 Several programmes and new policy initiatives have been taken by the Government to ensure holistic development of children and socio-economic empowerment and development of women to secure gender equality in all spheres of social life. The scope and coverage of the schemes for women and child development have been expanding persistently as reflected in the magnitude of gender budget which increased from 2.79 per cent to 4.46 per cent as a percentage of total budgets in the Gender Budget Statement during the period 2005-06 to 2015-16.

Housing Amenities, Sanitation, Hygiene and Health

9.48 Public health is closely linked to access to safe drinking water and sanitation facilities. Consumption of contaminated drinking water, improper disposal of human excreta, lack of personal and food hygiene and improper disposal of solid and liquid waste have been causes of many diseases in developing countries like India. According to the Census of India 2011, around 70 per cent of India's population (650 million) lives in rural and slum areas. It increases the possibility of exposure of the population to water-borne and vector-borne diseases. This can also be attributed to the lack of basic sanitation facilities, unsafe water and unhygienic living conditions. As Table 9.9 shows only 46.6 per cent of households in India have access

Table 9.9: State-wise Distribution of Households with Access to Amenities 2011 (in per cent)

States	Drinking water facilities		Latrine facilities
	Tap water	Within the premises	Within the premises
Andhra Pradesh	69.9	43.2	49.6
Arunachal Pradesh	65.5	41.1	62.0
Assam	**10.5**	54.8	64.9
Bihar	**4.4**	50.1	**23.1**
Chhattisgarh	**20.7**	**19.0**	**24.6**
Goa	**85.4**	79.7	79.7
Gujarat	69.0	64.0	57.4
Haryana	68.8	66.5	68.6
Himachal Pradesh	**89.5**	55.5	69.1
Jammu & Kashmir	63.9	48.2	51.2
Jharkhand	**12.9**	**23.2**	**22.0**
Karnataka	66.1	44.5	51.2
Kerala	29.3	77.7	**95.2**
Madhya Pradesh	**23.4**	**23.9**	28.8
Maharashtra	67.9	59.4	53.1
Manipur	38.6	**16.1**	**89.3**
Meghalaya	39.3	**24.1**	62.9
Mizoram	58.7	31.2	**91.9**
Nagaland	47.2	29.3	76.5
Odisha	**13.8**	**22.4**	**22.0**
Punjab	51.0	**85.9**	79.3
Rajasthan	40.6	35.0	35.0
Sikkim	**85.3**	52.6	**87.2**
Tamil Nadu	79.8	34.9	48.3
Tripura	33.2	37.1	**86.0**
Uttar Pradesh	27.3	51.9	35.7
Uttarakhand	68.2	58.3	65.8
West Bengal	25.4	38.6	58.9
INDIA	**43.5**	**46.6**	**46.9**

Source: **Census 2011.**

Note: **Figures in 'red' relate to less than 25 per cent; Figures in green relate to more than 80 per cent.**

to drinking water within their premises. A far lower, 43.5 per cent of households have access to tap water. Similarly, less than 50 per cent households have latrine facilities within the household premises.

9.49 The disparity across states in terms of access to household amenities like tap water and latrine facilities is sharp. While access and coverage of latrine facilities is as high as 95 per cent in Kerala, 91 per cent in Mizoram and 89 percent in Manipur, less than 25 per cent of households have access to latrine facilities within the household premises in Bihar, Chhattisgarh, Jharkhand and Odisha (Table 9.9).

9.50 As per Census 2011, Bihar (77), Chhattisgarh (75), Jharkhand (78) and Odisha (78) are states with more than 75 per cent households having no latrine facilities at all. In this context, the Swachh Bharat

Mission (Gramin) is accelerating efforts to achieve universal sanitation coverage and eliminate open defecation in India by 2 October 2019. It also aims to promote better hygiene amongst the population and improve cleanliness by initiating Solid and Liquid Waste Management (SLWM) projects in villages, towns and cities.

9.51 The progress in sanitation has witnessed a spurt since the launch of the Swachh Bharat Mission. In its first year, i.e. from 2 October 2014 to 2 October 2015, 88 lakh toilets were constructed, against an expected outcome of 60 lakhs. More than 122 lakh toilets have already been constructed in rural areas so far under the mission. Sanitation coverage, which stood at 40.60 per cent as per NSSO data, has risen to around 48.8 per cent as on 31 December 2015. The Swachh Bharat Mission will begin to show intended results if the constructed toilets are maintained after construction and also utilized by the beneficiaries.

