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NOTES

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

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

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PREFACE

The Economic Survey is a collective effort, of numerous contributors in government and outside, as well as analysts abroad, but above all, of the dedicated staff of the Economic Division of the Department of Economic Affairs. To all of them is owed gratitude and thanks for hard work done, and done well and cheerily, meeting stiff deadlines and contending with the vicissitudes of rules and personalities.

All Economic Surveys bear the imprint of the incumbent Chief Economic Adviser. And so it is with this one. But the desire for change must be balanced by the imperative of maintaining continuity, in order to be respectful of, and gain from, traditions that have survived the tests of time, whim, fashion, and politics.

Inspired by the IMF's World Economic Outlook, this Survey departs structurally from its predecessors and presents its output in two volumes. Volume 1 discusses the outlook and prospects as well as a number of analytical chapters addressing topical policy concerns. Volume 2 describes recent developments in all the major sectors of the economy and contains all the statistical tables and data. In a sense, Volume 1 is forward-looking but gaining from the perspective provided by the recent past which is the subject of Volume 2.

In deciding the content of Volume 1 of the Survey, one challenge was to reconcile the vaguer claims of posterity and the clearer demands of the pressing present. Another related challenge was the hardy perennial: depth or breadth?

John Maynard Keynes famously said that it is necessary to distinguish the important from the urgent. At this juncture, with a new government in power and about to present its first full budget, and given the constraints of time and resources, this Survey has taken Keynes' advice to heart. The Survey favours the present, erring on the side of being expansive in scope even if the consequence has been to privilege cursory examination over in-depth analysis.

The broad themes of the Survey are "creating opportunity and reducing vulnerability." Growth is the prerequisite for achieving many economic and indeed other objectives. Maximizing the benefits of growth will, of course, require complementary public actions, but without growth, possibilities across the income spectrum shrink. Increasingly, the debate on reducing poverty and vulnerability more generally is less about "whether" and more about "how best" direct government support can complement broader economic growth. Growth versus distribution is, as it always should have been, a false choice.

Volume one begins with a chapter on the macroeconomic outlook and prospects for the Indian economy which sets the context for brief discussions of the policy issues focused on "creating opportunity and reducing vulnerability." These issues are then elaborated in the following nine chapters.

Growth requires macroeconomic and hence fiscal stability (Chapter 2). A re-visiting of the fiscal framework is also necessary because this is the first full budget of the government and because of the reported recommendations of the Fourteenth Finance Commission that could decisively shape center-state fiscal relations. This is followed by a chapter on "wiping every tear from every eye" where the focus is on how support is best provided and the role that technology can play in this regard.

The following chapters cover the state of stalled projects and their implications for private and public investment going forward (Chapter 4); a brief diagnosis of the banking system and its implications for reforming it (Chapter 5); and the role of railways in driving future Indian growth (Chapter 6). There is a more academic discussion that speaks to the Make in India initiative, shedding light on the debate between manufacturing and services and suggesting alternative ways of thinking about transformational sectors (Chapter 7). Completing the discussion of sectors is a chapter on creating a single market in agriculture from what are in effect thousands of markets (Chapter 8).

Climate change is increasingly central to economic development and creates challenges. These are discussed in Chapter 9. Chapter 10 deals with what is a dramatic re-shaping of Centre-State fiscal relations. It provides a preliminary analysis of the implications of the recommendations of the Fourteenth Finance Commission.

For the attention deficit-challenged, the outlook could be the port of only call, while others may find the detailed chapters of additional interest. Within Volume 1, there is some repetition, although that is inherent to having to cater to multiple audiences.

The Survey places a premium on new ideas or new perspectives both of an academic and policy nature. The limitations of time and resources mean that new ideas may not pass the most rigorous standards of the academy. But the approach is to find new data or present old data in a new form, to make connections, and to draw insights wherever possible, all with the aim of shedding light on policy. The aim is to provoke and stimulate debate and discussion, thereby enriching the process of policy-making, and hopefully, improving its outcome.

The survey also aims to be readable, rising to the challenge of making dry economics as accessible as an op-ed (or perhaps a blog) without fully sacrificing the rigor of a more serious tome. The discipline may be dismal but, dear reader, it should not be dreary.

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ABBREVIATIONS

\GDP	Gross Domestic Product
GST	Goods & Services Tax
CPI	Consumer Price Index
GTR	Gross Tax Revenue
RBI	Reserve Bank Of India
CSO	Central Statistics Office
MOSPI	Ministry of Statistics and Program Implementation
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
FRBM	Fiscal Responsibility & Budget Management Act
CST	Central Sales Tax
JAM	Jan Dhan Yojana - Aadhar - Mobile
ASER	Annual Survey of Education Report
LPG	Liquified Petroleum Gas
BPL	Below Poverty Line
AAT	Antodaya Anna Yojana
APL	Above Poverty Line
PDS	Public Distribution System
DBT	Direct Benefit Transfer
MSP	Minimum Support Price
NSSO	National Sample Survey Office
IFSC	Indian Financial System Code
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Development Organisation
WDI	World Development Indicator
GGDC	Groningen Growth and Development Centre
APMC	Agricultural Produce Market Committee
VAT	Value Added Tax
FDI	Foreign Direct Investment
MoP&NG	Ministry of Petroleum and Natural Gas
GHG	Green House Gas
GIZ	German Agency for International Cooperation
PMGSY	Pradhan Mantri Gram Sadak Yojana
NTKM	Net Tonnes Per Kilometre
PKM	Passenger Kilometre
RIRI	Rational Investor Rating Index
BRIC	Brazil Russia India China
CPI (IW)	Consumer Price Index (Industrial Workers)
MMDR	Mines & Minerals (Development and Regulation)
LB	Labour Bureau
EC	Economic Census
ASI	Annual Survey of Industries
IMF	International Monetary Fund
US EIA	US Energy Information Administration
OPEC	Organization of Petroleum Exporting Countries
TOT	Terms of Trade
WPI	Wholesale
CMIE	Centre for Monitoring the Indian Economy
ICR	Interest-Coverage Ratio
PPP	Public Private Partnership
NDA	National Democratic Alliance
SLR	Statutory Liquidity Ratio
PSL	Prioroty Sector Lending
ROA	Return on Assets
SARFESI	The Securetization and Reconstruction of Financial Assets and the Enforcement of Security Interest
SMEs	Small & Medium Enterprises
SEZ	Special Economic Zone
CVD	Countervailing Duties
SAD	Special Additional Duties
ICAR	Indian Council of Agricultural Research
WTO	World Trade Organization
FTA	Free Trade Agreement
TPP	Trans-Pacific Partnership
TTIP	Trans-Atlantic Trade and Investment Partnership
RCEP	Regional Comprehensive Economic Partnership
ASEAN	Association of South-East Asian Nations
UNFCCC	United Nations Framework Convention on Climate Change
IPCC	Inter-governmental Panel on Climate Change
HDI	Human Development Index
GII	Gender Inequality Index
NFHS	National Family Health Survey
ELA	Expected Levels of Achievement
VECM	Vector Error Correction Model
VAR	Vector Auto-Regression
PPP	Purchasing Power Parity
DFC	Dedicated Freight Corridor
CAPEX	Capital Expenditure
BSE	Bombay Stock Exchange
EBIT	Earnings before Interest & Tax
NHAI	National Highway Authority of India
UMPP	Ultra Mega Power Projects
LPVR	Least Present Value of Revenue
ISB	Indian School of Business
ANBC	Adjusted Net Bank Credit
NPA	Non-Performing Asset
CRAR	Capital to Risk-Weighted Assets Ratio
PSB	Public Sector Banks

Economic Survey 2014-15

Volume I

Government of India
Ministry of Finance
Department of Economic Affairs
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Economic Outlook, Prospects, and Policy Challenges

01
CHAPTER

1.1 Introduction

A political mandate for reform and a benign external environment have created a historic moment of opportunity to propel India onto a double-digit growth trajectory. Decisive shifts in policies controlled by the Centre combined with a persistent, encompassing, and creative incrementalism in other areas could cumulate to Big Bang reforms.

As the new government presents its first full-year budget, a momentous opportunity awaits. India has reached a sweet spot—rare in the history of nations—in which it could finally be launched on a double-digit medium-term growth trajectory. This trajectory would allow the country to attain the fundamental objectives of "wiping every tear from every eye" of the still poor and vulnerable, while affording the opportunities for increasingly young, middle-class, and aspirational India to realize its limitless potential.

This opening has arisen because facts and fortune have aligned in India's favour. The macro-economy has been rendered more stable, reforms have been launched, the deceleration in growth has ended and the economy appears now to be recovering, the external environment is benign, and challenges in other major economies have made India the near-cynosure of eager investors. Daunting challenges endure, which this Survey will not ignore, but the strong political mandate for economic change has imbued optimism that they can be overcome. India, in short, seems poised for propulsion.

Any Economic Survey has to grapple with prioritization, to navigate the competing pitfalls of being indiscriminatorily inclusive and contentiously selective. Accordingly, this Survey will focus on the two broad themes—creating opportunity and reducing vulnerability—because they are the two pressing themes of the day and which between them encompass the many key policy challenges that the new government must address.

The outline for this volume of the Economic Survey is as follows. A brief macroeconomic review and outlook will set the context for the broader thematic and policy discussions that follow. The importance of economic growth, both for lifting up those at the bottom of the income and wealth distribution, and providing opportunities for everyone in that distribution, cannot be overstated.[1] Rapid, sustainable, and all-encompassing growth requires a strong macroeconomic foundation, key to which is fiscal discipline and a credible medium term fiscal framework. These prerequisites are discussed in Sections 1.2 and 1.6.

But "wiping every tear from every eye" also requires proactive support from the government in the form of a well-functioning, well-targeted, leakage-proof safety net that will both provide (minimum income) and protect (against adverse shocks). This is also true in rural India where economic conditions for farmers and labourers are under stress. The policy issue now is no longer whether but how best to "provide and protect," and technology-based direct benefit transfers will play an important role in this regard (discussed in Section 1.7.

[1] Bhagwati, J. and Arvind Panagariya, "*Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries*", 2013, A Council on Foreign Relations Book, Public Affairs Books.

Perspiration and inspiration, investment and efficiency, respectively, determine long-run growth. But the Indian private investment climate is clouded by the experience of the last decade. A combination of factors—weak corporate balance sheets, an impaired banking system, difficulty of exit, the deficiencies of the public private partnership (PPP) model in infrastructure—could hold back private investment going forward. Private investment must remain the main engine of long-run growth. But, in the short to medium term, as the near-intractable problems get slowly resolved, public investment, especially by the railways, will have to play a catalytic role. These issues and how the banking system can play a supportive role are the focus of discussions in sections 1.8 and 1.9.[2]

Manufacturing and trade have been the engines of growth in the post-war period for most economies, especially in Asia. The validity of that experience for India, which acquires salience in the context of the 'Make in India' initiative, is the focus of section 1.10. The following section then takes up challenges related to trade.

Sections 1.12 and 1.13—on climate change and gender equality respectively— deal with issues which India cannot and must not ignore. These are central to the challenges of growth, development and equality of opportunity. The objective of protecting the vulnerable must specifically take account of the fact that while India is increasingly young, middle-class, and aspirational, it is still persistently stubbornly male.

All these policy issues and challenges are elaborated in Chapters 2-10 in this volume. The last section deals with what is a dramatic re-shaping of Centre-State fiscal relations. It provides a preliminary analysis of the key implications of the recommendations of the Fourteenth Finance Commission.

Given the expectations surrounding the upcoming budget, one question needs to be addressed head-on: *Does India need Big Bang reforms?* Much of the cross-country evidence of the post-war years suggests that Big Bang reforms occur during or in the aftermath of major crises. Moreover, Big Bang reforms in robust democracies with multiple actors and institutions with the power to do, undo, and block, are the exception rather than the rule. India today is not in crisis, and decision-making authority is vibrantly and frustratingly diffuse.

Not only are many of the levers of power vertically dispersed, reflected in the power of the states, policy-making has also become dispersed horizontally. The Supreme Court and the Comptroller and Auditor General have all exerted decisive influence over policy action and inaction.

Moreover, some important reforms such as improvements to tax administration or easing the cost of doing business, require persistence and patience in their implementation, evoked in Max Weber's memorable phrase, "slow boring of hard boards".

Hence, Big Bang reforms as conventionally understood are an unreasonable and infeasible standard for evaluating the government's reform actions.

Equally though, the mandate received by the government affords a unique window of political opportunity which should not be foregone. India needs to follow what might be called "*a persistent, encompassing, and creative incrementalism*" but with bold steps in a few areas that signal a decisive departure from the past and that are aimed at addressing key problems such as ramping up investment, rationalizing subsidies, creating a competitive, predictable, and clean tax policy environment, and accelerating disinvestment.

Thus, Weber's wisdom cannot be a licence for inaction or procrastination. Boldness in areas where policy levers can be more easily pulled by the center combined with that incrementalism in other areas is a combination that can cumulate over time to Big Bang reforms. That is the appropriate standard against which future reforms must be assessed.

[2] Financial sector issues were discussed extensively in last year's Survey.

1.2. Macroeconomic review and outlook

Macroeconomic fundamentals have dramatically improved for the better, reflected in both temporal and cross-country comparisons.

Start first with the changing macro-economic circumstances. The changing fortunes of India have been nothing short of dramatically positive (Figure 1.1). Inflation has declined by over 6 percentage points since late 2013, and the current account deficit has shrivelled from a peak of 6.7 percent of GDP (in Q3, 2012-13) to an estimated 1.0 percent in the coming fiscal year. Foreign portfolio flows (of US$ 38.4 billion since April 2014) have stabilized the rupee, exerting downward pressure on long-term interest rates, reflected in the yield on 10-year government securities, and contributed to the surge in equity prices (31 percent since April in rupee terms, and even more in US dollars, ranking it the highest amongst emerging markets). In a nearly 12-quarter phase of deceleration, economic growth averaged 6.7 percent but since 2013-14 has been growing at 7.2 percent on average, the later based on the new growth estimates (see Box 1.1 on how to interpret them).

As a result of these improvements, India's macroeconomic position now compares favourably with other countries. Figure 1.2 depicts an overall macro-vulnerability index (MVI) that combines a country's fiscal deficit, current account deficit, and inflation. The index is thus comparable across countries and across time. In 2012, India was the most vulnerable country as measured by its index value of 22.4, comprising an inflation rate of 10.2 percent, a budget deficit of 7.5 percent and a current account deficit of 4.7 percent of GDP, well above that in the other countries. Turkey in 2014 surpassed India because of high current account deficit (of nearly 8 percent). Today, India's fortunes have improved dramatically and India demonstrated the greatest improvement in the MVI while many others maintained the status quo or showed only a marginal improvement or deteriorated dramatically (Russia). India is still more vulnerable than the mean of countries in its investor rating category (BBB) but is less so than many of its larger emerging market peers.

If macro-economic stability is one key element in assessing a country's situation/potential, its growth- actual and prospective- is another. A simple way therefore to compare the relative economic situation is to supplement the macro-economic vulnerability index with a "Rational Investor Ratings Index (RIRI)."[3] In assessing the risks and rewards of competing destinations, rational investors take into account not just macroeconomic stability (which proxies for risks) but also growth which crucially determines rewards and returns.

In figure 1.3 this index is depicted for India and a number of comparator countries, including the BRICS, other major emerging markets (Turkey) as well as countries in India's investor rating category (BBB) and category (A) that is above India's. Regardless of whether Indian growth is measured according to the old methodology or the new methodology (see Box 1.1), India exhibits a dramatic improvement in the index.

India ranks amongst the most attractive investment destinations, well above other countries. It ranks well above the mean for its investment grade category, and also above the mean for the investment category above it (on the basis of the new growth estimates). Amongst BRICS (and other comparable countries) only China scores above India. The reality and prospect of high and rising growth, combined with macroeconomic stability, is the promise of India going forward.

[3]The RIRI is computed by averaging a country's GDP growth rate and its macro-economic indicators; the latter measured as the average of the fiscal deficit, current account deficit, and inflation (all with negative signs). Thus, equal weight is given to growth and macroeconomic stability. The greater the number, the better should be its investor rating. Since, updated WEO forecasts are not publicly available for all countries, data are from Citi Group and have been updated in January assuming an oil price in the range of US$ 58-60 per barrel for 2015. Data from other sources yield very similar estimates for the RIRI.

Figure 1.1A: WPI and CPI Inflation, April 2013 to January 2015 (Per cent)

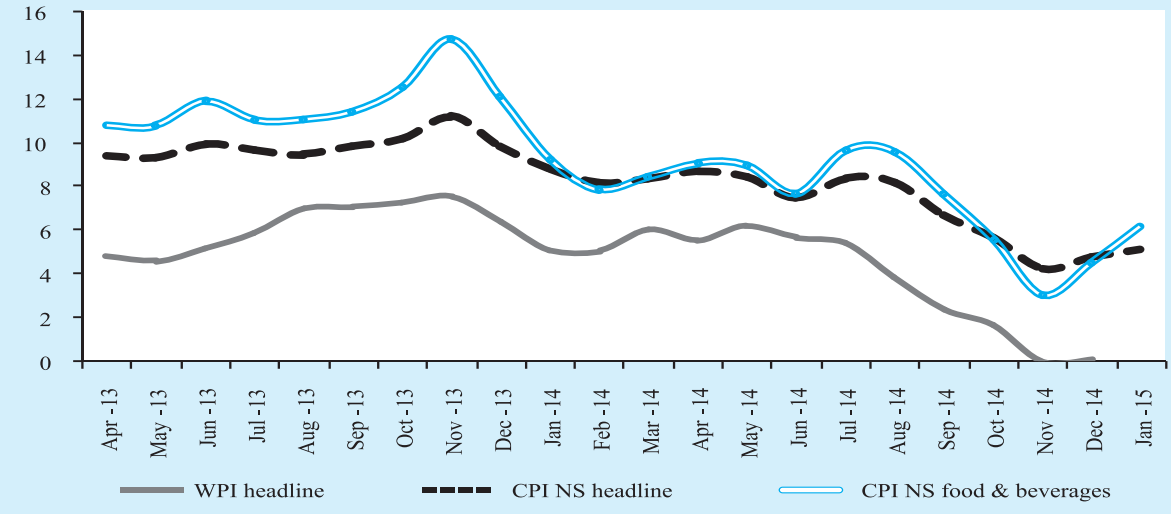


Figure 1.1B: Current Account Balance and Net Foreign Investment, 2004-05 Q1 to 2014-15Q2 (per cent of GDP)

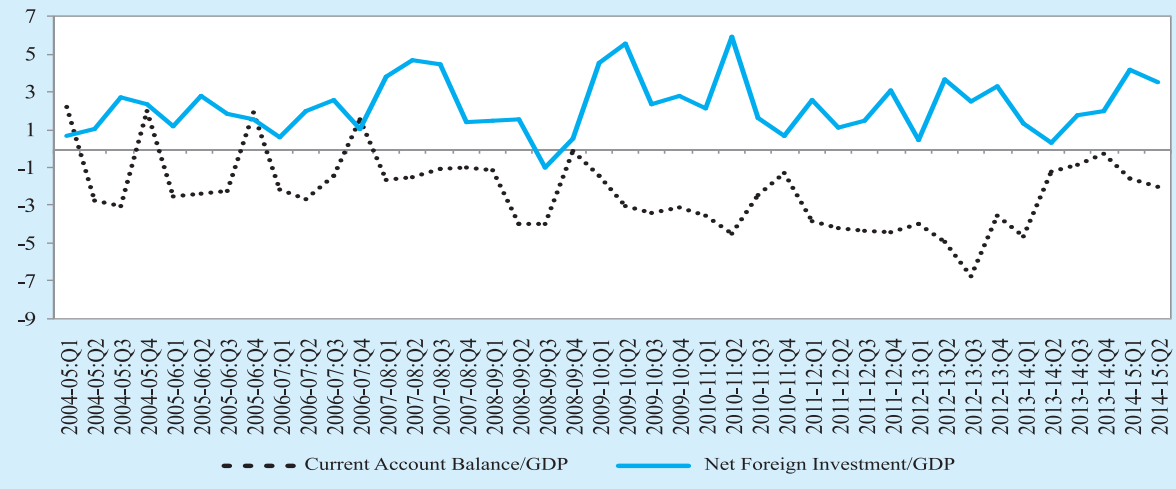


Figure 1.1C: Daily Stock Prices (Nifty), January 2013 to February 2015

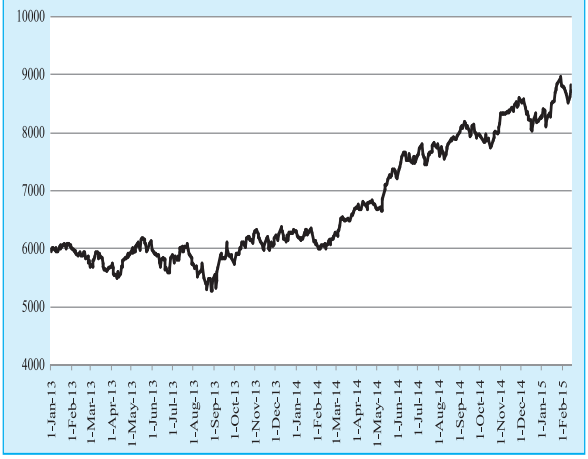
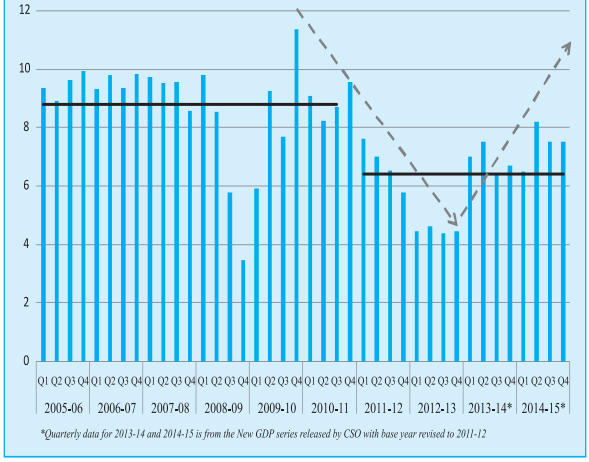