9.52 In order to improve availability of drinking water in rural areas, the National Rural Drinking Water Programme (NRDWP) initiated a new project supported by the World Bank, the 'Rural Water Supply and Sanitation Project–Low Income States' with a total cost of ₹ 6000 crore. The project aims to provide safe, 24 x 7 piped drinking water supply to 7.8 million rural population in four low-income States--Assam, Bihar, Uttar Pradesh and Jharkhand--that have the lowest piped water supply and sanitation facilities. As on 31 December 2015, the project has implemented 275 single and multi-village piped drinking water supply schemes through the decentralized delivery mechanism of empowered Gram Panchayat Water and Sanitation Committees.

Poverty

9.53 Poverty estimates based on the Tendulkar Committee methodology using household consumption expenditure survey data collected by the NSSO in its 68th round

Table 9.10: State-wise Poverty Situation in 2011-12 (in per cent)

Population below poverty line	Rural poverty	Urban poverty	Total poverty
Less than 10	Goa, Punjab, Himachal Pradesh, Kerala, Sikkim	Goa, Sikkim, Himachal Pradesh, J&K, Mizoram, Kerala, Andhra Pradesh, Tamil Nadu, Meghalaya, Maharashtra, Punjab, Tripura	Goa, Kerala, Himachal Pradesh, Sikkim, Punjab, Andhra Pradesh
10 to 20	Andhra Pradesh, Haryana, Meghalaya, Rajasthan, J&K, Nagaland, Tripura, Tamil Nadu, Uttarakhand	Gujarat, Haryana, Uttarakhand, Rajasthan, West Bengal, Karnataka, Nagaland, Odisha	J&K, Haryana, Uttarakhand, Tamil Nadu, Meghalaya, Tripura, Rajasthan, Gujarat, Maharashtra, Nagaland, West Bengal
20 to 30	Gujarat, West Bengal, Maharashtra, Karnataka	Arunachal Pradesh, Assam, Madhya Pradesh, Chhattisgarh, Jharkhand, Uttar Pradesh	Mizoram, Karnataka, Uttar Pradesh
30 to 40	Arunachal Pradesh, Manipur, Madhya Pradesh, Assam, Uttar Pradesh, Bihar, Odisha, Mizoram,	Bihar, Manipur	Madhya Pradesh, Assam, Odisha, Bihar, Arunachal Pradesh, Manipur, Jharkhand, Chhattisgarh
Above 40	Jharkhand, Chhattisgarh		

Source: **Based on NITI Aayog estimates, 2011-12.**

(2011-12) shows that the incidence of poverty declined from 37.2 per cent in 2004-05 to 21.9 per cent in 2011-12 for the country as a whole, with a sharper decline in the number of rural poor. While the rural poverty ratio declined from 41.8 per cent in 2004-05 to 25.7 per cent in 2011-12, the urban poverty ratio declined from 25.7 per cent in 2004-05 to 13.7 per cent in 2011-12. The rural poverty ratio still remains much higher than the urban. The high rural poverty can be attributed to lower farm incomes due to subsistence agriculture, lack of sustainable livelihoods in rural areas, impact of rise in prices of food products on rural incomes, lack of skills, underemployment and unemployment. Table 9.10 gives a picture of state-level rural and urban poverty.

Human Development: International Comparisons

9.54 As per the Human Development Report (HDR) 2015, India ranks 130 out of 188 countries. The Human Development Index (HDI) is based on the indices for life expectancy, educational attainment and per capita income. It is an alternative indicator of socio-economic development of the country. India's HDI value for 2014 is 0.609. India has improved her ranking by 6 places between 2009 and 2014 (Table 9.11). In comparison to other nations in the BRICS grouping, India has the lowest rank with Russia at 50, Brazil at 75, China at 90 and South Africa at 116.