Figure 1.1D: Quarterly GDP Growth, 2005-06Q1 to 2014-15Q4 (Per cent)



Sources: **Office of Economic Adviser, Department of Industrial Policy and Promotion, Central Statistics Office, Reserve Bank of India and National Stock Exchange**

Figure 1.2: Maco-Vulnerability Index for Selected Emerging Market Countries, 2010 to 2015

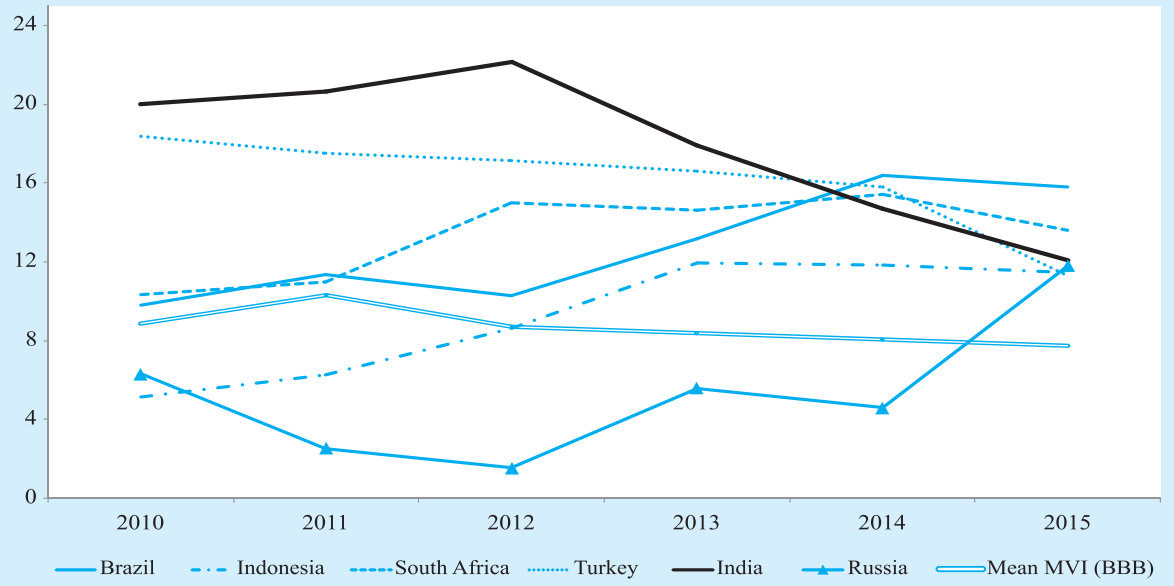
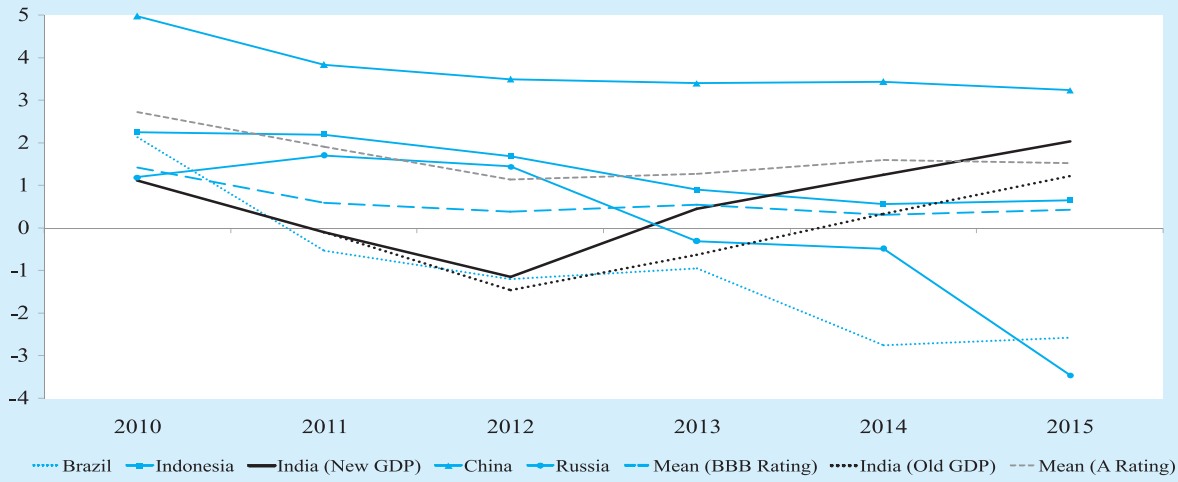


Figure 1.3: Rational Investor Ratings Index for Selected Emerging Market Countries, 2010 to 2015



Source: **MoF calculations.**

1.2A. Macro-economic management and policy reforms

Reforms have been initiated in a number of areas and major ones are on the horizon. The macroeconomic response to the favourable terms of trade shock has led to an appropriately prudent mix of increased government savings and private consumption.

The policy reforms of the new government—actual and prospective—have attracted worldwide attention. The cumulative impact of these reforms on reviving investment and growth could be significant. Equally important though has been macro-economic management which needs to be assessed in simple analytical terms.

Since June 2014, India has experienced a very favourable terms-of-trade shock as a result of a 50-55 percent decline in the price of crude-oil and other commodities. The accepted injunction from the standard macroeconomic manual is that responses to terms-of-trade shocks should be

Box 1.1 : Revised Estimates of GDP and GDP growth

Notwithstanding the new estimates, the balance of evidence and caution counsel in favour of viewing India as a recovering rather than surging economy.

On January 30, the Central Statistics Office released a new GDP series that entailed shifting the base year from 2004-05 to 2011-12 but also using more data and deploying improved methodologies (Chapter 1 in the second volume of the Survey provides greater details). New estimates for GDP have been provided for the years 2011-12 to 2014-15.

How should one view these estimates? First, the improvement in data and methods puts India on par with international standards of GDP estimation. India is perhaps unique in that GDP revisions result in lower numbers rather than the typically high upward revision seen in many countries. The key estimate for the level of GDP for 2011-12, which is the new base year, is actually 2 percent lower than previously estimated.

However, the growth estimates warrant further reflection. On the one hand, directionally the growth estimate for 2014-15 relative to that for 2013-14 seems plausible and consistent with the fact of improving investor sentiment and reform actions.

On the other, both directionally and in level terms, the growth estimate for 2013-14 is puzzling. According to the new estimates, growth at market prices in 2013-14 apparently accelerated by 1.8 percentage points to 6.9 percent (1.5 percentage points for growth at basic prices).

These numbers seem difficult to reconcile with other developments in the economy. 2013-14 was a crisis year—capital flowed out, interest rates were tightened, there was consolidation—and it is difficult to see how an economy's growth rate could accelerate so much in such circumstances. Also, imports of goods in 2013-14 apparently declined by 10 percent, which, even accounting for the squeeze on gold imports, is high. Growth booms are typically accompanied by import surges not import declines. This boom was one over-reliant on domestic demand because the contribution of net external demand was substantially negative.

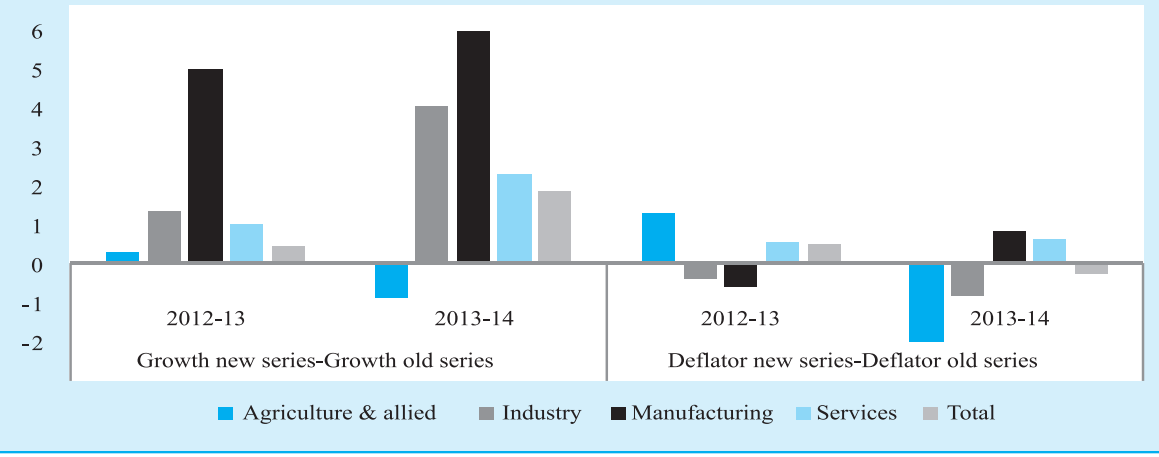
This growth surge also appears to have been accompanied by dramatic declines in savings and investment ratios. For example, gross fixed capital formation declined from 33.6 percent in 2011-12 to 29.7 percent in 2013-14 while gross domestic savings declined from 33.9 percent to 30.6 percent. The implication is that the growth surge in the crisis year of 2013-14 was also a massive productivity surge, reflected in an incremental capital ratio that declined by about 30 percent, and total factor productivity growth that improved by over 2 percentage points. The data show that private corporate investment increased robustly in 2013-14 which seems at odds with stressed balance sheets and the phenomenon of stalled projects.

Some clues to understanding the new series are provided in the chart below which decomposes the differences between the new series into those relating to real GDP growth and those to the deflator. This decomposition is shown sectorally.

The largest discrepancies between the two series arise in 2013-14 and relate to real GDP growth for the manufacturing sector, where the magnitude is 6 percentage points! Even in 2012-13 the divergence between the two series in manufacturing is 5 percentage points. Jumps in the level of the manufacturing share of GDP can be attributed to the new methodology but it is still unclear why the rate of growth should diverge so much from previous estimates and from other indicators of manufacturing growth (viz. the index of industrial production). Even allowing for the fact that the latter is a volume index and the former a valued-added index, the discrepancy remains large. Clearly, these issues need to be examined in greater detail.

Until a longer data series is available for analysis and comparisons, and until the changes can be plausibly ascribed to the respective roles of the new base, new data, and improved methodology, the growth narrative of the last few years may elude a fuller understanding. Regardless, the latest numbers will have to be the prism for viewing the Indian economy going forward because they will be the only ones on offer. But, the balance of evidence and caution counsel in favour of an interpretation of a recovering rather than surging Indian economy.

Figure: Difference between New and Old Estimates of Economic Growth, 2012-13 and 2013-14 (Per cent)



***Source*: Central Statistics Office.**

determined by their nature: a positive shock that is perceived to be permanent should lead to larger consumption increases because the country's permanent income has increased; on the other hand, temporary positive shocks should lead to greater savings. What has India done?

Given the uncertainty about the nature of the shock, India has appropriately hedged. Figure 1.4 below compares the decline in international crude-oil prices with the corresponding decline in domestic retail prices of petrol and diesel. Since end-June 2014, the international price declined by about 50 percent. Of this, about 17 percent (representing about 34 percent of the overall decline) was passed on to consumers while the government retained the rest. In other words, 66 percent of the terms of trade shock went into the government's savings with the rest being passed on to consumers. (As detailed in section 1.12, the government's actions in this regard are also helping in form of a de-facto carbon tax.) Accounting for uncertainty about the future movement of prices, the macro-economic response has appropriately balanced savings and consumption, and by favouring the former, provided a necessary cushion to absorb the effects of higher oil prices in the future.

1.2B Outlook for Growth

In the short run, growth will receive a boost from lower oil prices, from likely monetary policy easing facilitated by lower inflation and lower inflationary expectations, and forecasts of a normal monsoon. Medium-term prospects will be conditioned by the "balance sheet syndrome with Indian characteristics," which has the potential to hold back rapid increases in private sector investment.

In the coming year, real GDP growth at market prices is estimated to be about 0.6-1.1 percentage points higher vis-a-vis 2014-15. This increase is warranted by four factors. First, the government has undertaken a number of reforms and is planning several more (Box 1.2). Their cumulative growth impact will be positive.

A further impetus to growth will be provided by declining oil prices and increasing monetary easing facilitated by ongoing moderation in inflation. Simulating the effects of tax cuts, declining oil prices will add spending power to households, thereby boosting consumption and growth. Oil is also a significant input in production, and declining prices will shore up profit margins and hence balance sheets of the corporate sector. Declining input costs are reflected in the wholesale price index which moved to deflation territory in January 2015.

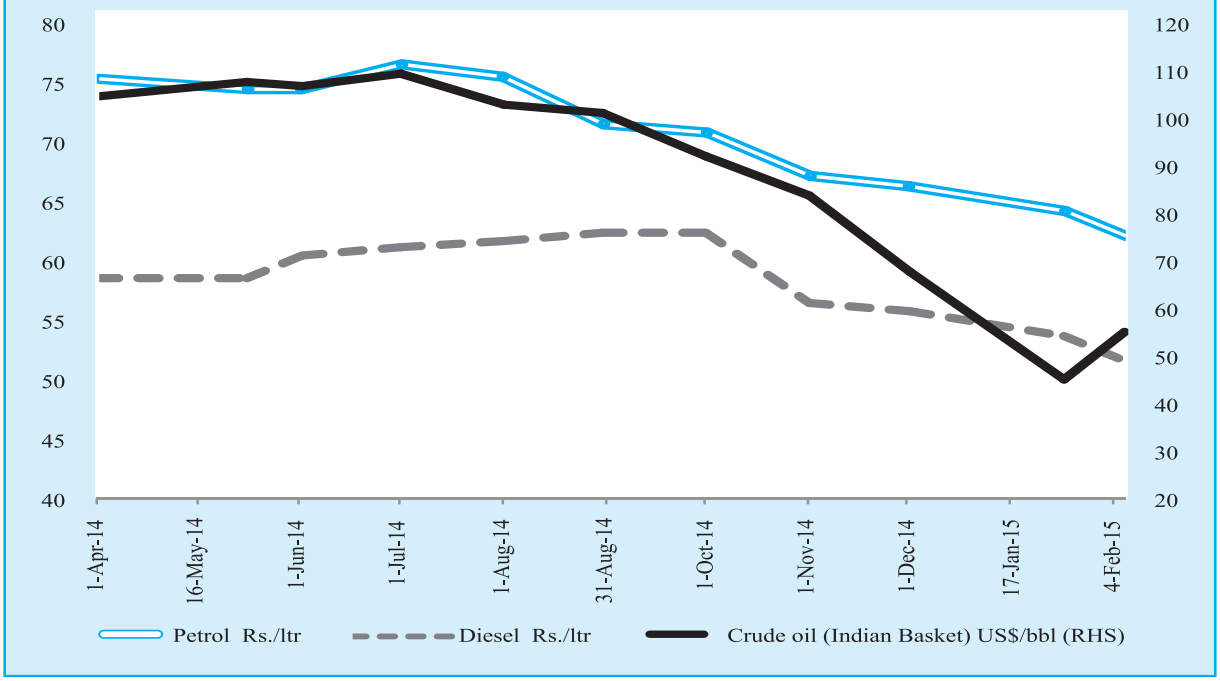
Further declines in inflation and the resulting monetary easing will provide policy support for growth both by encouraging household spending in interest-sensitive sectors and reducing the debt burden of firms, strengthening their balance sheets. The final favourable impulse will be the monsoon which is forecast to be normal compared to last year[4]. Using the new estimate for 2014-15 as the base, this implies growth at market prices of 8.1-8.5 percent in 2015-16.

The power of growth to lift all boats will depend critically on its employment creation potential. The data on longer-term employment trends are difficult to interpret because of the bewildering multiplicity of data sources, methodology and coverage (see Box 1.3). One tentative conclusion is that there has probably been a decline in long run employment growth in the 2000s relative to the 1990s and probably also a decline in the employment elasticity of growth: that is, a given amount of growth leads to fewer jobs created than in the past. Given the fact that labour force growth (roughly 2.2-2.3 percent) exceeds employment growth (roughly about 1½ percent), the challenge of creating opportunities will remain significant.

1.2C Outlook for reforms

In the months ahead, several reforms will help boost investment and growth. The budget should continue the process of fiscal consolidation, embedding actions in a medium-term framework. India's overall revenue-to-GDP ratio (for the general government) for 2014 is estimated at 19.5 percent by the IMF. This needs to move toward levels in comparator countries—estimated at 25 percent for emerging Asian economies and 29 percent for the emerging market countries in the G-20. At the same time, expenditure control should

Figure 1.4: Fall in International &Domestic Prices, April 2014 to February 2015 (Rs./ltr & US$/barrel)



Source: **PPAC, Ministry of Petroleum & Natural Gas and PIB, Govt. of India.**

Note: Prices for petrol and diesel are all India average.

[4].http://www.skymetweather.com/content/weather-news-and-analysis/el-nino-scare-abandoned-normal-indian-monsoon-likely-in-2015/

Box 1.2 : Reform Actions of the New Government

Since assuming office in May 2014, the new government has undertaken a number of new reform measures whose cumulative impact could be substantial.

These include:

- Deregulating diesel prices, paving the way for new investments in this sector;
- Raising gas prices from US$ 4.2 per million British thermal unit to US$ 5.6, and linking pricing, transparently and automatically, to international prices so as to provide incentives for greater gas supply and thereby relieving the power sector bottlenecks;
- Taxing energy products. Since October, taking advantage of declining oil prices, the excise tax on diesel and coal was increased four times. In addition to resulting in collections of about ₹ 70,000 crore (on an annualized basis), this action will have positive environmental consequences, as explained in section 1.12;
- Replacing the cooking gas subsidy by direct transfers on a national scale;
- Instituting the Expenditure Management Commission, which has submitted its interim report for rationalizing expenditures;
- Passing an ordinance to reform the coal sector via auctions;
- Securing the political agreement on the goods and services tax (GST) that will allow legislative passage of the constitutional amendment bill;
- Instituting a major program for financial inclusion—the Pradhan Mantri Jan Dhan Yojana under which over 12.5 crore new accounts have been opened till mid-February 2014;
- Continuing the push to extending coverage under the Aadhaar program, targeting enrollment for 1 billion Indians; as of early February, 757 million Indians had been bio-identified and 139-Aadhaar linked bank accounts created;
- Increasing FDI caps in defense;
- Eliminating the quantitative restrictions on gold;
- Passing an ordinance to make land acquisition less onerous, thereby easing the cost of doing business, while ensuring that farmers get fair compensation;
- Facilitating Presidential Assent for labour reforms in Rajasthan, setting an example for further reform initiatives by the states; and consolidating and making transparent a number of labour laws; and
- Passing an ordinance increasing the FDI cap in insurance to 49 percent. Commencing a program of disinvestments under which 10 percent of the government's stake in Coal India was offered to the public, yielding about ₹ 22,500 crore, of which ₹ 5,800 crore was from foreign investors;
- Passing the Mines and Minerals (Development and Regulation) (MMDR) Amendment Ordinance, 2015 is a significant step in revival of the hitherto stagnant mining sector in the country. The process of auction for allotment would usher in greater transparency and boost revenues for the States.

be consolidated while ensuring that there is switching from public consumption to public investment, with a focus on eliminating leakages and improving targeting in the provision of subsidies.

To provide legal certainty and confidence to investors, the ordinances on coal, insurance, and land need to be translated into legislation approved by Parliament. At the same time, the constitutional amendment bill to implement the goods and services tax (GST) also needs to be enshrined in legislation first by Parliament followed by ratification by the States. A single GST rate (across States and products) set at internationally competitive levels with limited exemptions would maximize its pro-growth, pro-compliance, and pro-single market creating potential.

While the framework for a modern and comprehensive indirect tax system is being put in place with the GST, parallel efforts are required

Box 1.3: Employment Growth and Employment Elasticity: What is the Evidence?

Estimates of employment growth and its elasticity relative to economic growth vary widely. However, tentatively, one might say that employment growth and elasticity have declined in the 2000s compared to the 1990s. Since labour force growth is in excess of employment growth, labour absorption will be a challenge. Reforms and faster economic growth will be central to meeting it.

If the new GDP estimates have raised questions about our understanding of recent economic developments, deciphering patterns of employment growth is no less a challenge. There is almost a bewildering variety of estimates on employment growth in India. Data come from multiple sources, for different time periods, coverage and sample sizes, with varying methodologies. These are described in the table below.

Table : Periodicity, Coverage and Population size of different Data Sources

Sl.	Data Source	Periodicity	Sector Coverage	Population/Sample
1	Census	Decadal	All	Population
2	Labour Bureau (LB)	Annual	All	Sample (1.37 lakh households, 6.80 lakh persons in 2013-14 survey)
3	National Sample Survey (NSS)	Quinquennial	All	Sample (1.02 lakh households, 4.57 lakh persons in 2011-12 round)
4	Economic Census (EC)	No fixed periodicity	All establishments including the unorganized sector and excluding crop production, plantation, public administration, defence and compulsory social security.	Sample (25 lakh households, 56 million establishments in 2014 EC)
5	Annual Survey of Industries (ASI)	Annual	All factories registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948 + all electricity undertakings engaged in generation, transmission and distribution of electricity registered with the Central Electricity Authority (CEA)	2.17 lakh factories in 2012-13 survey

Notes:
1. Census classifies employed as main and marginal.
2. NSS accounts for both principal and subsidiary status of employment.
3. From the Labour Bureau survey, we estimate population for the age group 15 and above.
4. For ASI data from 2000-01 to 2003-04, the census field was modified to include units employing 100 and more workers instead of 200 and more workers. Therefore post 2000-01 data are not strictly comparable with that of previous rounds.

What do these sources tell us about employment growth and the elasticity of employment growth with respect to GDP growth for the 1990s and 2000s?[1] The results are summarized in the table below.

Table : Employment Growth And Employment Elasticities

	CENSUS		NSS		LABOUR BUREAU	ECONOMIC CENSUS		ASI	
	1991 to 2001	2001 to 2011	1993-94 to 1999-2000	1999-00 to 2011-12	2011-12 to 2013-14	1990 to 1998	1998 to 2014	1990-91 to 1998-99	2003-04 to 2012-13
Change in Employment (million)	88.4	79.2	25.5	73.4	9.15	12.9	44.4	0.43	5.07
Employment Growth	2.5	1.8	1.1	1.4	1.0	2.1	2.7	0.6	5.7
GDP Growth	5.7	7.7	6.8	7.3	4.6	6.1	6.6	5.5	10.7
Employment Elasticity	0.44	0.24	0.16	0.19	0.22	0.35	0.41	0.12	0.54

A few very tentative conclusions can be drawn from what are fairly noisy estimates. Aggregate employment growth has been above 2 percent in the 1990s. The Census and Economic Census are fairly close to each other in this regard, although the NSS data paints a different picture. Employment growth declines to between 1.4 and 1.8 percent in the 2000s according to both the Census and NSS. In contrast, employment growth in organized industry exhibits the opposite temporal pattern, with substantially higher employment growth in the 2000s compared with the 1990s.

A similar pattern is suggested for the employment elasticity of growth: higher elasticity of about 0.35-0.44 in the 1990s and a drop to close to 0.2 in the 2000s. The most recent data from the Labour Bureau indicates that since 2011-12 too, the employment elasticity has remained low. Employment absorption was evidently less successful in the last decade.

Regardless of which data source is used, it seems clear that employment growth is lagging behind growth in the labour force. For example, according to the Census, between 2001 and 2011, labor force growth was 2.23 percent (male and female combined). This is lower than most estimates of employment growth in this decade of closer to 1.4 percent. Creating more rapid employment opportunities is clearly a major policy challenge.

[1]In computing the employment elasticity, consistency of coverage between the employment and growth data is ensured to the extent possible. For example, for EC data, manufacturing GDP is used as the relevant base; while for ASI data gross value addition (deflated by Manufacturing GDP) is used as the base in the computations.

References: Misra, Sangita and Anoop K Suresh *"Estimating Employment Elasticity of Growth for the Indian Economy"*, 2014, RBI Working Paper Series 6.

Mehrotra, Santosh "Explaining Employment Trends in the Indian Economy: 1993-94 to 2011-12", 2014, Economic and Political Weekly, XLIX(32).

on the direct tax side. The objective should be to create a competitive, predictable, clean, and exemptions-light tax policy regime that will lower the cost of capital, incentivize savings, and facilitate taxpayer compliance.

The government and the RBI need to conclude the monetary policy framework agreement to consolidate the recent gains in inflation control and codify into an institutional arrangement what has become the de facto practice. This would signal that both government and RBI jointly share the objectives of low and stable inflation.

Reforms of labor and land laws and reducing the costs of doing business will need to be a joint endeavor of the States and Center (see Box 3 of the *Mid-Year Economic Analysis* 2014-15 for an elaboration). The game-changing potential of implementing the GST and moving to technology-enabled Direct Benefit Transfers— which we call the JAM (Jan Dhan-Aadhaar-Mobile) Number Trinity solution-should not be underestimated.

1.3 Inflation and Money

Structural shifts in the inflationary process are underway caused by lower oil prices and deceleration in agriculture prices and wages. These are simultaneously being reflected in dramatically improved household inflation expectations. The economy is likely to over-perform on the RBI's inflation target by about 0.5-1.0 percentage point, opening up the space for further monetary policy easing.

As elaborated in the *Mid-Year Economic Analysis* 2014-15, the evolution in inflation has surprised market participants and policy makers, including the RBI. The momentum, measured as the three month average seasonally adjusted and annualized, has declined from nearly 15 percent to below 5 percent (Figure 1.5).[5] Interestingly, the momentum of food prices has declined even more and is at levels below overall inflation.

Going forward, this momentum is likely to persist because of three striking developments in three areas that signal a structural shift in the inflationary process in India: *crude-oil*, *agriculture*, and *inflation expectations.*

Crude-oil prices are expected to remain benign in the coming months. Indeed, the average of estimates by the IMF for (crude spot) and by the US Energy Information Administration (EIA) for Brent and West Texas Intermediate crude indicates that oil prices will be about 29 percent lower in 2015-16 compared with 2014-15 (US$ 59 versus US$ 82) (Figure 1.6).

The risk that the decline in oil prices will reverse itself always exists because of unpredictable geo-political developments. However, the persistence of moderated oil prices seems highly probable for at least three reasons: weaker global demand, increased supplies, and the global monetary and liquidity environment.

Demand will remain soft because of slow growth in major areas of the world economy, including China and Europe. Supply shifts are occurring related to the increase in crude-oil and shale gas production in the US and the concomitant decline in the oligopolistic power of OPEC, notably its swing producer, Saudi Arabia (which decided not to react to the increase in supply from other sources). Going forward, prices could increasingly be determined by the marginal cost of shale production estimated at around US$ 60-65 per barrel.[6]

Finally, the anticipated end to the abnormally low interest cycle in the US and the prospect of future rate increases will favour extraction of oil over keeping it in the ground, thereby further boosting supply and keeping prices soft. Higher rates will also lead to financial asset-reallocation away from commodities, especially oil, as a class into US financial instruments.

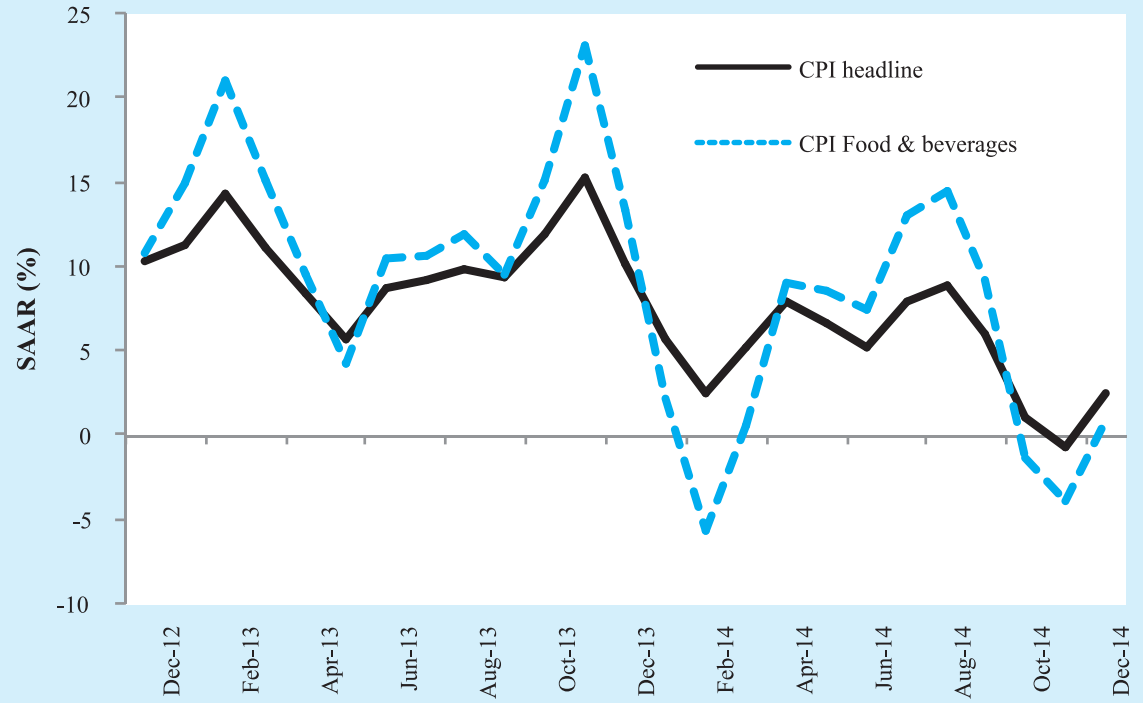
One lesson of the 2000s is instructive. This decade witnessed an across-the-board increase in commodity prices partly on account of excess liquidity, created by synchronized monetary policy easing in the advanced countries. That synchronization has been broken by the diverging macro-economic paths of the United States, where recovery will lead to a reversion to normal monetary policy, on the one hand, and Europe and Japan, on the other, where policies may remain loose. Of course, if China starts slowing and responds through a combination of cheaper credit and a depreciating exchange rate, global liquidity could surge again but the US will still be in tightening mode.

Second, in addition to oil prices, India's inflation will be shaped by pressures from agriculture, foreign and domestic. According to World Bank projections, global agricultural prices will remain muted- a likely decline of 4.8 percent in 2015

[5] Figure 1.5 is based on the new, re-based (from 2010 to 2012) CPI index.

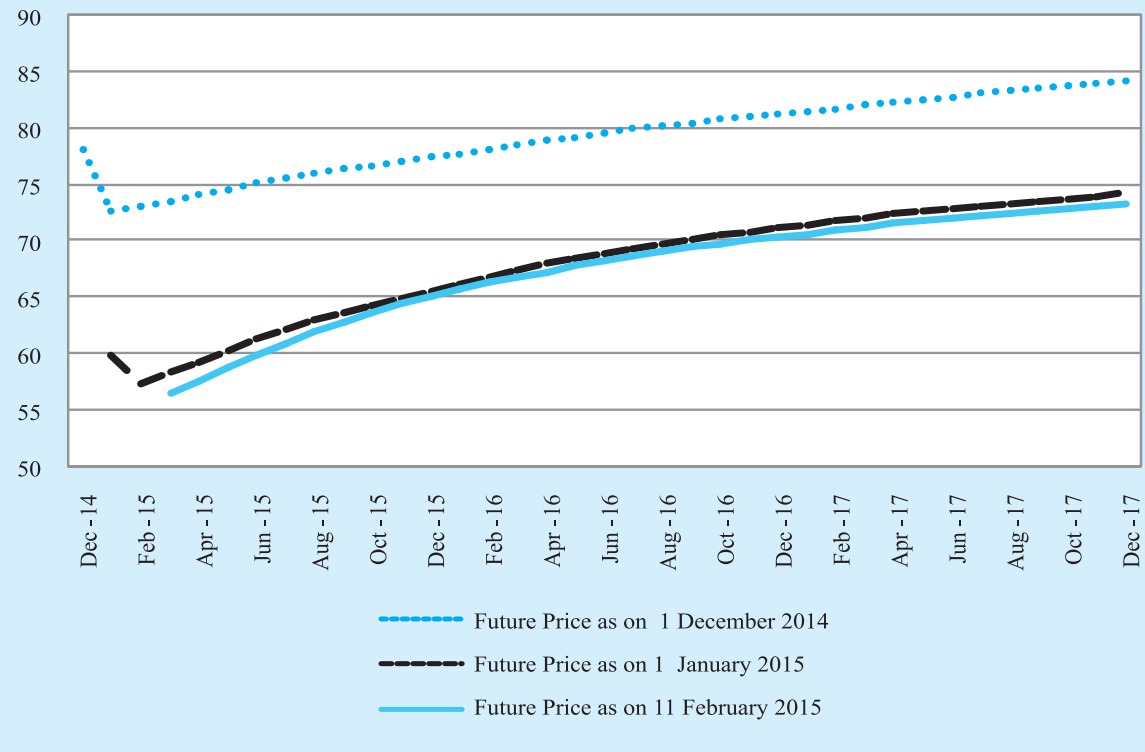
[6] Arezki, R & Olivier Blanchard, "*The 2014 oil price slump: Seven key questions*", January 2015 accessed at http://www.voxeu.org/article/2014-oil-price-slump-seven-key-questions.

Figure 1.5: Momentum of CPI (base 2012), December 2012 to December 2014 (Per cent)



Source: **CSO.**

Figure 1.6: Future Price of Brent Crude up to December 2017 (US$ per barrel)



Source: **Thomson Reuters.**

relative to 2014. This will likely have a key impact in moderating increases in domestic support prices.[7]

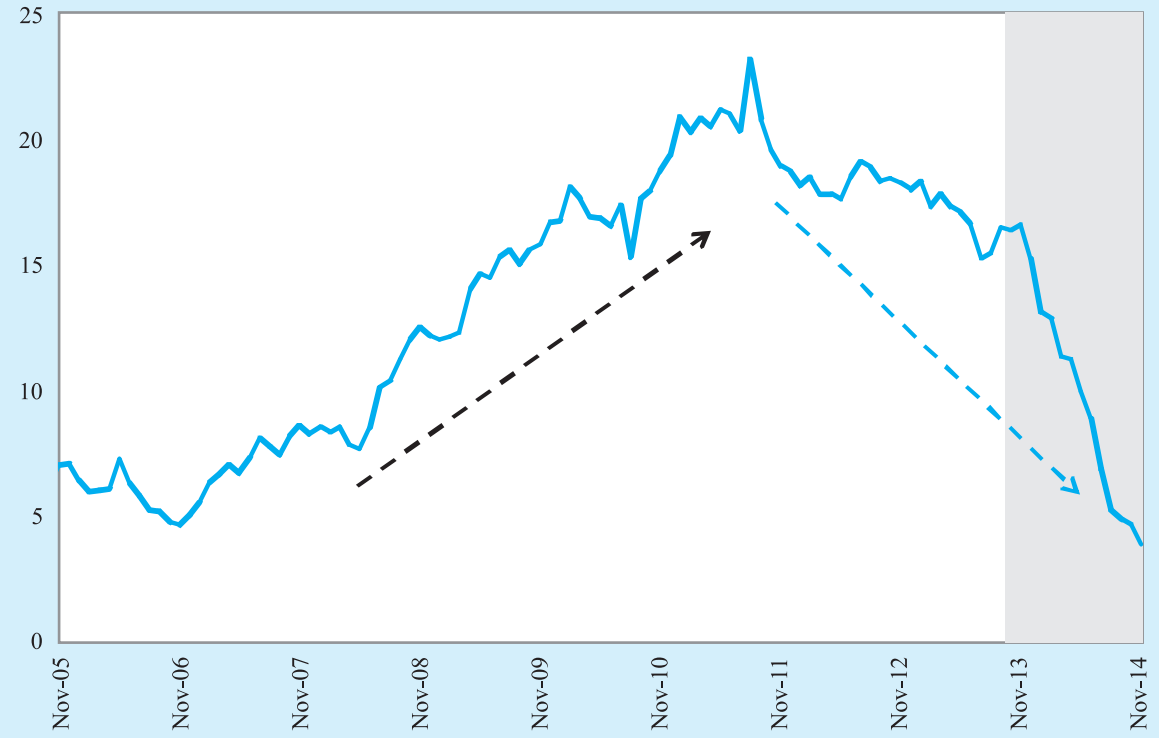
The most dramatic structural change relates to wage pressures. As shown in Figure 1.7, wage growth has declined to about 3.6 percent from over 20 percent. If these trends continue, rural wage growth can continue to decelerate, further moderating inflationary pressures.

The third factor relates to inflation expectations. Until recently, household surveys of inflation expectation conducted by the RBI showed that expectations have been stubbornly persistent and at levels well above actual inflation. But in the most recent survey they dropped by nearly 7-8 percentage points over all horizons (Figure 1.8). If this change conveys some information, inflation expectations will increasingly be anchored at more reasonable levels, moderating wage setting.

In sum, the structural shift that was argued in the *Mid-Year Economic Analysis* 2014-15 seems well under way. Consumer price inflation which is likely to print at 6.5 percent for 2014-15 is likely to decline further. Our estimate for 2015-16 is for CPI inflation to be in 5.0-5.5 percent range and for the GDP deflator to be in the 2.8-3.0 percent range. *The implication is that the economy will over-perform on inflation which would clear the path for further monetary policy easing.*

Trends in financial markets suggest that there has been a gradual easing of deposit rates in recent few months as yields on 10 year government bonds have been falling consistently during this period (Figure 1.9). Declining yields could trigger

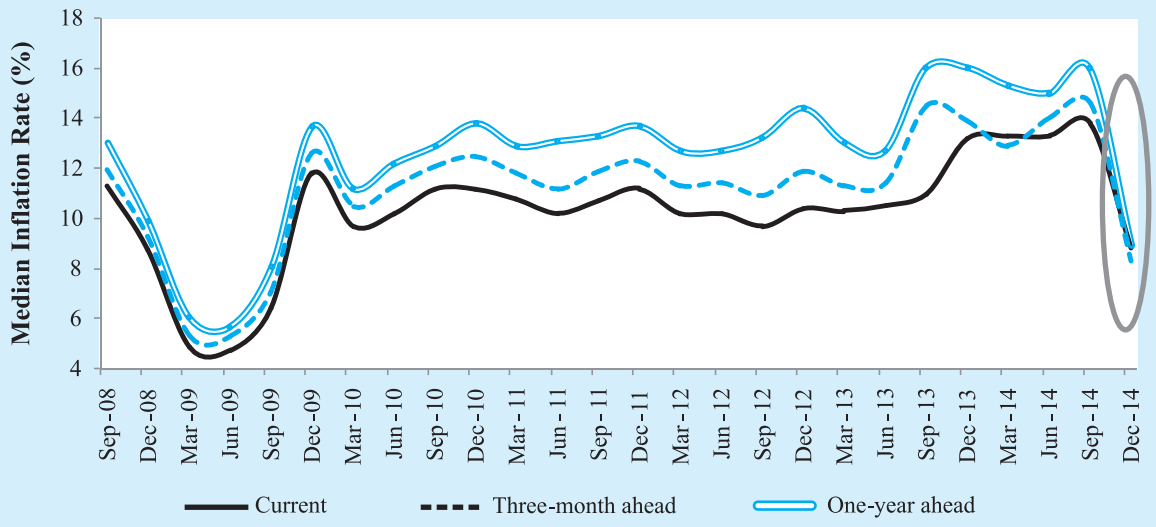
Figure 1.7: Rural Wage Growth, November 2005 to November 2014 (Per cent)



Source: **Labour Bureau.**

[7] The domestic production of oilseeds and pulses is likely to be below target, but greater imports could help dampen inflationary impulses from this sector.

Figure 1.8: Household Inflation Expectations, September 2008 to December 2014 (Per cent)



Source: **RBI.**

reduction in lending rates by banks in the coming months. With the easing of inflationary conditions, the RBI has already signalled a shift in the monetary policy stance when it cut policy repo rates by 25 basis points to 7.75 percent in January 2015. In some ways, further monetary policy easing would entail the policy rate catching up with market rates.

Liquidity conditions have remained broadly balanced so far during 2014-15. The implementation of a revised liquidity management framework has helped in reducing volatility in the overnight inter-bank segment and better anchoring the call rate near the policy rate. With the fiscal deficit to remain under control and the new liquidity management framework in place, liquidity conditions are expected to remain comfortable in 2015-16.

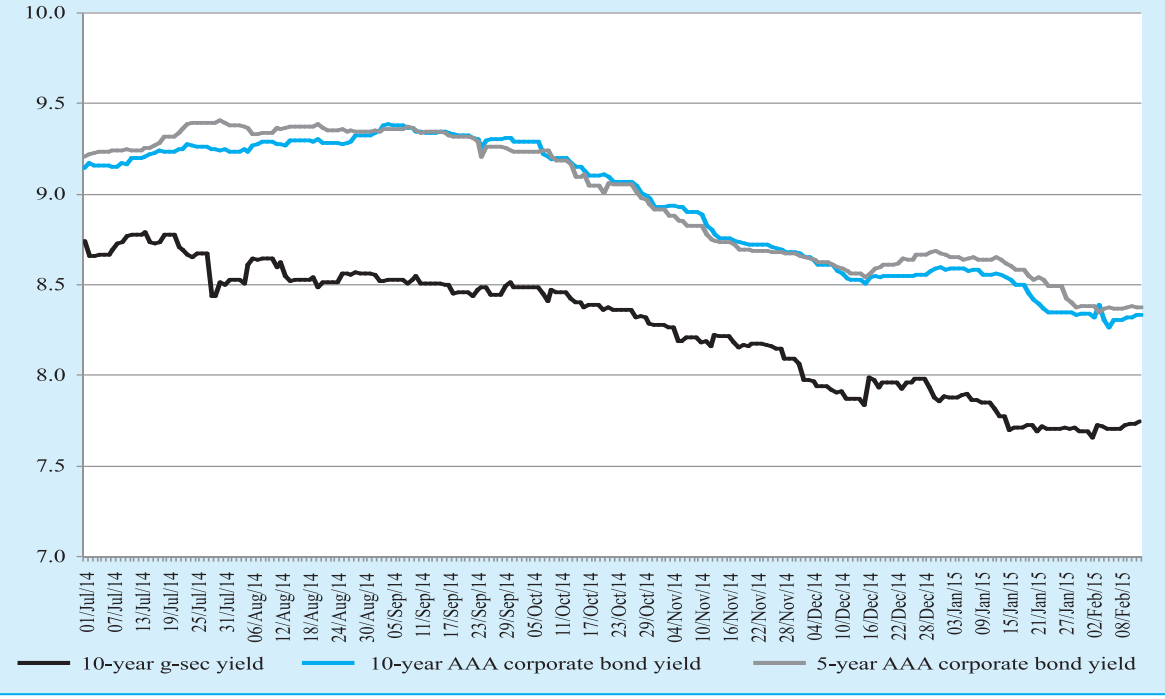
1.4 External Sector

The outlook is favourable for the current account and its financing. A likely surfeit, rather than scarcity, of foreign capital will complicate exchange rate management. Risks from a shift in US monetary policy and turmoil in the Eurozone need to be watched but could remain within control.