9.55 India's HDI of 0.609 is also below the average of countries in the medium human development group (0.630) but marginally higher than the HDI average of South Asian countries (0.607). Between 1980 and 2014, India's Gross National Income (GNI) per capita increased by about 338 per cent. Over the same period, the Life Expectancy at Birth (LEB) increased by 14.1 years, mean years of schooling by 3.5 years and expected years of schooling by 5.3 years. As compared to other BRICS nations, India reports the least mean years of schooling, an LEB that is lower than that of Brazil, China and Russia, but higher

Table 9.11: India's Position in the Global HDI 2014

Country	HDI 2014		Change in rank	GNI per capita ($)	LEB (years)	Expected years of schooling (years)	Mean years of schooling (years)	Income Inequality		Gender Inequality Index 2014	
								Quintile Income Ratio	Income Gini-Coefficient		
	Value	Rank	2009-14	2014	2014	2014[a]	2014[a]	2005-13		Value	Rank
Norway	0.944	1	0	64992	81.6	17.5	12.6	4.0	26.8	0.067	9
Germany	0.916	6	3	43919	80.9	16.5	13.1	4.7	30.6	0.041	3
USA	0.915	8	-3	52947	79.1	16.5	12.9	9.8	41.1	0.280	55
U K	0.907	14	-2	39267	80.7	16.2	13.1	7.6	38.0	0.177	39
Russian Fed.	0.798	50	8	22352	70.1	14.7	12.0	7.3	39.7	0.276	54
Malaysia	0.779	62	1	22762	74.7	12.7	10.0	11.3	46.2	0.209	42
Sri Lanka	0.757	73	5	9779	74.9	13.7	10.8	5.8	36.4	0.370	72
Brazil	0.755	75	3	15175	74.5	15.2	7.7	16.9	52.7	0.457	97
China	0.727	90	13	12547	75.8	13.1	7.5	10.1	37.0	0.191	40
Egypt	0.690	108	-3	10512	71.1	13.5	6.6	4.4	30.8	0.573	131
Indonesia	0.684	110	3	9788	68.9	13.0	7.6	5.7	38.1	0.494	110
South Africa	0.666	116	4	12122	57.4	13.6	9.9	28.5	65.0	0.407	83
India	**0.609**	**130**	**6**	**5497**	**68.0**	**11.7**	**5.4**	**5.0**	**33.6**	**0.563**	**130**
Bangladesh	0.570	142	0	3191	71.6	10.0	5.1	4.7	32.1	0.503	111
Pakistan	0.538	147	0	4866	66.2	7.8	4.7	4.1	29.6	0.536	121
World	**0.711**			**14301**	**71.5**	**12.2**	**7.9**			**0.449**	

Source: **HDR 2015.**

Notes: **[a] Data refers to 2014 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**

than that of South Africa. Bangladesh, with a lower GNI per capita than India, has a much higher LEB (Table 9.12). The indices of education for India as reflected by the HDI show that the progress made in the education sector needs to be faster, with greater coverage and focus.

9.56 Along with HDI, HDR 2015 also gives the Gender Development Index (GDI) for all the 188 countries. The HDI value for females in India is 0.525 in 2014, which remains unchanged in comparison to that in 2013 (Table 9.13). As can be seen in Table 9.13, except Pakistan, all the other four South Asian countries have reported higher HDI values for females in comparison to India. The mean years of schooling for girls in India at 3.6 years is substantially lower than the figure for males and shows the extent of educational deprivation of girl children in India's cultural context.

9.57 Apart from the cultural and social factors which prevent women from engaging in economically productive activities outside the household, the lack of education and skills restricts them from participating in economic activity, which leads to their further impoverishment and subjugation of women in India. Therefore, in the present cultural context, and with a large proportion of women in the growing population of India, it is necessary to address the gender inequality