The outlook for the external sector is perhaps the most favourable since the 2008 global financial crisis, and especially compared to 2012-13, when elevated oil and gold imports fuelled a surge in the current account deficit. Global crude petroleum prices averaged about US$ 47/ bbl in January 2015 and about US$ 90/bbl for the year as a whole (April 2014-January 2015). Assuming a further moderation in average annual price of crude petroleum and other products, the current account deficit is estimated at about 1.3 per cent of GDP for 2014-15 and less than 1.0 per cent of GDP in 2015-16.

A rule of thumb is that a US$10 reduction in the price of oil helps improve the net trade and hence current account balance by US$ 9.4 billion. Moderated gold imports will also help sustain a manageable current account deficit. Since the elimination of restrictions on gold in November, gold imports have fallen well below the elevated levels seen in 2013. Declining international prices as well as moderating inflation have meant that gold imports averaged US$ 1.3 billion in December 2014 and US$ 1.6 billion in January 2015 compared with US$ 4.2 billion in October 2014 and US$ 5.6 billion in November 2014.

Figure 1.9: Bond Yields, July 2014 to February 2015 (Per cent)



Source: **Bloomberg.**

The outlook for external financing is correspondingly favourable, and surfeit rather than scarcity may pose the greater challenge. Financial flows in 2014-15 are likely to be in excess of US$ 55 billion, leading to a sizeable accretion to reserves by about US$ 26 billion, to about US$ 340 billion (Figure 1.10). This has been facilitated by extensive RBI exchange market intervention. These inflows are likely to continue through a large part of 2015-16. A key implication is that if the current account deficit is lower, a given level of capital inflows will create greater upward pressure on the rupee.

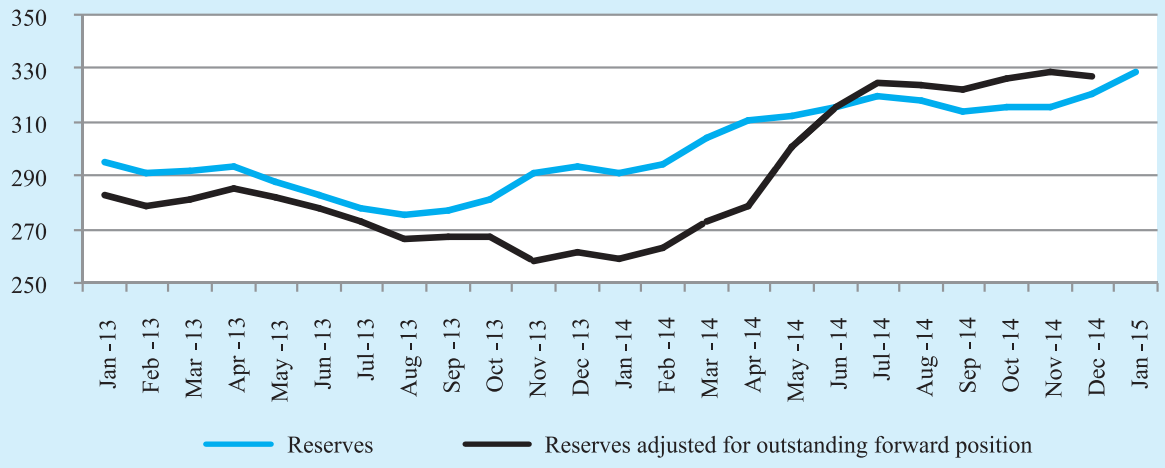
One source of concern is muted export growth and rising non-oil, non-gold imports which could be affected by India's deteriorating competitiveness, reflected in the appreciation of the real effective exchange rate by 8.5 per cent since January 2014. The interesting fact here is that higher inflation in India relative to trading partners is contributing only 2.3 percentage points, with the remaining 6.2 percentage points accounted for by the rupee strengthening in nominal terms against other currencies. In other words, surging capital inflows, notwithstanding the intervention by the RBI both in spot and forward markets, accounts for the bulk of the deteriorating competitiveness.

Reconciling the benefits of these flows with their impact on exports and the current account remains an important challenge going forward. The RBI, in other words, will be on the trident of the macro-economic trilemma, struggling to reconcile capital account openness and surging inflows, monetary policy independence, and the economy's competitiveness.

Four factors pose risks to the external situation:

- *renewed financial market volatility in response to US Federal Reserve monetary tightening which is expected later this year;*
- *possible turmoil if the viability of the Eurozone were to come into question in the event of a Greek exit;*
- *a spike in oil prices related to geopolitical events; and*
- *a slowly deteriorating international trade environment.*

Figure 1.10: Foreign Exchange Reserves, February 2013 to January 2015 (US$ billion)



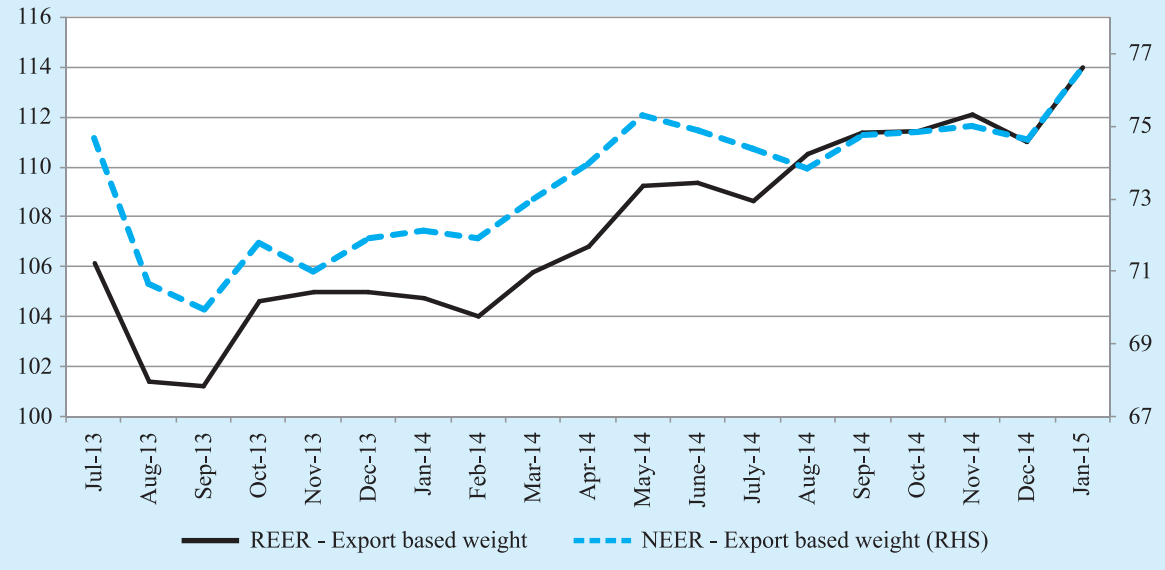
Source: **RBI.**

Two points are worth noting on the risks emanating from the Fed and Eurozone.

First, India may be vulnerable because a substantial portion of the foreign flows since March 2014 are interest sensitive. Of the total portfolio cumulative flows (US$ 38.4 billion), about US$ 23.8 billion have been portfolio debt flows. The decline in yields on government and corporate bonds shown in Figure 1.9 reflects these flows. Fed tightening could lead to reversal of some of these inflows, placing downward pressure on the rupee. However, India is more resilient today than in 2014 or 2013 not only because of greater reserves, but more importantly, due to a healthier macro-economic position. While complacency is never warranted, over-anxiety should also be kept at bay. In the medium-term, it is perhaps the trade challenge that is a greater source of concern (see section 1.11 below).

A larger issue on the external front is geo-strategic. If power used to flow from the barrel of a gun, in an increasingly inter-dependent economic world,

Figure 1.11: Nominal and Real Effective Exchange Rates-Export-Based Indices, July 2013 to January 2015



Source: **RBI.**

hard and soft power derive from a war-chest of foreign exchange reserves. China's abundant reserves have highlighted this fact. Reserves provide a cushion against shocks, creating economic and financial resilience. But they also create geo-political influence.

Today, China has de-facto become one of the lenders of last resort to governments experiencing financial troubles. It has also become one of the bigger providers of development assistance both bilaterally and plurilaterally. China, in its own heterodox and multiple ways, is assuming the roles of both an International Monetary Fund and a World Bank as a result of its reserves. The acquisition of reserves is not costless because it requires a policy of mercantilism and consequential distortion of financial and exchange markets. But there is a cost-benefit analysis that needs to be undertaken. The question for India, as a rising economic and political power, is whether it too should consider a substantial addition to its reserves, preferably its own reserves acquired though running cumulative current account surpluses, possibly targeting a level of US$ 750 billion- 1 trillion over the long run.

1.5 Agriculture

The First Advance Estimate of Kharif crops (July-September 2014) indicates lower production compared to the last year. However, the estimate is generally revised upwards. The Rabi crops data released by the Directorate of Economics and Statistics recently indicates that although the total area coverage has declined, area under wheat has gone down marginally by 2.9 per cent. Nevertheless, for 2014-15, the CSO has estimated a positive growth rate of 1.1 per cent for agriculture despite lower rainfall that was only 88 per cent of long-period average, and following a bumper year in 2013-14. The CSO estimate is value-added while agricultural production data are volume based, hence positive agricultural GDP growth is not inconsistent with volume declines because input costs have declined sharply.

But perhaps a deeper shift in agriculture may be under way which calls for greater attention to this sector. The decade long shift in the terms of trade toward agriculture may have come to an end as global agricultural prices have peaked. This is illustrated in figure 1.12 which plots the terms of trade for agriculture according to two different measures. Both show a slow decline after 2010-11, following several years of improvement.[8]

As the terms of trade deteriorate and as rural incomes come under pressure (see also Figure 1.7), the political pressure for support will increase. Already, there have been proposals to raise tariffs in a number of sectors like oilseeds and pulses and to provide export subsidies in sugar.

One response in the short run must be to enhance targeted support for the vulnerable in agriculture, namely the small farmer and agricultural labourer. The MGNREGA program has the virtue of being reasonably well-targeted. The challenge here is to build on this feature and use the program to build assets such as rural roads, micro-irrrigation and water management, while also shoring up rural incomes.

In the medium-term, the time is ripe for a more broad-based response to the challenges in agriculture and to ensure that agriculture grows at about 4 percent on a sustained basis.

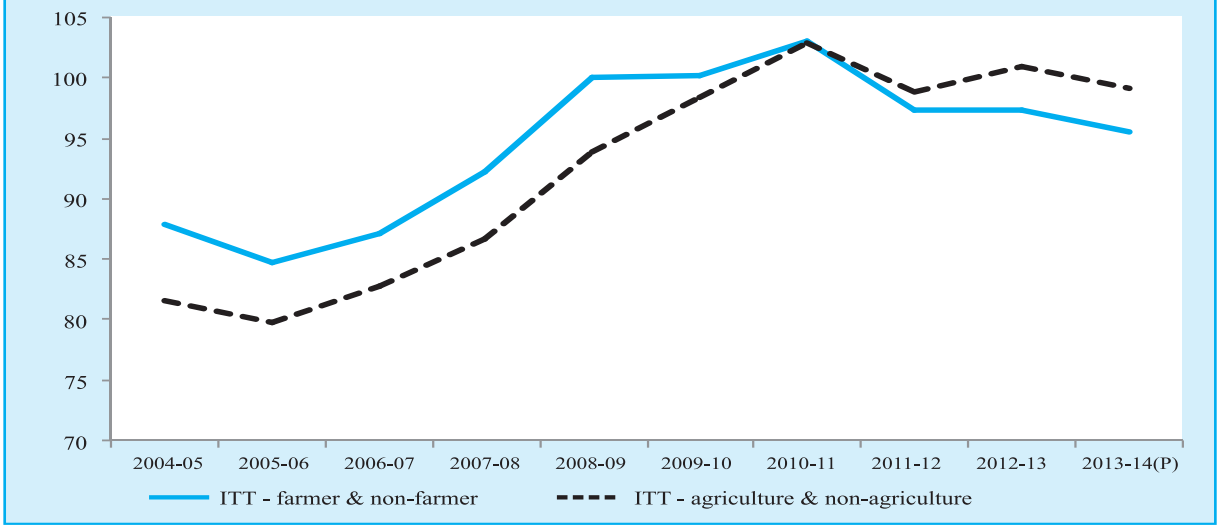
One of the most striking problems is how unintegrated and distortions-ridden are our agricultural markets (see chapter 8 of this volume, which also offers possible solutions). India needs a national common market for agricultural commodities by making the Agricultural Produce Market Committees (APMCs) just one among

[8] The TOT indices are based on the following formulae adopted by the Group (WG) in May 2012 under the chairmanship of Professor S. Mahendra Dev.

$$(1)\ \text{Index of Terms of Trade} = \frac{\text{Index of Price Received for Farm Products}}{\text{Index of Price Paid for Farm Inputs, Final Consumption and Capital Investment}} X 100$$

$$(2)\ \text{Index of Terms of Trade} = \frac{\text{Index of Price Received for Farm Products and Agricultural Wages}}{\text{Index of Price Paid for Farm Inputs, Final Consumption and Capital Investment}} X 100$$

Figure 1.12: Index of Agricultural Terms of Trade, 2004-05 to 2013-14



Source: **Refer to footnote 8.**

many options available for the farmers to sell their produce.

Rationalisation of subsidies and better targeting of beneficiaries through direct transfers would generate part of the resources for the public investment that is essential in research, education, extension, irrigation, water-management, soil testing, warehousing and cold-storage. Distortions emerging from various policies, including, exempting user charges for electricity and water need to be reduced, though better targeting and eliminating leakages.

The recommendations of the Shanta Kumar Committee provide useful suggestions for the future road-map of food-policy. The functioning of the Food Corporation of India needs to be revamped substantially.

There are also wide differences in the yields within states. Even the best of the states have much lower yield in different crops when compared to the best in the world. This is evident from the Table 1.1 below.

Vast amounts of cropped area (approximately 41 percent) are still unirrigated. Providing irrigation can improve yields substantially. For a shift in the underlying production function, investment in basic research will be necessary. This provides ample opportunity to increase production by bridging the yield-gap to the extent feasible within the climatic zone. Institutionally, the time may be ripe for re-assessing the role of the Indian Council of Agricultural Research (ICAR), its relationships with the state agricultural universities as well as with individual institutes (say the Indian Agricultural Research Institute or the National Dairy Research Institute), and whether research, education, and extension should be separated.

To provide efficient advance price-discovery to farmers and enable them to hedge price risks the Forward Markets Commission is being strengthened. The concern that there may be unnecessary speculation should be addressed though more effective regulation along the lines of the recommendations made by the Financial Sector Legislative Reforms Commission (FSLRC).

1.6 THE GROWTH-FISCAL POLICY CHALLENGE

India can balance the short-term imperative of boosting public investment to revitalize growth with the need to maintain fiscal discipline. Expenditure control and expenditure switching, from consumption to investment, both in the upcoming budget and in the medium term will be key.

Table 1.1: Crop Yield Comparison: India versus the World

Crop	India Highest Yield (State)	World Highest Yield
Paddy	Punjab - 3952	China - 6661
Wheat	Punjab - 5017	UK - 7360
Maize	Tamil Nadu - 5372	USA - 8858
Chickpeas	Andhra Pradesh - 1439	Ethiopia - 1663
Cotton	Punjab - 750	Australia - 1920
Rapeseed/Mustard Seed	Gujarat - 1723	UK - 3588

Note: Figures are in yield/kg/hectare and pertain to 2012.

The Medium-Term Fiscal Framework

Notwithstanding the challenging nature of the 2014-15 budget, elaborated in the *Mid-Year Economic Analysis* 2014-15, the Government will adhere to the fiscal target of 4.1 per cent of GDP. Despite weakness in revenue collection and delayed disinvestment, new excises on diesel and petrol (revenue yield of about ₹ 20,000 crores), reduced subsidies, and expenditure compression will ensure the commitment to discipline.

India can reconcile the requirements of fiscal consolidation and the imperative of boosting public investment to revive growth and crowd-in private investment provided the right lessons are learnt. How so?

Since this is the first full budget of the new government, and especially in light of the far-reaching recommendations of the Fourteenth Finance Commission, the time is ripe for reviewing the medium-term framework and setting targets for the upcoming year against that background and taking account of the lessons of recent history (Figure 1.13).

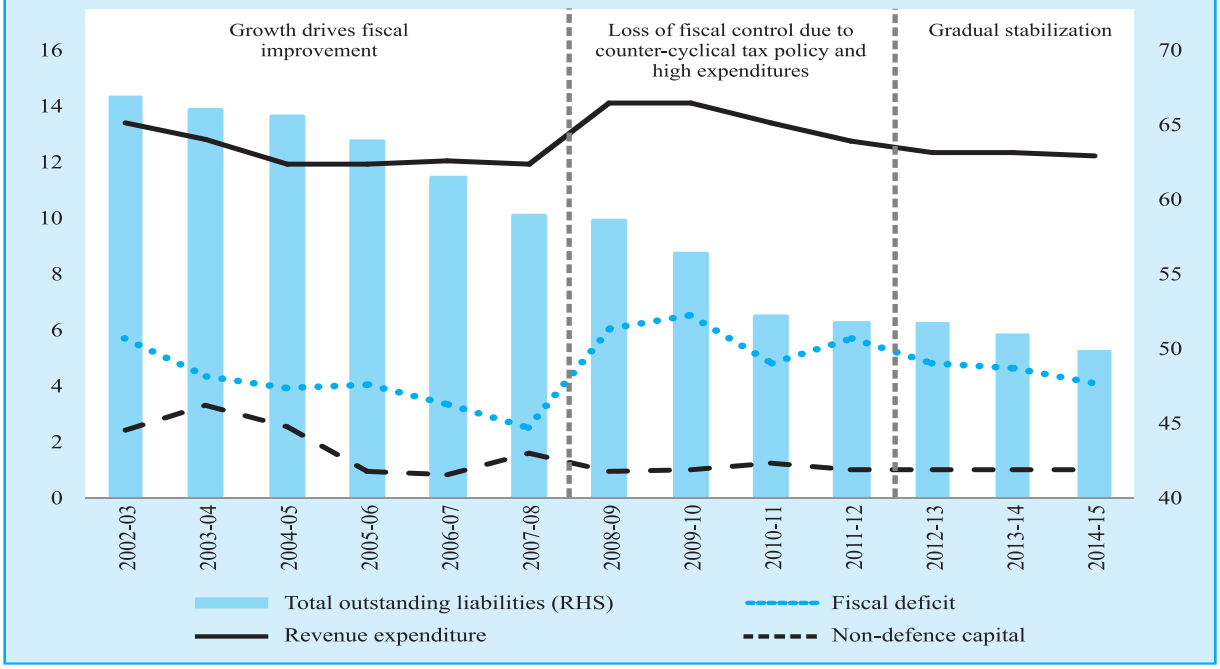
Three phases marked recent fiscal history. In the first (2002-08), rapid growth improved all fiscal aggregates, flows and stocks. But failure to control expenditure, especially revenue expenditure, towards the end of that phase, combined with excessive counter-cyclical policies in the second phase (2009-12) led to a loss of fiscal control that contributed to the near-crisis of 2013. A casualty has been low and stagnating capital expenditure. In the third phase (2013-today), a modicum of fiscal stability has been restored. This history suggests the following strategy going forward.

First, in the medium term, India must meet its medium-term target of 3 percent of GDP. This will provide the fiscal space to insure against future shocks and also to move closer to the fiscal performance of its emerging market peers. It must also reverse the trajectory of recent years and move toward the 'golden rule' of eliminating revenue deficits and ensuring that, over the cycle, borrowing is only for capital formation.

Second, the way to achieve these targets will be expenditure control and expenditure switching from consumption to investment. And the secular decline in capital expenditure in the last decade has undermined India's long run growth potential. From 2016-17, as growth gathers steam and as the GST is implemented, the consequential tax buoyancy when combined with expenditure control will ensure that medium term targets can be comfortably met. This buoyancy is assured by history because over the course of the growth surge in the last decade, the overall tax-GDP ratio increased by about 2.7 percentage points, from 9.2 percent in 2003-04 to 11.9 per cent in 2007-08 even without radical tax reform.

Third, the medium-term commitment to discipline cannot result in an Augustinian deferment of actions. In the upcoming year, too, fiscal consolidation must continue. However, the need for accelerated fiscal consolidation has lessened because macro-economic pressures have significantly abated with the dramatic decline in inflation and turnaround in the current account deficit. In these circumstances,

Figure 1.13: Recent Fiscal History, 2002-03 to 2014-15 (Percent of GDP)



***Source*: Budget Documents and CSO.**

***Note*: Numbers for 2013-14 and 2014-15 are revised estimates and budget estimates, respectively.**

especially if the economy is recovering rather than surging, pro-cyclical policy is less than optimal.

Debt dynamics also remain favourable going forward, ensuring a steady strengthening of public sector balance sheets. Further, accelerated fiscal consolidation will have to be conditioned in the upcoming fiscal year by a number of new and exceptional factors, such as implementing the recommendations of the Fourteenth Finance Commission, clearing the compensation obligations to the states for the reduction in the central sales tax in 2007-08 and 2008-09, and the need to increase public investment.

Nevertheless, to ensure fiscal credibility, and consistency with the medium-term goals, the upcoming budget should initiate the process of expenditure control to reduce both the fiscal and revenue deficits. At the same time, the quality of expenditure needs to be shifted from consumption, by reducing subsidies, toward investment. Broadly speaking, the additional space opened up, including through a reduction in subsidies and higher disinvestment proceeds, should be occupied by public investment. Increases in the tax-GDP ratio, stemming from the excise tax increases on petroleum products, will also help achieve both short and medium term fiscal goals.

1.7 Wiping Every Tear From Every Eye: The JAM Number Trinity Solution

The debate is not about whether but how best to provide active government support to the poor and vulnerable. Cash-based transfers based on the JAM number trinity—Jan Dhan, Aadhaar, Mobile— offer exciting possibilities to effectively target public resources to those who need it most. Success in this area will allow prices to be liberated to perform their role of efficiently allocating resources and boosting long-run growth.

Sixty eight years after Independence, poverty remains one of India's largest and most pressing problems. No nation can become great when the life chances of so many of its citizens are benighted by poor nutrition, limited by poor learning opportunities, and shrivelled by gender discrimination (discussed in section 1.13). The

recent Annual Survey of Education Report (ASER), which shows stagnation in learning outcomes over the past decade, makes for sobering reading (see Box in Volume 2, Chapter 9).

Economic growth is good for the poor, both directly because it raises incomes and because it generates resources to invest in the public services and social safety nets that the poor need. Growth – and the prospects and opportunities that it brings – also encourages individuals to invest in their own human capital. A recent study found strikingly that merely informing families in villages outside Bangalore that call centres were hiring educated women increased the likelihood that adolescent girls in those villages completed school[9].

However, growth must be complemented with effective state-delivered programs that raise the living standards of the most vulnerable in society. To be successful, anti-poverty programs must recognise that policies shape the incentives of individuals and firms, and also acknowledge the limited implementation capacity of the state to target and deliver public services to the poor.

Both the central and state governments subsidise a wide range of products with the expressed intention of making these affordable for the poor. Rice, wheat, pulses, sugar, kerosene, LPG, naphtha, water, electricity, fertiliser, iron ore, railways – these are just a subset of the products and services that the government subsidises. The estimated direct fiscal costs of these (select) subsidies are about ₹ 378,000 crore or about 4.2 percent of GDP. This is roughly how much it would cost to raise the expenditure of every household to that of a household at the 35th percentile of the income distribution[10] (which is well above the poverty line of 21.9 percent[11]). Table 1.2 below presents some rough, illustrative estimates of the cost of these subsidies and who benefits from them.

Price subsidies, no doubt provide help, but they may not have a transformative effect on the economic lives of the poor. For many subsidies, only a small fraction of the benefits actually accrue to the poor. For example, electricity subsidies benefit mainly the (relatively wealthy) 67.2 percent of households that are electrified[12]. A large fraction of subsidies allocated to water utilities are spent on subsidising private taps when 60 percent of poor households get their water from public taps[13].

Moreover, the implementation of subsidies can be fiendishly complex. In the case of fertilizers, they are firm-specific and import-consignment specific, they vary by type of fertilizer, and some are on a fixed-quantity basis while others are variable.

Subsidies are also susceptible to the brutal logic of self-perpetuation. In the case of sugar, to protect sugar cane producers high support prices are awarded; to offset this tax on mill owners, they are supported through subsidized loans and export subsidies; and then they are again taxed by placing restrictions on sales of molasses that are produced as a by-product.

Different subsidies also interact to hurt the poor. For example, fertiliser manufacturers do not have the incentive to sell their product in hard-to-access regions, since price controls mean that prices are similar everywhere, so freight subsidies on railways have been introduced to incentivise manufacturers to supply their produce widely. But those subsidies are sometimes insufficient, since freight rates are among the highest in the world, and intentionally so, to cross-subsidise artificially low passenger fares. This is an example of how a mesh of well-meaning price controls distort incentives in a way that ultimately hurt poor households.

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[9] Jensen, Robert, "*Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India*" 2012, Quarterly Journal of Economics.

[10] Economic Survey of India 2014-15, Vol. I, Chapter 3.

[11] Planning Commission, July 2013, reporting on the Tendulkar Commission (http://planningcommission.nic.in/news/pre_pov2307.pdf)

[12] Census of India (2011), Source of Lighting.

[13] Do Current Water Subsidies reach the poor?, MIT and World Bank working paper (http://web.mit.edu/urbanupgrading/waterandsanitation/resources/pdf-files/WaterTariff-4.pdf)

Table 1.2 : How much do subsidies benefit the poor

Product	Producer subsidy	Consumer subsidy	Fiscal expenditure (Cr.)	Fiscal expenditure (percent of 2011-12GDP)	What share of benefits accrue to the poor?
Railways	N/A	Subsidised passenger fares[1]	₹ 51,000	0.57	The bottom 80 percent of households constitute only 28.1 percent of total passenger through fare on railways
Liquefied petroleum gas	N/A	Subsidy (now via DBT)	₹ 23,746	0.26	The bottom 50 percent of households only consume 25 percent of LPG
Kerosene	N/A	Subsidy via PDS	₹ 20,415	0.23	41 percent of PDS kerosene allocation are lost as leakage, and only 46 percent of the remainder is consumed by poor households
Fertiliser & nitrogenous commodities	Firm and nutrient specific subsidies to manufacturers. Import of urea regulated by the government	Maximum	₹ 73,790	0.82	Urea and P&K manufacturers derive most economic benefit from the subsidy, since farmers, especially poor farmers, have elastic demand for fertiliser
Rice (paddy)	Price floor (minimum support price)	Subsidy via PDS	₹ 129,000	1.14	15 percent of PDS rice is lost as leakage. Households in the bottom 3 deciles consume 53 percent of the remaining 85 percent that reaches households
Wheat					54 percent of PDS wheat is lost as leakage. Households in the bottom 3 deciles consume 56 percent of the remaining 46 percent that reaches households
Pulses	Price floor (MSP)	Subsidy via PDS	₹ 158	0.002	The bottom 3 deciles consume 36 percent of subsidised pulses
Electricity	Subsidy	Capped below market price	₹ 32,300	0.36	Average monthly consumption of bottom quintile = 45 kWh vs top quintile = 121 kWh. Bottom quintile captures only 10 percent of the total electricity subsidies, top quintile captures 37 percent of subsidy
Water	N/A	Subsidy	₹ 14,208	0.50	Most water subsidies are allocated to private taps, whereas 60 percent of poor households get their water from public taps
Sugar for sugar cane farmers, subsidy to mills	Minimum price	Subsidy via PDS	₹ 33,000	0.37	48 percent of PDS sugar is lost as leakage. Households in the bottom 3 deciles consume 44 percent of the remaining 52 percent that reaches households
Total			₹ 377,616	4.24	

All expenditure deciles are based on data from the household expenditure module of the 68th Round of the NSS (2011-12)
Railways – www.ncaer.org/free-download.php?pID=111 , p107 & NSS 68th round
LPG – Computations from the 68th Round of the NSS (2011-12)
Kerosene – *Economic Survey of India 2014-15, Vol. I ,Chapter 3.*
Fertiliser – *Agricultural Input Survey,* http://inputsurvey.dacnet.nic.in/nationaltable3.aspx
Rice & wheat – *Economic Survey of India 2014-15,Vol. I, Chapter 3.*
Pulses – Computations from the 68th Round of the NSS (2011-12)
Water – Report by MIT and World Bank http://web.mit.edu/urbanupgrading/waterandsanitation/resources/pdf-files/WaterTariff-4.pdf , p2
Sugar – Department of Food & Public Distribution (http://dfpd.nic.in/fcamin/sugar/Notice1.pdf)

Fertiliser subsides illustrate another difficulty with using price subsidies as a core anti-poverty strategy. The true *economic incidence of a subsidy* depends on the relative elasticities of demand and supply, with the party *less* responsive to price changes benefiting *more* from a subsidy. The ultimate aim of subsidising fertiliser is to provide farmers with access to cheap fertilisers to incentivise usage and cultivation of high-yielding varieties. Yet because it is likely that farmers' demand for fertiliser is more sensitive to prices[14] than fertiliser manufacturers' supply, the larger share of economic benefits from the price subsidy probably accrue to the fertiliser manufacturer and the richer farmer who accounts for a larger share of fertiliser consumption, not the beneficiary most in need, namely the poor farmer.

High minimum support for rice and wheat distort crop choice, leading to water-intensive cultivation in areas where water tables have been dropping like a stone, and ultimately induce greater price volatility in non-MSP supported crops which hurts consumers, especially poor households who have volatile incomes and lack the assets to weather economic shocks. High MSPs also penalise risk-taking by farmers who have ventured into non-traditional crops.

At first glance, kerosene seems a good candidate for price subsidies as it is popularly conceived to be consumed mostly by the poor, and yet work done in this Survey (Chapter 3) based on NSS data show that only 59 percent of subsidised kerosene allocated via the PDS is actually consumed by households, with the remainder lost to leakage, and only 46 percent of total consumption is by poor households. Even in the case of the food distributed via the PDS, leakages are very high (about 15 percent for rice and 54 percent for wheat, with most of these leakages concentrated in the APL segment).

This illustrates the importance of basing anti-poverty policy on data rather than popular perception. It also underscores the need for policymakers to acknowledge as a first-order concern the state's own constraints in implementing effective, well-targeted programs.

Technology is increasingly affording better means for the government to improve the economic lives of the poor. The JAM Number Trinity– ***J***an Dhan Yojana, ***A***adhaar and ***M***obile numbers— might well be a game changer because it expands the set of welfare and anti-poverty policies that the state can implement in future. These technological innovations have renewed academic interest in the potential of direct cash transfers to help the poor. Recent experimental evidence documents that unconditional cash transfers – if targeted well – can boost household consumption and asset ownership and reduce food security problems for the ultra-poor.[15]

Cash transfers can also augment the effectiveness of existing anti-poverty programs, like the MGNREGA. A recent study[16] reported evidence from Andhra Pradesh where MGNREGA and social security payments were paid through Aadhaar-linked bank accounts. Households received payments faster with the new Aadhaar-linked DBT system, and leakages decreased so much that the value of the fiscal savings – due to reduced leakages – were 8 times greater than the cost of implementing the program. Much of the leakage reduction resulting from biometric identification stems from fewer ghost beneficiaries. Indeed, the government is already realizing the gains from direct benefit transfers areas by paying cooking gas subsidies directly into the bank accounts of 9.75 crore recipients.

For the agriculture sector which is currently under stress, this evidence creates possibilities. The virtue

[14] One estimate suggests that farmers' demand for fertiliser falls by nearly 6.4 percent for a 10 percent increase in fertiliser prices. Dholakia, R.H. and Jagdip Majumdar, "*Estimation of Price Elasticity of Fertilizer Demand in India*", 2006, Working Paper.

[15] Johannes Haushofer & Jeremy Shapiro, "*Household Response to Income Changes: Evidence from an Unconditional Cash Transfer Program in Kenya*", 2013, Working Paper.

[16] Karthik Muralidharan, Paul Niehaus & Sandip Sukhtankar, "*Building State Capacity: Evidence from Biometric Smartcards in India*", 2014, Working Paper.

of MGNREGA, for all its deficiencies, is that it is self-targeting. If the program could lead to the creation of rural assets such as rural roads, micro-irrigation and water management infrastructure, and if leakages could be minimized through the JAM number trinity, rural India could witness both the creation of opportunity and protection of the vulnerable.

Today there are about 125.5 million Jan Dhan bank accounts[17], 757 million Aadhaar numbers, and approximately 904 million mobile phones[18]. It is possible to envisage that when the JAM trinity becomes linked, the goal of periodic and seamless financial transfers to bank accounts after identification through the Aadhaar number can be implemented with immeasurable benefits to helping the lives of the poor. The heady prospect for the Indian economy is that, with strong investments in state capacity, that *Nirvana* today seems within reach. It will be a *Nirvana* for two reasons—the poor will be protected and provided for; and many prices in India will be liberated to perform their role of efficiently allocating resources and boosting long-run growth. Even as it focuses on second and third generation reforms in factor markets, India will then be able to complete the basic first generation reforms. This will be the grand bargain in the political economy of Indian reforms.

1.8 Growth, private and public investment

"The balance sheet syndrome with Indian characteristics" creates a web of difficult challenges that could hold back private investment. Private investment must remain the primary engine of long-run growth. But in the interim, to revive growth and to deepen physical connectivity, public investment, especially in the railways, will have an important role to play.

Since the new government assumed office, a slew of economic reforms has led to a partial revival of investor sentiment. Tentative signs that the worst is over are evident for example in data that shows that the rate of stalled projects has begun to decline and that the rate of their revival is inching up (Figure 1.14).

But increasing capital flows are yet to translate into a durable pick-up of real investment, especially in the private sector. This owes to at least five interrelated factors that lead to what the *Mid-Year Economic Analysis* called the "*balance sheet syndrome with Indian characteristics.*"

First, hobbled by weak profitability and weighed down by over-indebtedness, the Indian corporate sector is limited in its ability to invest going forward (the flow challenge). One key indicator of profitability—the interest cover ratio, which if less than one implies firms' cash flows are not sufficient to pay their interest costs—has also worsened in recent years (Figure 1.15). Further, as the Figure 1.16 shows, the debt-equity ratios of the top 500 non-financial firms have been steadily increasing, and their level now is amongst the highest in the emerging market world.

Second, weak institutions relating to bankruptcy means that the over-indebtedness problem cannot be easily resolved (the stock and 'difficulty-of-exit' challenge). This is reflected in the persistence of stalled projects which have been consistently around 7 to 8 percent of GDP in the last four years.

Third, even if some of these problems were solved, the PPP model at least in infrastructure will need to be re-fashioned to become more viable going forward (the institutional challenge).

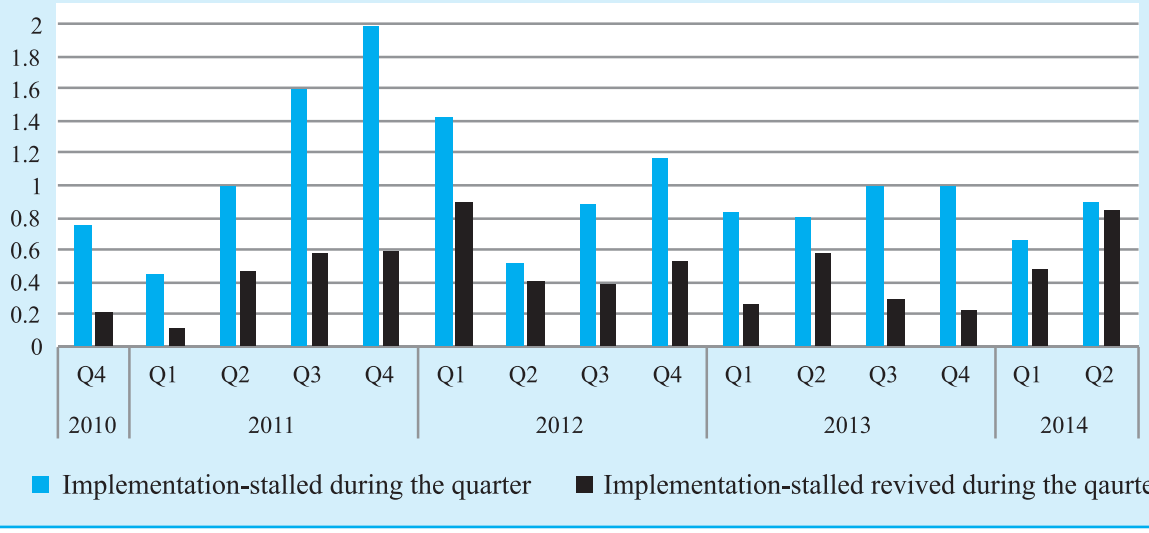
Fourth, since a significant portion of infrastructure was financed by the banking system, especially the public sector banks, their balance sheets have deteriorated.[19] For example, the sum of non-performing and stressed assets has risen sharply, and for the PSBs they account for over 12 percent

[17] Pradhan Mantri Jan-Dhan Yojana progress report (http://www.pmjdy.gov.in/account-statistics-country.aspx)

[18] http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Presspercent20Release-TSD-Mar,14.pdf.

[19] According to RBI's Financial Stability Report, December 2014, the contribution of mining, iron and steel, textiles, aviation and other infrastructure to total advances stands at 28 percent whereas their contribution in stressed assets is 54 percent.

Figure 1.14: Overview of Stalled Projects, 2011Q1 to 2014Q2 (lakh crore)



Source: **CMIE.**

of total assets (Figure 1.17). Uncertainty about accounting and valuation, and indeed the history of banking difficulties across time and space, counsel in favor of over- rather than under-recognizing the severity of the problem. When banks' balance sheets are stressed they are less able to lend, leading to reduced credit for the private sector (the financing challenge).[20]

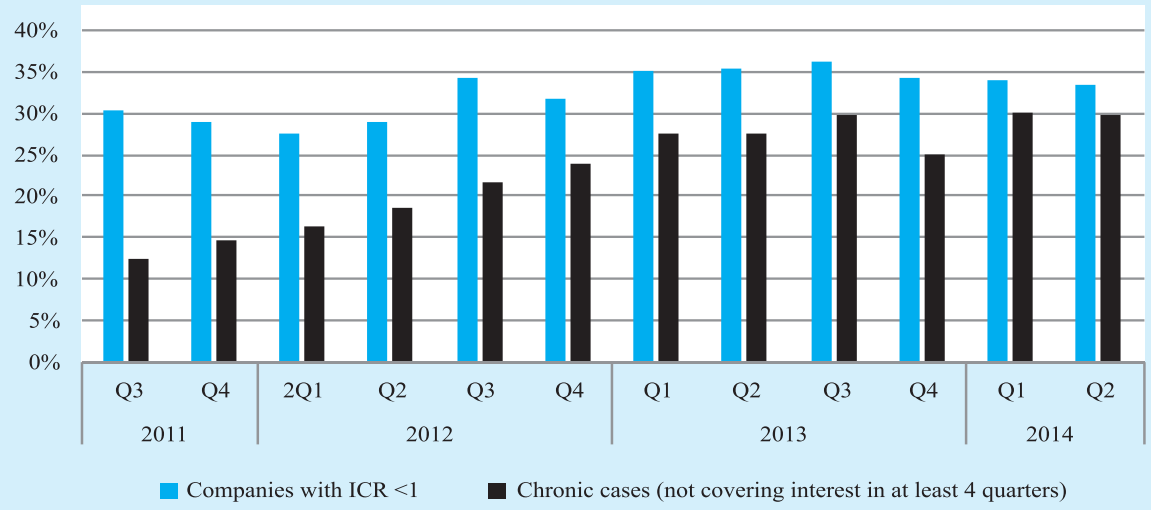
Finally, in a peculiarly Indian twist, this financing problem is aggravated by generalized risk-aversion (the challenge of inertial decision-making). For the public sector banks in particular, which are exposed to governmental accountability and oversight, lending in a situation of NPAs is not easy because of a generic problem of caution, afflicting bureaucratic decision-making.

Actions being undertaken by the government to enhance the supply of critical inputs such as coal and gas, as well as regulatory reform, will alleviate some of these constraints, especially in the public sector where the data identify them as being regulatory in character (clearances and land acquisition). Steps are being taken to address the institutional problem, by creating a better framework for PPPs and for infrastructure investment in general. The RBI is making efforts to get banks to recognize their bad loan problems, and address them. But the impact of these initiatives has so far been limited. The stock of stalled projects remains extraordinarily high; firm profitability, especially for firms working in the infrastructure sector, remains low. So, questions on the pace and strength of recovery of private sector investment remain open.

If the weakness of private investment offers one negative or indirect rationale for increased public investment, there are also more affirmative rationales. India's recent PPP experience has demonstrated that given weak institutions, the private sector taking on project implementation risks involves costs (delays in land acquisition, environmental clearances, and variability of input supplies, etc.). In some sectors, the public sector may be better placed to absorb some of these risks. Further, there continue to remain areas of infrastructure – rural roads and railways that provide basic physical connectivity- in which private investment will be under-supplied. One irony is that while financial and digital connectivity are surging ahead, basic physical connectivity appears to lag behind.

[20] Suggestions on how capital markets can play a greater role in infrastructure financing are elaborated in last year's Economic Survey.