Table 9.12: HDI Component Indices of Select Countries 2014 and 1980

Country	HDI 2014					HDI 1980				
	LEB (years)	Expected years of schooling (years)[a]	Mean years of schooling (years)[a]	GNI per capita($)	HDI Value	LEB (years)	Expected years of schooling (years)	Mean years of schooling (years)	GNI per capita($)	HDI Value
Russian Fed.	70.1	14.7	12.0	22352	0.798	67.3	12.2	7.1		
Sri Lanka	74.9	13.7	10.8	9779	0.757	68.2	10.0	7.1	2562	0.571
Brazil	74.5	15.2	7.7	15175	0.755	62.0	9.9	2.5	10457	0.547
China	75.8	13.1	7.5	12547	0.727	66.5	8.4	3.9	758	0.430
South Africa^	57.4	13.6	9.9	12122	0.666	56.9	11.1	4.8	9756	0.569
India	**68.0**	**11.7**	**5.4**	**5,497**	**0.609**	**53.9**	**6.4**	**1.9**	**1255**	**0.362**
Bangladesh	71.6	10.0	5.1	3191	0.570	53.5	4.9	2.0	1148	0.338
Pakistan	66.2	7.8	4.7	4866	0.538	57.0	3.7	1.8	2437	0.353

Source: **HDR 2015.**

Notes: **[a] Data refers to 2014 or the most recent year available; $: Gross National Income (GNI) per capita is based on 2011 dollar purchasing power parity (PPP); ^ In respect of South Africa, data for 1980 is based on HDR 2014.**

Table 9.13: GDI Component Indices of Select Countries 2014

Country	GDI		HDI Value		LEB (years)		Expected years of schooling		Mean years of schooling		GNI per capita in($)	
	Value	Group										
	2014		2014		2014[a]		2014[a]		2014		2014	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Sri Lanka	0.948	3	0.730	0.769	78.2	71.5	14.2	13.3	10.7	10.9	5452	14307
China	0.943	3	0.705	0.747	77.3	74.3	13.2	12.9	6.9	8.2	10128	14795
India	**0.795**	**5**	**0.525**	**0.660**	**69.5**	**66.6**	**11.3**	**11.8**	**3.6**	**7.2**	**2116**	**8656**
Bangladesh	0.917	4	0.541	0.590	72.9	70.4	10.3	9.7	4.5	5.5	2278	4083
Pakistan	0.726	5	0.436	0.601	67.2	65.3	7.0	8.5	3.1	6.2	1450	8100

Source: **HDR 2015.**

Notes: **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.**

[a] Data refers to 2014 or the most recent year available; $: Gross National Income (GNI) per capita is based on 2011 dollar purchasing power parity (PPP).

that is pervasive in education, health and other socio-economic spheres in India.

Gender Issues

9.58 Gender discrimination in India, which is embedded in the social fabric, continues in most spheres such as access to education, to social and economic opportunities. The reliance on a legal system to offer gender equality and justice, has not built in a time dimension in the dispensation of justice. Further, dependence on schemes and programmes with inadequate coverage, outlays, inefficiencies and leakages in the delivery mechanism, the social, economic and legal condition of women shows inadequate improvement in terms of several indicators. Gender discrimination in India starts from the womb with sex determination tests and abortion of the female foetuses, discrimination in terms of nutrition offered to the girl child, the length and type of schooling the girl child avails of vis-à-vis her male siblings, inadequate or lack of access to higher education, discrimination in opportunities of employment and wages paid and unequal share in inheritance.

9.59 Society and the Government has relied on the legal route to address each of these discriminations, without matching changes in the social fabric or role model set by leaders in society from all spheres. The legal route suffers from several shortcomings, especially in terms of time taken for dispensation of justice. For each of the above discrimination, there is a law so all acts of discrimination are illegal, however, compliance requires a lot more to be done.

9.60 As per the status of disposal of cases involving 'Crimes against Women' taken up by Courts of Law reported by the National Crime Records Bureau (NCRB) in 2013, out of 38,901 'Dowry death' cases registered, only 13.6 per cent of cases have been tried, out of which only 4.4 per cent cases have resulted in convictions. The deterrent effect of conviction under a law is nullified by the slow disposal of cases and low conviction rates in crimes against women like 'Dowry death'.

9.61 A social problem can to a large extent be addressed by overall economic improvement, since there would be more for the family and the female members of the household will be less deprived of the basic rights to education, health and other needs. Additionally, the pathways to direct economic empowerment of women require education, skill development and employment of women in productive spheres of activity.

9.62 Women are still positioned outside the ambit of economic empowerment and financial inclusion. In 2012, only 24.2 per cent of females had accounts in scheduled commercial banks as per the 'Basic Statistical Returns of Scheduled Commercial Banks'. In rural areas, the percentage of women with bank accounts was 25.5 per cent and in urban areas 23.6 per cent. By 2014, the per cent of women with bank accounts reached only 27.5 per cent at the all India level, and in rural areas it was 26.9 per cent. In urban areas, the per cent of women with bank accounts was 27.2 per cent. Even in metropolitan areas only 29.7 per cent women have accounts with scheduled commercial banks. However, despite the socio-cultural milieu and in respect of access to banking services in India, achievements made by women in the financial sector are remarkable (Box 9.5).

Conclusion

9.63 There is a need to improve the quality of education provided in schools to arrest and reverse the decline in enrolment in government schools and improve the educational outcomes in both public and private schools. An important contributor to improvement in the quality of education would be an increase in the percentage of qualified teachers.

Box 9.5: Women Leaders in the Banking Sector (Former and Current)

Name	Organization
Usha Thorat	Reserve Bank of India
Shyamala Gopinath	Reserve Bank of India
K.J. Udeshi	Reserve Bank of India
Arundhati Bhattacharya	State Bank of India
Usha Ananthasubramanian	Bharatiya Mahila Bank/ Punjab National Bank
Vijayalakshmi Iyer	Bank of India/IRDA
Anshula Kant	State Bank of India
H.A. Daruwalla	Central Bank of India
Shubalakshmi Panse	Allahabad Bank
Usha Sangwan	Life Insurance Corporation
Alice G. Vaidyan	General Insurance Corporation
Lalita D. Gupte	ICICI Bank
Chanda Kochhar	ICICI Bank
Meera Sanyal	Royal Bank of Scotland
Kalpana Morparia	J P Morgan India
Shikha Sharma	Axis Bank
Naina Lal Kidwai	HSBC India
Aisha de Sequeira	Morgan Stanley
Vishakha Mulye	ICICI Ventures/Bank
Kaku Nakhate	Bank of America Merrill Lynch
Vedika Bhandarkar	Credit Suisse India
Uma Krishnan	Barclays India
Manisha Girotra	Union Bank of Switzerland, India
Zarin Daruwala	Standard Chartered Bank
Renu Sood Karnad	HDFC
Deena Mehta	Bombay Stock Exchange
Chitra Ramakrishna	National Stock Exchange

9.64 For achieving double-digit growth, it is critical that India particularly overcome the development challenges through innovative models of delivery of services. The development of a country is incomplete without improvement in its social infrastructure. To capitalize and leverage the advantages that India will have on the demographic front with a large segment in the productive age group, social infrastructure requires fresh impetus with focus on efficiency to improve the quality of human capital. To foster education and skill development of its diverse population, including the marginalized sections, women and the differently-abled, and to provide quality health and other social services, the Government has identified the potential of technology platforms which can significantly improve efficiency in the system.

6.65 Technology will play a crucial role as an enabler for inclusiveness and provider of efficient services by preventing leakages. The Government has introduced the game-changing potential of technology-enabled Direct Benefits Transfers (DBT), namely the JAM (Jan Dhan-Aadhaar-Mobile) number trinity solution, which offers exciting possibilities to effectively target public resources to those who need them most, and include all those who have been deprived in multiple ways. The progress is already evident with overhauling of the subsidy regime and a move to Aadhaar-DBT. It is paving the way for expenditure rationalization and is ensuring the removal of so far undetected fake and duplicate entities from beneficiary lists, resulting in substantial savings of public money. Aadhaar seeding in the beneficiaries' databases of six DBT schemes [(LPG-DBTL--54.96 per cent, MGNREGS--54.10 per cent, Pradhan Mantri Jan Dhan Yojana (PMJDY)--42.45 per cent, Public Distribution System (Ration Card)--38.96 per cent, National Social Assistance Programme (NSAP)--24.31 per cent and Employees' Provident Fund (EPF) Scheme--17.55 per cent)] has risen significantly by the end of December 2015. Riding on the technological platform that the Digital India Programme is expected to provide, integration of various beneficiary' databases with Aadhaar and appropriate process re-engineering would result in substantial saving of effort, time and cost, simultaneously ensuring full traceability of flow of funds from the Government to the beneficiary. Transparency and accountability of flow of funds through technology intervention will bring in the desired educational and health outcomes for the population and pave the way for a healthy and educated India in the near future.