Figure 1.15: Companies with ICR<1, 2011Q3 to 2014Q2



***Source*: Credit Suisse (sample of 3,700 listed companies).**

Figure 1.16A: Debt to Equity of Non-Financial Corporates (BSE 500), 2009-10 to 2014-15

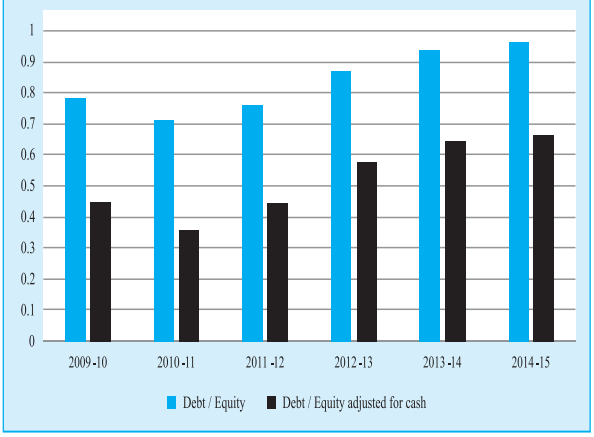
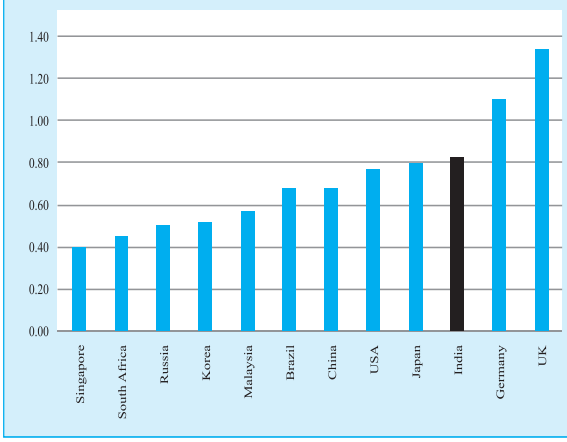


Figure 1.16B: Debt to Equity of Non-Financial Corporates (MSCI Index) as of December 2014

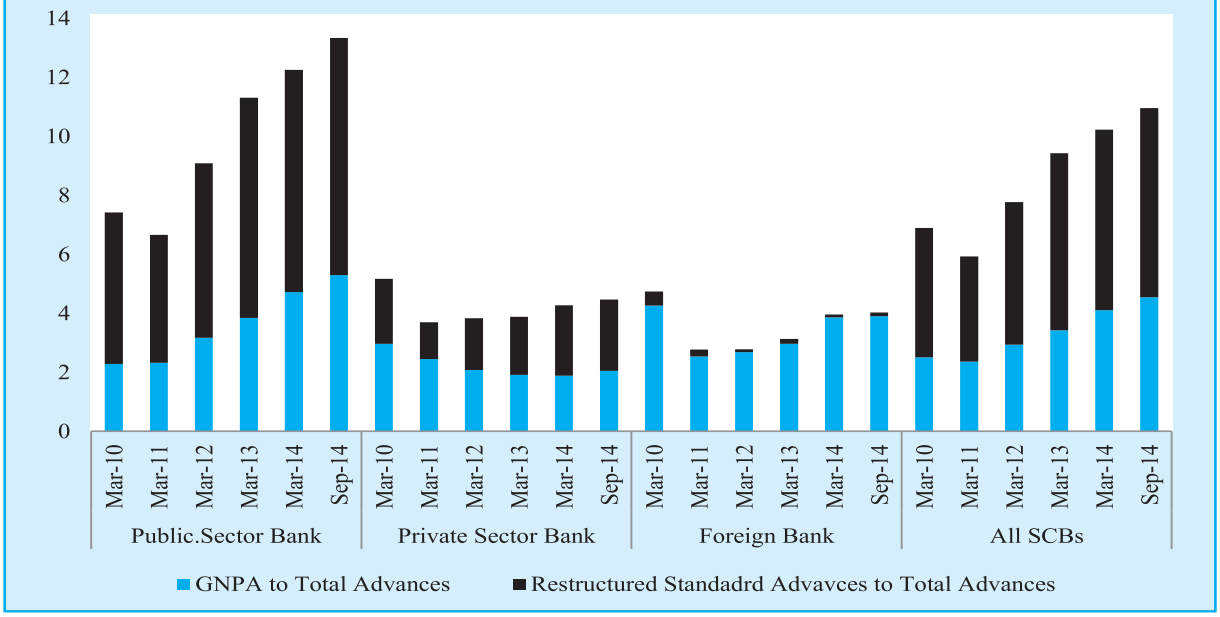


***Source*: Bloomberg and J.P. Morgan.**

Therefore, as emphasized in the *Mid Year Economic Analysis 2*014-15 it seems imperative to consider the case for reviving targeted public investment as an engine of growth in the short run not to substitute for private investment but to complement it and indeed to crowd it in. The two challenges of raising public investment relate to financing and capacity. Financing issues were addressed in section 1.6.

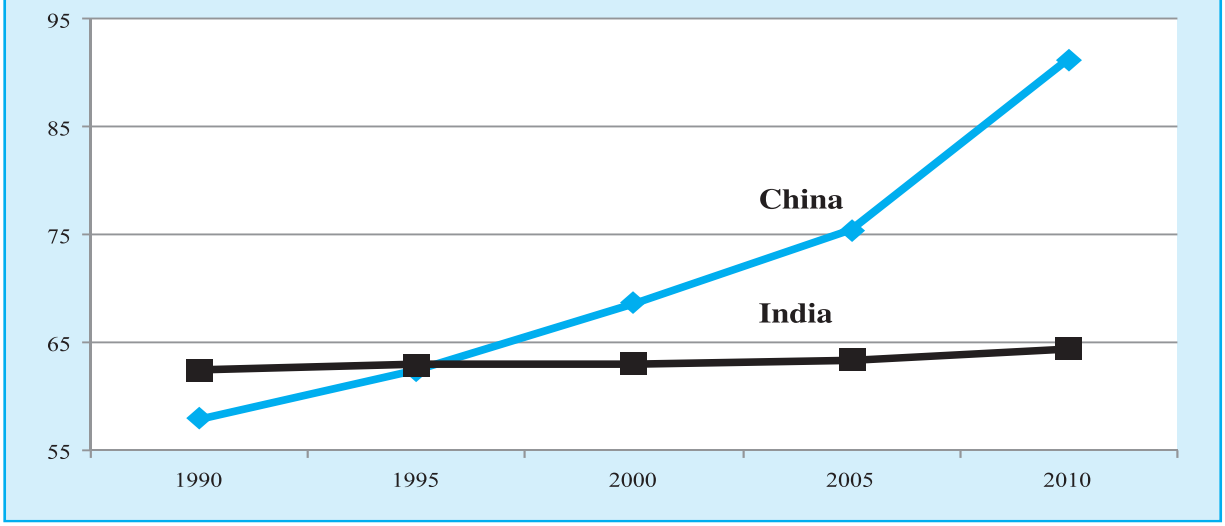
Public sector implementation capacity in India is variable. But the analysis in chapter 6 of this volume suggests that the Indian Railways could be the next locomotive of growth. Greater public investment in the railways would boost aggregate growth and the competitiveness of Indian manufacturing substantially. In part, these large gains derive from the current massive under-investment in the railways. For example, China and India had similar network capacities in until the mid-1990s but because it invested eleven times as much as India in per-capita terms, China's capacity and efficiency have surged (Figure 1.18). In contrast, stagnant investment has led to congestion, strained capacity, poor services, weak financial health, and deteriorating competitiveness of logistics-intensive sectors, typically manufacturing. Congestion has

Figure 1.17: Gross NPA and Restructured Assets as per cent of total advances



Source: **RBI.**

Figure 1.18: Capacity Addition-Indian and China Railways, 1990 to 2010 (route km '000)



Source: **World Bank.**

effectively led to the railways ceding a significant share in freight traffic to the roads sector. This is not a welcome development since rail transport is typically more cost and energy efficient. The profits generated by freight services have cross-subsidised passengers services and Indian freight rates (PPP adjusted) remain among the highest in the world.

What the previous NDA government did for roads, the present government could do for the railways, strengthening the physical connectivity of the Indian population, with enormous benefits in terms of higher standards of living, greater opportunities, and increased potential for human fulfillment.

1.9 The Banking Challenge

Banking is hobbled by policy, which creates double financial repression, and by structural factors, which impede competition. The

solution lies in the 4 Ds of deregulation (addressing the statutory liquidity ratio (SLR) and priority sector lending (PSL)), differentiation (within the public sector banks in relation to recapitalisation, shrinking balance sheets, and ownership), diversification (of source of funding within and outside banking), and disinterring (by improving exit mechanisms).

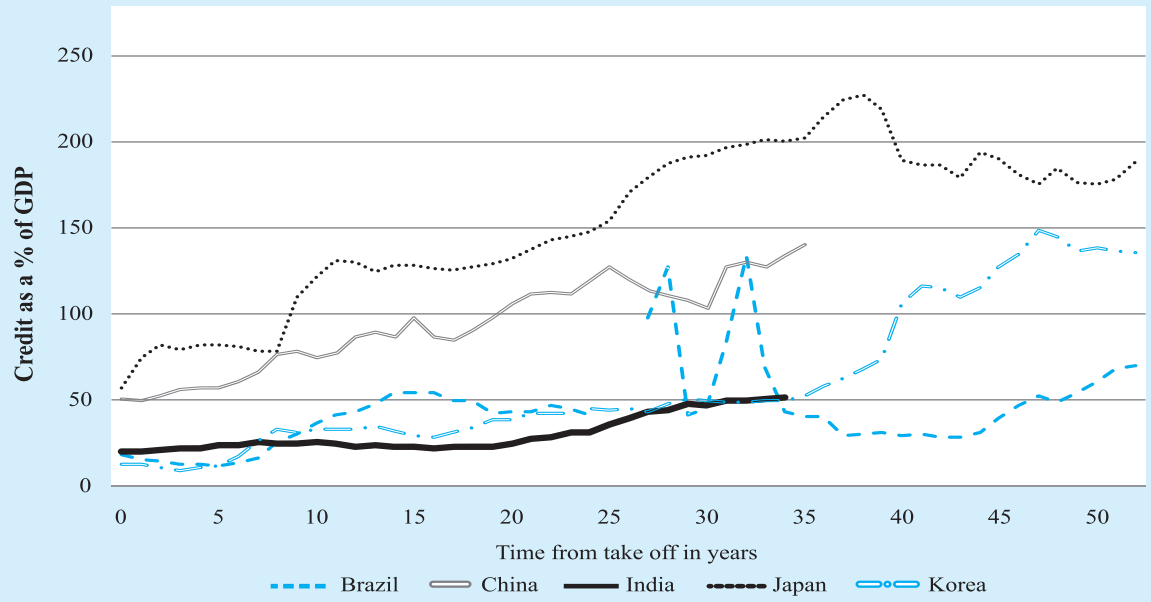
Discussions of banking in India have recently focused on the problem of stressed and restructured assets, the challenges in acquiring the resources to meet the looming Basel III requirements on capital adequacy, including the respective contributions of the government and markets, and the need for governance reform reflected in the 2013 Nayak Committee Report. Stepping back from these proximate issues allows a deeper analytical diagnosis of the problems of Indian banking which in turn provide the basis for more calibrated solutions.

A first question that arises is whether India is credit-addled and overbanked.

One way to assess this is to see whether Indian banks were unusually imprudent in the boom phase.[21] Figure 1.19 plots the domestic credit to GDP of a number of countries, as defined by the World Bank, during their period of rapid growth (these periods vary across countries) since the year of "takeoff". It shows that while the boom years of the last decade both spawned and were fed by a credit boom, originating in the public sector banks, irrationally exuberant behaviour was not out of line with similar experiences in other countries. Indian credit grew no more rapidly than elsewhere. For example, the Japanese and Chinese financial systems lent much more during their take-off years.

On the question of India being over-banked, we assess the share of banks in total credit for a cross-section of countries (Figure 1.20). The figure plots the ratio of banking credit to total credit in the economy less the government, which includes firms and household[22], against the level of development, as measured by the log of GDP per capita in PPP

Figure 1.19: Domestic Credit to GDP since Takeoff (Per cent)



***Source*: World Bank. Notes: Years of takeoff- Brazil, Japan and Korea: 1961, China: 1978, India: 1979.**

[21] In Chapter 5 of this volume, we also test for how credit-addled India is based on other cross-sectional and time-series comparisons.

[22] As defined by the Bank for International Settlements, this includes credit to non-financial corporations (both private-owned and public-owned), households and non-profit institutions serving households as defined in the System of National Accounts 2008.

terms. The chart shows that India is not an outlier: that is for its level of development, the share of bank credit is neither unusually high nor low. Of course, if India grows at 8 percent a year for the next twenty years, a rapid shift in the composition of India's financial sector away from banking may be necessary and desirable.

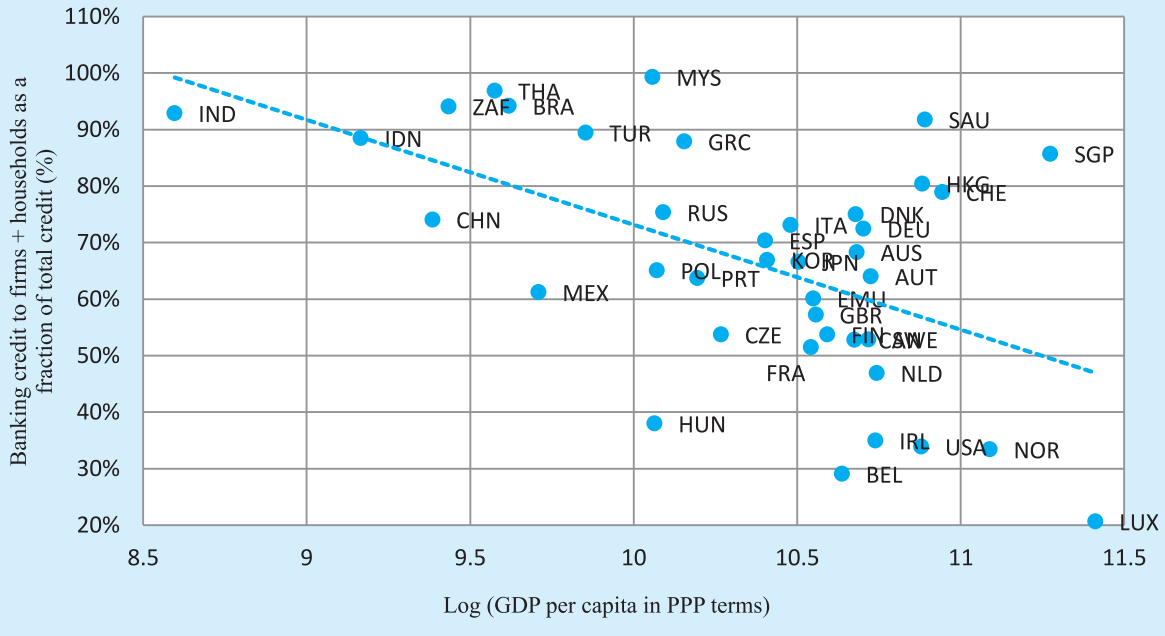
Where then does the problem lie? The problems in the Indian banking system lie elsewhere and fall into two categories: policy and structure.

The policy challenge relates to financial repression. The Indian banking system is afflicted by what might be called "double financial repression" which reduces returns to savers and banks, and mis-allocates capital to investors. Financial repression on the asset side of the balance sheet is created by the statutory liquidity ratio (SLR) requirement that forces banks to hold government securities, and priority sector lending (PSL) that forces resource deployment in less-than-fully efficient ways[23]. Financial repression on the liability side has arisen from high inflation since 2007, leading to negative real interest rates, and a sharp reduction in household savings. As India exits from liability-side repression with declining inflation, the time may be appropriate for addressing its asset-side counterparts.

The structural problems relate to competition and ownership. First, there appears to be a lack of competition, reflected in the private sector banks' inability to increase their presence. Indeed, one of the paradoxes of recent banking history is that the share of the private sector in overall banking aggregates barely increased at a time when the country witnessed its most rapid growth and one that was fuelled by the private sector. It was an anomalous case of private sector growth without private sector bank financing. Even allowing for the over- exuberance of the PSBs that financed this investment-led growth phase, the reticence of the private sector was striking (see Figure 1.21).

Second, there is wide variation in the performance of the public sector banks measured in terms of prudence and profitability. Figure 1.22 plots the

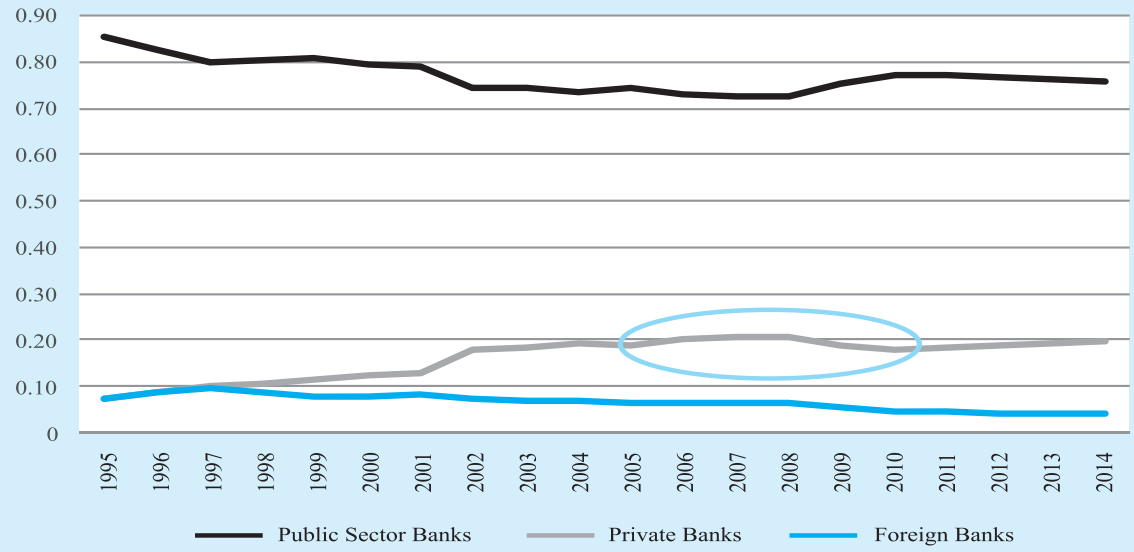
Figure 1.20: Banking Credit as a Fraction of Total Credit for 2014



***Source*: Bank for International Settlements.**

[23] More details can be found in Chapter 5 of this volume.

Figure 1.21: Ratio to total advances (fraction), 1995-2014



***Source*: RBI.**

Leverage Ratio and Return on Assets of public sector and private sector banks[24]. In addition it plots (as dotted lines) the variation within the public sector banks. In terms of actual numbers of leverage ratios, taking a three year average, the most prudent PSB was 1.7 times more capitalised than the most imprudent one.

Despite the significant variation in public sector banks, it is also striking that on these measures, the best public sector banks perform well below private sector banks on average, recognising of course that PSBs may be burdened with greater social obligations that places them at a competitive disadvantage relative to the private banks. The subtler problem with public sector ownership is that exit from debt difficulties is proving very difficult. If that is so, there is extra reason to worry about public sector ownership *ex-ante*.

The diagnosis above (and in chapter 5) leads to a four-fold policy response captured in 4 Ds: *deregulate*, *differentiate*, *diversify*, and *disinter.* As the banking sector exits the financial repression on the liability side, aided by the fall in inflation, this is a good opportunity to consider relaxing the asset side repression. Easing SLR requirements will provide liquidity to the banks, depth to the government bond market, and encourage the development of the corporate bond market. Second, PSL norms too can be re-assessed. There are two options: one is indirect reform bringing more sectors into the ambit of PSL, until in the limit every sector is a priority sector; and the other is to redefine the norms to slowly make PSL more targeted, smaller, and need-driven.

There must be differentiation between the PSBs and the recent approach to recapitalization adopted by the government is a step in the right direction. One size fits all approaches such as governance reform cannot be the most appropriate. Differentiation will allow a full menu of options such as selective recapitalization, diluted government ownership, and exit.

[24] *Leverage ratio* is defined by the RBI as ratio of total assets to total capital (Tier 1 + Tier 2), the international definition, for example as laid out by the Bank for International Settlements, is typically the inverse. For the purpose of this volume we will use the international definition. *Return on Assets* (ROA) is a profitability ratio which indicates the net profit (net income) generated on total assets. It is computed by dividing net income by average total assets.

Figure 1.22A: Banking Indicators: Leverage Ratio and Return on Assets, 2001 to 2014.

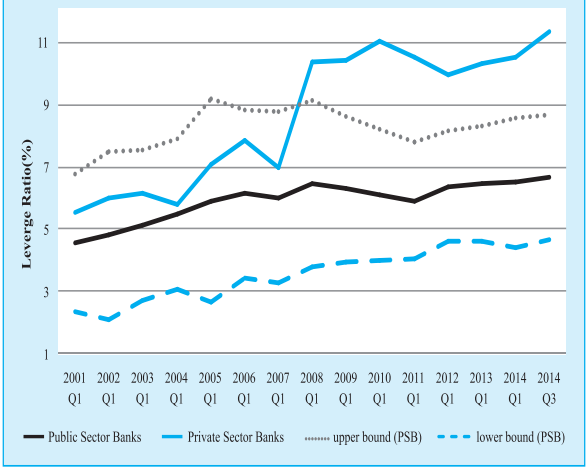
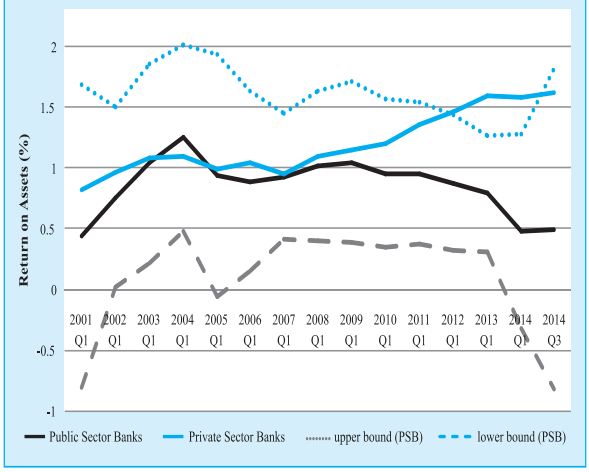


Figure 1.22B: Banking Indicators: Leverage Ratio and Return on Assets, 2001 to 2014.



***Source*: RBI.**

"Diversify" implies that there must be greater competition within the banking system, including liberal licensing of more banks and different types of banks. There must also be greater competition from capital, especially bond, markets. Facilitating that will require exiting from asset side repression, namely the phasing down of the SLRs which would also help develop bond markets.

"Disinter" implies that exit procedures must become more efficient. Debt Recovery Tribunals are over-burdened and under-resourced, leading to tardy resolution. The ownership structure and efficacy of Asset Restructuring Companies, in which banks themselves have significant stakes of banks, creates misaligned incentives. The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act seems to be implemented most vigorously against the smallest borrowers and MSEs. Mechanisms for distributing pain efficiently amongst promoters, creditors, consumers, and taxpayers without creating moral hazard incentives for imprudent lending by banks are necessary. One important lesson is that the clean-up is as important as the run-up.

1.10 Manufacturing, Services and the Challenges of "Make in India"

Transformational sectors could be in registered manufacturing or services. Raising economy-wide skills must complement efforts to improve the conditions for manufacturing.

The Prime Minister has made the revival of Indian manufacturing a top priority, reflected in his "Make in India" campaign and slogan. The objective is as laudable as the challenges it faces are daunting because Indian manufacturing has been stagnant at low levels, especially when compared with the East Asian successes[25].

Two questions arise. Is manufacturing the sector that *Make in India* focus on? What instruments should be deployed to realize the objective? Consider each in turn.

New academic work suggests that there is a complementary way of thinking about transformational sectors in and for development. Growth theory suggests that transformational sectors should be assessed in light of their underlying characteristics and not just in terms of

[25] The recent upward revisions to the level of manufacturing share in GDP are to some extent statistical rather than "real". Moreover, even the revised data do not change the pattern of trend decline in this share. What has happened is the statistical opposite of the technological change which Jagdish Bhagwati ["*Splintering and Disembodiment of Services and Developing Nations*", 1984, The World Economy, 7(2)] referred to as 'splintering' services from goods.

the traditional manufacturing-services distinction (Table 1.3). Five such important characteristics can be identified.

- High *levels* of productivity, so that incomes can increase;
- Rapid rate of *growth* of productivity in relation to the world frontier (international convergence) as well as rapid growth toward the national frontier (domestic convergence);
- A strong ability of the dynamic sector to attract resources, thereby spreading the benefits to the rest of the economy;
- Alignment of the dynamic sector with a country's underlying resources, which typically tends to be unskilled labor; and
- Tradability of the sector, because that determines whether the sector can expand without running into demand constraints, a feature that is important for a large country like India.

In India, it is important to remember that when thinking about manufacturing as a transformational sector it is registered or formal manufacturing that possesses some of the critical prerequisites such as high productivity and rapid growth in productivity. Unregistered manufacturing cannot be a transformational sector. Thus, efforts to encourage formalization will be critical.

The Indian evidence is that some sub-sectors in services such as telecommunications and finance are like registered manufacturing in being highly productive and dynamic. However, these sectors, like registered manufacturing, have not been able to attract large amounts of unskilled labour, limiting the benefits of the underlying dynamism. In other words, the dynamic sectors have tended to be skill-intensive sectors in which India does not necessarily have comparative advantage. An exception is construction which is unskilled labour-intensive and which has been fairly dynamic. Construction, however, is not a tradable sector, which also limits its potential as a transformational sector.

One policy conclusion that follows is that efforts to improve the conditions for labor-intensive manufacturing need to be complemented with rapid skill upgradation because skill-intensive sectors are dynamic sectors in India and sustaining their dynamism will require that the supply of skills keeps

Table 1.3: Transformational Properties of Different Sectors

Feature	Registered Manufacturing	Trade, Hotels, and Restaurants	Transport, Storage and Communications	Financial Services and Insurance	Real Estate and Business Services, etc.	Construction
1. High productivity	Yes	No	Not really	Yes	Yes	No
2A. Unconditional domestic convergence	Yes	Yes	Yes	Yes	Yes	Yes
2B. Unconditional international convergence	Yes, but not for India	No	No	Yes	Yes	Yes
3. Converging sector absorbs resources	No	Somewhat	Somewhat	No	Somewhat	Yes
4. Skill profile matches underlying endowments	Not really	Somewhat	Somewhat	No	No	Yes
5. Tradable and/ or replicable	Yes	No	Somewhat	Yes	Somewhat	No

pace with the rising demand for these skills; otherwise even these sectors could become uncompetitive. In other words, the Prime Minister's Skill India objective should be accorded high priority along with, and indeed in order to realize, ''Make in India''.

We turn next to the means. What policy interventions can help realize ''Make in India'' They can be placed in three categories in decreasing order of effectiveness and increasing order of controversy.

The uncontroversial responses consist of improving the business environment by making regulations and taxes less onerous, building infrastructure, reforming labour laws, and enabling connectivity– all these would reduce the cost of doing business, increase profitability, and hence encourage the private sector, both domestic and foreign, to increase investments. Indeed, these measures would not just benefit manufacturing, they would benefit all sectors.

The next set of responses—what might loosely be called "industrial policy"— would target the promotion of manufacturing in particular: providing subsidies, lowering the cost of capital, and creating special economic zones (SEZs) for some or all manufacturing activity in particular.

The final set of responses—what might be called "protectionist"—would focus on the tradability of manufacturing, and hence consist of actions to: shield domestic manufacturing from foreign competition via tariffs and local content requirements; and provide export-related incentives. The effectiveness of these actions is open to debate given past experience. Moreover, they would run up against India's external obligations under the WTO and other free trade agreements, and also undermine India's openness credentials.

The risk to avoid is undue reliance on the latter two, especially if it leads to detailed micro-intervention, involving sector-specific tariff and tax changes and sector-specific grant of incentives. In this context, an intervention that can be immediately implemented, that can have large impacts, and that is win-win, is to eliminate the current *negative protection* facing Indian manufacturing (Box 1.4)

1.11 The Trade Challenge

Trade outcomes have been stagnating. The trading environment is becoming more challenging as the buoyancy of Indian exports has declined with respect to world growth, and as the negotiation of mega-regional trading arrangements threatens to exclude India.

Rapid and sustained rates of growth are associated with rapid rates of export growth. Few countries, if any, have grown at 7 plus growth rates on the basis of the domestic market alone. Indeed, as Ostry et. al. (2006)[26] show, sustained growth spurts are almost always associated with an average rise in manufacturing exports to GDP ratios over their growth episodes of about 36 percentage points. India should not expect to be any different.

If that is so, what is the prognosis for India? During India's rapid growth phase between 2002-03 and 2008-09, the ratio of exports of services to GDP increased dramatically, from 4.0 percent to nearly 9.0 percent. In contrast, manufacturing exports were less buoyant (Figure 1.23). After the global financial crisis, however, the roles seem to have been reversed; manufacturing exports seem to have done better than services exports. More worrisome, however, both have slowed down in the last five years which does not augur well.

A similar pattern emerges when we compute the buoyancy of Indian export growth (of goods and services) with respect to GDP growth of the world (Figure 1.24). In the early 2000s, this buoyancy was high and rising, particularly for services. Every 1 percent growth in world GDP was associated with a 3 percent growth in Indian exports of services in 2001, which rose to over 8 percent a few years

[26] Johnson, Simon, Jonathan D. Ostry, and Arvind Subramanian, *"The Prospects for Sustained Growth in Africa; Benchmarking the Constraints,"* 2007, IMF Working Papers 07/52, International Monetary Fund.

Box 1.4: "Make in India" Not by Protecting but by Eliminating Negative Protectionism

Eliminating all the exemptions for the countervailing duty (CVD) will eliminate the negative protection facing Indian manufacturers, and help the "Make in India" initiative, without violating India's international obligations.

There is one response that would help manufacturing and the "Make in India" initiative without being as difficult as improving the business environment, and as controversial and expensive as the industrial policy or protectionist response: eliminating the exemptions in the countervailing duties (CVD) and special additional duties (SAD) levied on imports. Why will this help?

It is a well-accepted proposition in tax theory that achieving neutrality of incentives between domestic production and imports requires that all domestic indirect taxes also be levied on imports. So, if a country levies a sales tax, value added tax (VAT), or excise or GST on domestic sales/production, it should also be levied on imports.

India's current indirect tax system, however, acts sometimes to favour foreign production over domestically produced goods.

The CVD, which is levied to offset the excise duty imposed on domestic producers, is not applied on a whole range of imports. These exemptions can be quantified. The effective rate of excise on domestically-produced non-oil goods is about 9 percent. The effective collection rate of CVDs should theoretically be the same but is in actual fact only about 6 percent. The difference not only represents the fiscal cost to the government of ₹ 40,000 crore, it also represents the negative protection in favour of foreign produced goods over domestically produced goods.

Three important nuances need to be noted here. First, it might seem that CVD exemptions on inputs help manufacturers by reducing their input costs. But under the current system and in future when the GST is implemented, the CVD on inputs can always be reclaimed as an input tax credit. So, CVD exemptions do not provide additional relief.

The second relates to a situation when both the excise and CVD are both exempted. This may seem apparently neutral between domestic production and imports but it is not. The imported good enters the market without the CVD imposed on it; and, because it is zero-rated in the source country, is not burdened by any embedded input taxes on it. The corresponding domestic good does not face the excise duty, but since it has been exempted, the input tax credit cannot be claimed. The domestic good is thus less competitive relative to the foreign good because it bears input taxes which the foreign good does not.

Third, the rationale advanced for exempting many imported goods from CVD is that there is no competing domestic production. This argument is faulty because the absence of competing domestic production may itself be the result of not having the neutrality of incentives that the CVD creates. Domestic producers may have chosen not to enter because the playing field is not level.

Indian tax policy is therefore effectively penalising domestic manufacturing. How can this anomaly be remedied? Simply by enacting a well-designed GST preferably with one, internationally competitive rate and with narrowly defined exemptions. In one stroke the penalties on domestic manufacturing would be eliminated because the GST (central and state) would automatically be levied on imports to ensure neutrality of incentives. In effect, India would be promoting domestic manufacturing without becoming protectionist and without violating any of its international trade obligations under the World Trade Organisation (WTO) or under Free Trade Agreements (FTAs).

In the meantime, the effect of the GST can be partially simulated by eliminating the exemptions applied to CVD. The default situation should be an exemptions-free regime. If particular sectors seek relief from the CVD, they should be required to make their case at the highest political level.

In a sense, India finds itself in a de-facto state of negative protection on the one hand, and calls for higher tariffs on the other. It is win-win to resist these calls that would burnish India's openness credentials and instead eliminate unnecessary and costly negative protection.

later, stabilizing at around 5 just prior to the financial crisis. Thereafter, it has been in steady decline and the most recent estimate suggests a buoyancy of one. The pattern is broadly similar for manufactured exports, although it was less buoyant than services in the boom phase.[27]

[27] The declining elasticity of global trade to global growth is documented in Constantinescu, C., A Mattoo and M Ruta (2015) "*The Global Trade Slowdown: Cyclical or Structural?*" World Bank Policy Research Working Paper, WPS-7158.

Figure 1.23: Exports of Manufactured Goods and Services (Per cent of GDP)

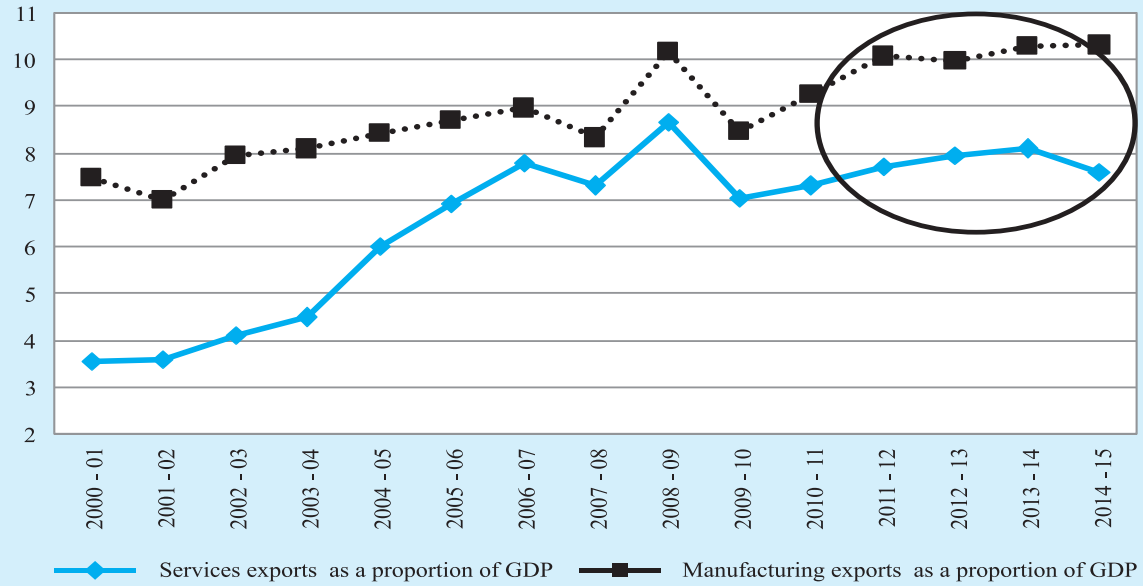
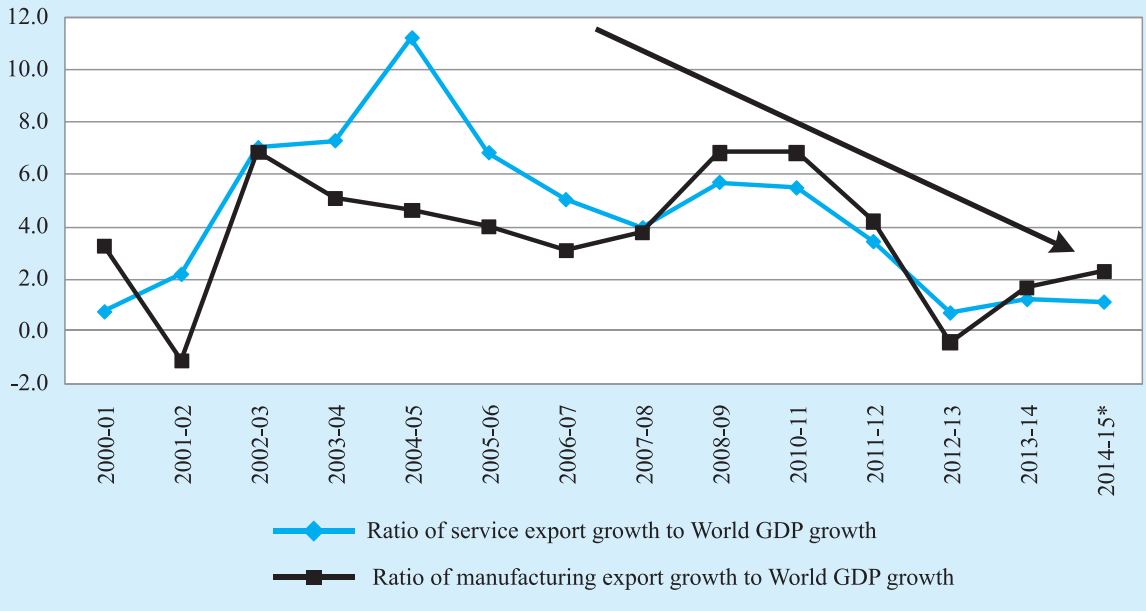


Figure 1.24: Buoyancy of Indian Exports Relative to Foreign Growth, 2000-01 to 2014-15 (Excluding 2009-10)



Source: IMF, WEO, DGCI&S and RBI.

Note: The buoyancy calculations are based on a three-year moving average. It excludes the year 2009-10 because a dramatic decline in exports renders the buoyancy calculation difficult to interpret.

Combining the two charts, the message for India seems to be that the external trading environment is encountering two sets of headwinds: first, a slowdown in world growth which will reduce Indian exports; and second, for any given world growth, export growth will be even lower because of trade's declining responsiveness.

And, India must be especially watchful about services exports—an engine of growth—which have slowed markedly. These headwinds are, of

course, in addition to the domestic factors that are contributing to the slowdown of export growth: weak infrastructure and challenging labour laws in the case of manufacturing, and rising wages and scarcity of skilled labour in the case of services.

In addition to the deteriorating external environment for trade, India has to contend with a rapidly changing policy environment. As the new government prepares to re-invigorate the Indian economy, it will encounter that the international trade landscape is substantially changing in three significant ways.

First, the phenomenon of global value-added chains based on fragmenting/unbundling successive stages of production and locating them at lowest cost destinations have become a defining, even if declining, feature of trade, especially in Asia. India has been slowly integrating into these chains, but at lower levels than most other dynamic Asian economies.

Second, negotiations on mega-regional agreements have been seriously initiated. Trade integration within Asia and between Asia and the United States will advance significantly if and when the Trans-Pacific Partnership (TPP) is negotiated and ratified. Similarly, the markets of North American and Europe will be brought together if and when the Trans-Atlantic Trade and Investment Partnership (TTIP) are concluded. Together, these two agreements will cover about half of world trade.

And third, China, which until recently has been comfortable with the status quo, may be on the verge of changing from passive bystander to active participant, wanting to engage in, and possibly shape, the formation of the next round of trade rules. This change is a reaction to the domestic imperatives of re-balancing the economy, which will require major liberalization of the Chinese economy; and to the fear of being excluded by American trade initiatives, including TPP and TTIP. China is also at the center of the Regional Comprehensive Economic Partnership (RCEP) which includes India, the Association of South East Asian Nations (ASEAN) countries, as well as Japan, Korea, Australia and New Zealand.

How should India react to this global shift in trade realities? It has two choices: measured integration (the status quo and/or RCEP) or ambitious integration (via the TPP). Measured integration would involve a slow but steady pace of domestic reform dictated by India's political constraints and capacity which could only sustain regional agreements of the kind India has negotiated with Asian partners: relatively few obligations, generous exemptions and exceptions, and lenient timetables for implementation.

The risk in the status quo scenario is one of India being excluded from large integrated markets with reduced trading possibilities, and because of the nature of global value chains in which trade, investment, and intellectual property are enmeshed, also reduced investment possibilities. (Joining RCEP might help but not fully since the expectation is that the overall standards in RCEP will be weaker than under the TPP and TTIP). There will not only be the standard diversion emanating from Indian exporters having to face higher tariffs in large, growing markets, but increasingly they will have to contend with different and higher product and sustainable development standards, placing them at an even greater disadvantage. In the context of the slowdown in both world growth and India's export buoyancy, any possible exclusion from the mega-regionals would be additionally worrisome.

Ambitious integration would essentially mean India joining, or rather seeking to join, at some future date the TPP. There is considerable uncertainty surrounding this option because the timing and terms of the TPP are still unclear. What is clear, however, is that the substantive liberalization obligations under any future TPP will be greater than those under India's current FTAs and probably ahead of India's planned pace of domestic reform. A significant upgrading of Indian trade capability will be necessary for India to be able to join these mega-regionals should it chose to do so.

1.12 Climate Change

India has taken a number of green actions, including imposing significantly higher taxation of petroleum products and re-energizing the renewable energy sector. It can make a positive contribution to the forthcoming Paris negotiations on climate change.

Later this year, Heads of States from around the world will meet in Paris to conclude negotiations on a new agreement under the United Nations Framework Convention on Climate Change (UNFCCC) by December 2015. The expectation is one of action by all countries on climate change from 2020 onwards in accordance with the principle of common but differentiated responsibilities.

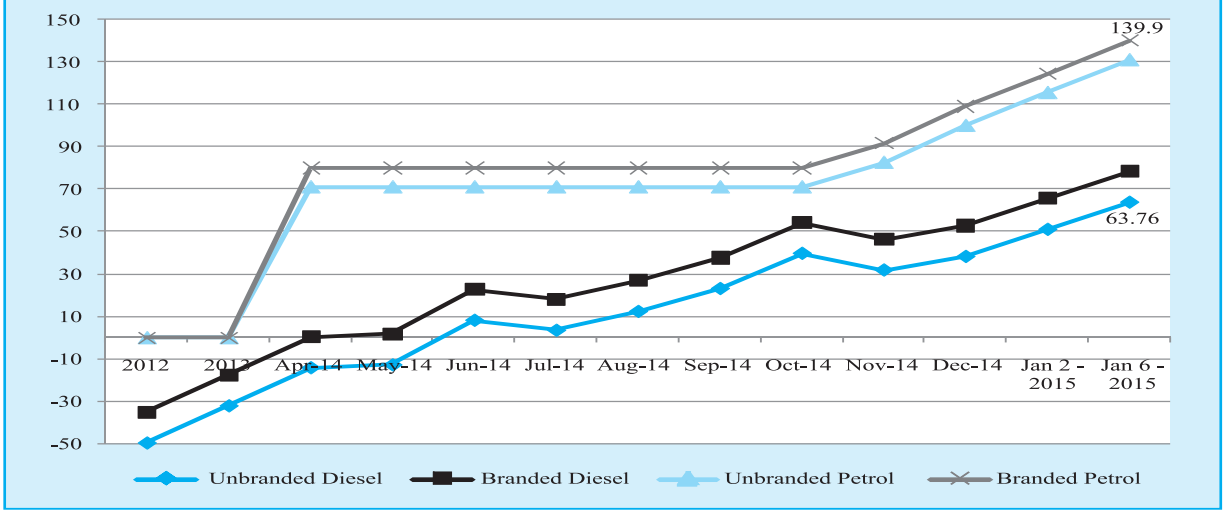
The Intergovernmental Panel on Climate Change (IPCC) in its recent report – the Fifth Assessment Report (AR5), published in 2014 — has observed that, there has been an increasing trend in the anthropogenic emissions of greenhouse gases (GHG) since the advent of the industrial revolution, with about half of the anthropogenic carbon dioxide (CO2) emissions during this period occurring in the last 40 years. The period 1983-2012 is likely to have been the warmest 30 year period of the last 1400 years. CO_2 emissions from fossil fuel combustion and industrial processes contributed a major portion of total GHG emissions during the period 1970 - 2010.

The change in the climate system is likely to have adverse impacts on livelihoods, cropping pattern and food security. Extreme heat events are likely to be longer and more intense in addition to changes in the precipitation patterns. Adverse impacts are likely to be felt more acutely in tropical zone countries such as India, and within India, the poor will be more exposed.

India can make a significant contribution in addressing climate change. Unlike some countries, it has taken substantial actions to eliminate petroleum subsidies and gone beyond to impose substantial taxes on these products.

These actions have taken India from a carbon subsidization regime to one of significant carbon taxation regime—from a negative price to an implicit positive price on carbon emissions. And the shift has been large. For example, the effect of the recent actions since October 2014 has been a de facto carbon tax equivalent to US$ 60 per ton of CO_2 in the case of (unbranded) petrol and nearly US$ 42 per ton in the case of (unbranded) diesel. In absolute terms, the implicit carbon tax (US$ 140 for petrol and US$ 64 for diesel) is substantially above what is now considered a reasonable initial tax on CO_2 emissions of US$ 25 per ton (Figure 1.25). India now ranks quite

Figure 1.25: Implicit Carbon Tax from Increasing Excise Duty on Petrol and Diesel, 2012-January, 2015. (US$/tCO2)



Source: **World Bank estimates.**

high in terms of taxation of petroleum products. The recent actions alone have significantly burnished India's green and climate change credentials.

In addition India has increased the coal cess from Rs. 50 per ton to Rs.100 per ton, which is equivalent to a carbon tax of about US$ 1 per ton. The health cost of coal for power generation in India is estimated to range from US$ 3.41 per ton to US$ 51.11 per ton depending on the value of statistical life. The average number is US$ 27.26 per ton. The health costs of emissions from coal fired power plants include costs associated with premature cardiopulmonary deaths and illnesses from the chronic effects of long-term exposure and the acute effects of short-term exposure. Higher taxes on coal to offset these purely domestic externalities would need to be balanced against their implications for power pricing and hence access to energy for the 300 million households still without electricity.

This trade-off suggests that alternative paths to energy access need to be considered, including renewables. The Jawaharlal Nehru National Solar Mission launched in January 2010 seeks to establish India as a global leader in solar energy by creating policy conditions for its diffusion across the country. The Twelfth Plan financial outlay for this scheme is ₹ 8795 crore. The Solar Mission is now being scaled up five-fold from 20,000 megawatts to 100,000 megawatts. This in effect requires an additional investment of 100 billion US dollars. The aim of this initiative is primarily to provide energy access to nearly 300 million households. The collateral benefit would be lower annual emissions of CO_2 by about 165 million tonnes.

Reconciling India's climate change goals and energy imperatives will require a major technological breakthrough to make the burning of coal cleaner and greener. If India is to focus on becoming green, correspondingly the world must devote more resources into coal technology research. That means greater international public investment in R&D for improving coal technologies. And if the private sector is to be incentivized to undertake this research, high and rising carbon pricing by advanced countries must become an immediate priority. (An elaboration of the contours of a new type of global deal and the required contribution from advanced and emerging economies can be found in Aaditya Mattoo and Arvind Subramanian's *Greenprint: A New Approach to Cooperation on Climate Change).*

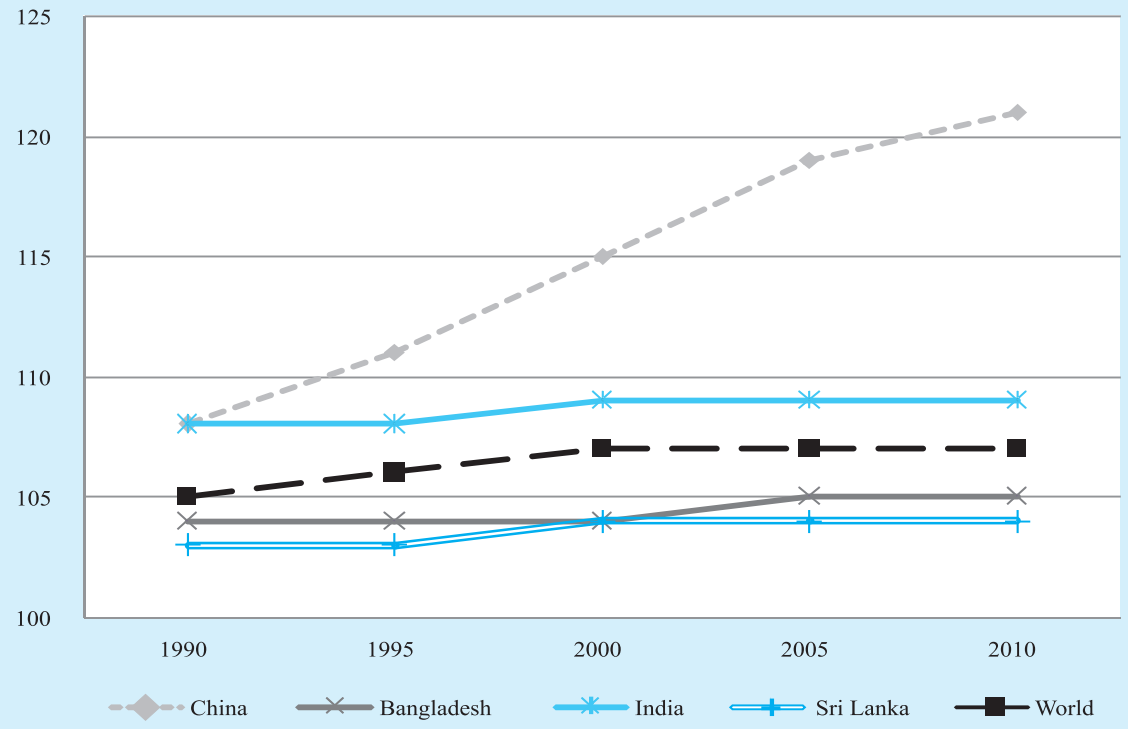
1.13 Empowering Women: Unleashing *Naari Shakti*

Improving the status and treatment of women is a major development challenge. In the short run, family planning targets and the provision of incentives are leading to an undesirable focus on female sterilization.

On January 22nd, 2015, the Prime Minister launched the *Beti Bachao, Beti Padhao* campaign from Panipat in Haryana. The campaign is aimed at increasing the very low value that Indian society puts on a girl child. But India is somewhat of a paradox on gender issues. On the one hand, India has had prominent and visible women leaders such as a female President, a female Prime Minister, several female heads of large political parties at the national and state levels, several Cabinet rank ministers, and several captains of industry (particularly in the banking sector).

And yet, according to the UNDP's latest Human Development Report (2014), India ranks 135 out of 187 countries on the Human Development Index (HDI) and 127 out of 152 countries on the Gender Inequality Index (GII). The GII is a composite measure reflecting inequality in achievement between women and men in three dimensions: reproductive health, empowerment and the labor market. This puts India in the bottom 25 percent of all countries on the HDI and even lower—in the bottom 20 percent on the GII. Furthermore, the child sex ratio—the number of girls to boys at birth—is relatively low in the world, and moreover declined from 927 girls per 1000 boys in 2001 to 918 girls for every 1000 boys in 2011 (Figure 1.26). China is one of the few countries with a more adverse child sex ratio.

Figure 1.26: Boys per 100 Girls,1990 to 2010



Source: **Statistical Yearbook for Asia and the Pacific 2011, UNESCAP.**

But the November 2014 tragedy in Bilaspur, Chhattisgarh in which 13 young women with very young children lost their lives, and forty-five more were taken critically ill, highlights a specific and serious problem that needs urgent attention: female sterilization. The third round of the National Family Health Survey (NFHS-3, 2005-06) reports that even in developed states like Tamil Nadu and Maharashtra female sterilisation accounts for 90 per cent and 76 percent of all contraceptive use, respectively; the median age at sterilisation for women was reported at 24.9 years in both Tamil Nadu and Maharashtra.

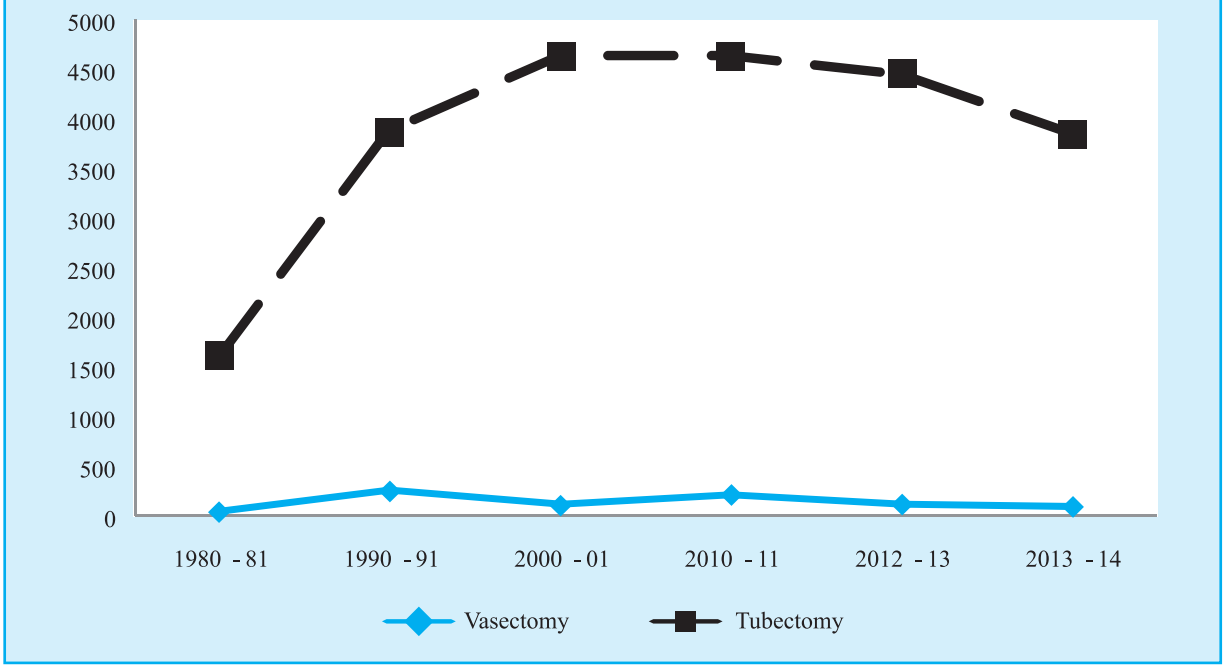
There appears to be renewed focus on controlling the rise in population, directed in particular at women, and through means that blur the lines between persuasion and coercion. Persuasion takes the form of incentives offered not just to poor couples for sterilisation but rewards to local bodies for their performance, euphemistically described as "promotional and motivational" measures, resulting in the organization of mass camps for female sterilization. India's population policy seems focused on extending family planning measures, mainly contraceptives for women, leaving them with little reproductive choice or autonomy.

Of the total sterilisation operations performed in 2012-13, tubectomy/laproscopic sterilisations account for 97.4 percent, while male vasectomy operations, considered less complicated risky, account for only 2.5 percent (Figure 1.27). Government expenditures are also skewed toward female sterilization. Out of the budget of Rs 397 crores for family planning for 2013-14, 85 percent (₹ 338 crore) is spent on female sterilization. By contrast 1.5 percent of the total budget is spent on spacing methods and 13 percent on infrastructure and communications.

The negative fallouts of pursuing a population policy that largely focuses on birth control also contributes to declining child sex ratios: if every family is to have fewer children, there is a greater anxiety that at least one of them should be male.

In this instance, there may be a case for the government to undo as much as to do for example,

Figure 1.27: Number of Vasectomies and Tubectomies, 1980-81 to 2012-13. (Number in '000)



***Source*: Ministry of Health & Family Welfare, Government of India.**

by not setting targets (ELAs or expected levels of achievement), withdrawing incentives for female sterilization and for mass camps. In addition, the government could:

(i) *Review the family planning program in India and reorient it such that it is aligned with reproductive health rights of women, and needs of India's population.*

(ii) *Increase budgets for quality services, static family planning clinics and quality monitoring and supervision.*

(iii) *Address youth needs, induct more counsellors for sexual health, more youth-friendly services, and adequate supply of spacing methods.*

1.14 Cooperative Federalism and the Recommendations of the Fourteenth Finance Commission (FFC)

Far-reaching changes for sharing of revenues between the Center and the States, on the one hand, and between the States, on the other, have been recommended by the FFC. Successful implementation will advance the cause of cooperative federalism that the new government has enthusiastically embraced.

The Fourteenth Finance Commission (FFC) has recently submitted its recommendations for devolution of taxes and other transfers from the center to the states, and between the states, for the period 2015-16 to 2020-21. They are likely to have major implications for Center-State relations, for budgeting by, and the fiscal situation of, the Center and the States. Some of the recommendations are as follows.

The FFC has radically enhanced the share of the states in the central divisible pool of taxes from the current 32 percent to 42 per cent which is the biggest ever increase in vertical tax devolution. The last two Finance Commissions viz. Twelfth (2005-10) and Thirteenth (2010-15) had recommended a state share of 30.5 per cent (increase of 1 percent) and 32 per cent (increase of 1.5 percent), respectively in the central divisible pool.

The FFC has also proposed a new horizontal formula for the distribution of the divisible pool among the States. There are changes both in the variables included/excluded as well as the weights assigned to them. Relative to the Thirteenth Finance

Commission, the FFC has incorporated two new variables: 2011 population and forest cover; and excluded the variable relating to fiscal discipline (see Chapter 10 for greater details.)

Implementing these recommendations will move the country toward greater fiscal federalism, conferring more fiscal autonomy on the States. For example, based on assumptions about nominal GDP growth and tax buoyancy and the policy measures that are contemplated for 2015-16, it is estimated that the additional revenue for the states could be as much as ₹ 2 lakh crores relative to 2014-15. Of this, a substantial portion represents the difference that is purely due to the change in the States' share in the divisible pool.

Preliminary estimates shown in Table 1.4 suggest that *all States stand to gain* from FFC transfers in absolute terms. However, to assess the distributional effects, the increases should be scaled by population, Net State Domestic Product (NSDP) at current market price, or by States' own tax revenue receipts. These are shown in columns 4-6 of Table 1.4. The biggest gainers when scaled by any of these indicators tend to be the Special Category States (SCS, mostly those in the North-East) and by orders of magnitude. The major gainers in per capita terms turn out to be Arunachal Pradesh, Mizoram and Sikkim for the SCS states and Kerala, Chhattisgarh and Madhya Pradesh for other states (GCS or General Category States).

Table 1.4 : Additional FFC Transfers (in 2015-16 over 2014-15)

State	Category	Benefits from FFC (in crore)	Benefits Per capita (₹)	Benefits as percent of OTR	Benefits as percent of NSDP
1	2	3	4	5	6
Andhra Pradesh (united)	GCS	14620	1728	27.4	2.2
Arunachal Pradesh	SCS	5585	40359	1758.1	51.0
Assam	SCS	7295	2338	95.5	5.8
Bihar	GCS	13279	1276	105.3	4.9
Chhattisgarh	GCS	7227	2829	67.5	5.2
Goa	GCS	1107	7591	44.1	3.0
Gujarat	GCS	4551	753	10.3	0.8
Haryana	GCS	1592	628	7.8	0.5
Himachal Pradesh	SCS	8533	12430	207.7	14.6
Jammu & Kashmir	SCS	13970	11140	294.4	22.4
Jharkhand	GCS	6196	1878	89.1	4.8
Karnataka	GCS	8401	1375	18.1	1.8
Kerala	GCS	9508	2846	37.0	3.1
Madhya Pradesh	GCS	15072	2075	55.9	4.5
Maharashtra	GCS	10682	951	12.2	0.9
Manipur	SCS	2130	8286	578.7	19.5
Meghalaya	SCS	1381	4655	198.0	8.6
Mizoram	SCS	2519	22962	1410.1	33.3
Nagaland	SCS	2694	13616	886.5	18.7
Odisha	GCS	6752	1609	50.2	3.2
Punjab	GCS	3457	1246	18.3	1.4
Rajasthan	GCS	6479	945	25.5	1.6
Sikkim	SCS	1010	16543	343.7	10.7
Tamil Nadu	GCS	5973	828	10.0	0.9
Tripura	SCS	1560	4247	181.8	6.9
Uttar Pradesh	GCS	24608	1232	46.8	3.5
Uttarakhand	SCS	1303	1292	23.2	1.4
West Bengal	GCS	16714	1831	67.0	3.0
Total		204198	1715		

Source **: Ministry of Finance.**

GCS : General Category States. SCS : Special Category States.

Clearly, this increase in taxes to the States is sustainable for the center, only if there is a reduction in the central ("Plan") assistance to the states (CAS). In other words, States will now have greater autonomy both on the revenue and expenditure fronts.

It is also possible to tentatively estimate what the FFC recommendations would do to net spending capacity of the States, where net refers to the difference between the extra FFC transfers and the reduced CAS that will be required by the FFC recommendations.Broadly, the Special Category States will be the biggest gainers. In addition, there are nine States among the GCS which are expected to get more than 25 per cent of their own tax revenue (for details, see Chapter 10).

A collateral benefit of moving from CAS to FFC transfers is that overall progressivity will improve; that is, on average, States with lower per capita NSDP will receive more than those with a higher per capita NSDP. This results from the fact that CAS transfers, which tended to be discretionary, were less progressive than Finance Commission transfers.

To be sure, there will be transitional costs entailed by the reduction in CAS transfers. But the scope for dislocation has been minimized because the extra FFC resources will flow broadly to the states that have the largest CAS-financed schemes.

In sum, the far-reaching recommendations of the FFC, along with the creation of the NITI Aayog, will further the government's vision of cooperative and competitive federalism. The necessary, indeed vital, encompassing of cities and other local bodies within the embrace of cooperative and competitive federalism is the next policy challenge.

Fiscal Framework

02
CHAPTER

2.1 Introduction and Summary

Santayana once warned that those who ignore history are condemned to repeat it. For that reason, it's worth examining India's recent fiscal past, to see if there are lessons for the country's future fiscal trajectory. A look back at recent history is especially warranted now because India today is in a very similar situation to that in the early 2000s, with comparable fiscal deficit (4 percent of GDP) at a broadly similar state of the macroeconomic cycle. Today, like then, inflation is close to 5 percent. Today, like then, the current account deficit is manageably low. And, today, like then, the economy is poised to attain a faster growth trajectory.

So, it is worth asking: What are the lessons from recent fiscal performance in India? How should they inform fiscal policy in this year's budget and for the medium term? This chapter attempts to answer these questions. The major conclusions are:

First, in the medium term, India must meet its medium-term fiscal deficit target of 3 percent of GDP. This will provide the fiscal space to insure against future shocks and also to move closer to the fiscal performance of its emerging market peers. It must also reverse the trajectory of recent years and move towards the golden rule of eliminating the revenue deficit and ensuring that, over the cycle, borrowing is only for capital formation.

Second, the way to achieve these targets will be expenditure control, and expenditure switching from consumption to investment. The loss of expenditure control and hence fiscal space contributed to the near-crisis of 2013. From 2016-17, as growth gathers steam and as the GST is implemented, the consequential tax buoyancy when combined with expenditure control will ensure that medium term targets can be comfortably met. This buoyancy is assured by history because over the course of the growth surge over the last decade, the overall tax-GDP ratio increased by about 2-2.5 percentage points with some but not radical increases in the tax rate and base.

Third, in the upcoming year, the pressures for accelerated fiscal consolidation have been lessened because macro-economic pressures have significantly abated with the dramatic decline in inflation and turnaround in the current account deficit. In these circumstances, especially if the economy is recovering rather than surging, pro-cyclical policy will be less than optimal.

Moreover, growth will ensure favourable debt dynamics going forward which alleviates consolidation compulsions emanating from concerns about public sector indebtedness. Further, accelerated fiscal consolidation will also be limited in the upcoming fiscal year by a number of new and exceptional factors, such as implementing the recommendations of the Fourteenth Finance Commission, clearing the compensation obligations to the states for the reduction in the central sales tax in 2007-08 and 2008-09, and the need to modestly ramp-up investment.

Finally, nevertheless, to ensure fiscal credibility and consistency with the medium-term goals, the

upcoming budget should initiate the process of expenditure control to reduce both the fiscal and revenue deficits. At the same time, the quality of expenditure needs to be shifted from consumption, by reducing subsidies, towards investment. Increases in the tax-GDP ratio stemming from the taxation of petroleum products will also help achieve short and medium term fiscal goals.

2.2 Background and History Lessons

India's macroeconomic improvement has been nothing short of dramatic—inflation has been cut in half to about 5 percent today, underlying rural wage growth has declined from over 20 percent to below 5 percent, and the current account deficit has shrivelled from over 6.7 percent of GDP (in Q 3, 2012-13) to an estimated 1.0 percent in the coming fiscal year.

That said, there is hardly room for fiscal complacency. To understand why, to realize where India needs to go, it is important to understand where it has been, and to draw lessons from this experience. The similarity between India's situation today and in the early 2000s makes this exercise especially important.

Key fiscal indicators for the central government are summarized in Table 2.1. At least three phases of policy can be distinguished since the early 2000s: 2002-2007; 2008-2011; and post-2012 (Figures 2.1-2.3 describe these phases in terms of the overall flow aggregates (Figure 2.1), debt stocks (Figure 2.2), and quality of expenditure (Figure 2.3).

In the first phase, all key measures of fiscal performance improved dramatically, driven largely by rapid growth. The fiscal deficit of the central government declined by nearly 3.2 percentage points, accounted for largely by an increase in the tax-GDP ratio (3.4 percentage points) along with a decline in other non-debt receipts (1.4 percentage points) and the rest by expenditure reductions (1.2 percentage points). Growth drove the increase in tax-GDP ratio but there was some expansion in the indirect tax base and increases in rates relating to the service tax (Figure 2.1). This tax was levied on 52 services at a rate of 5 per cent, yielding ₹ 4122 crore in 2002-03 but was expanded to 98 services at the rate of 12 per cent, resulting in revenues of ₹ 51301 crore in 2007-08.

On the stock side, debt declined because of a strong improvement in the "debt-dynamic wedge", defined as the difference between the real rate of economic growth (g) on the one hand, and the real cost of borrowing (r, which is itself the difference between the interest on government securities and inflation as per the GDP deflator) and the primary deficit (pd) on the other.[1] (Figure 2.2).

This wedge increased by about 9 percentage points in this period, resulting in a decline in the debt-GDP ratio of 8 percentage points. It is important to note that growth was the primary driver of this improving wedge, directly (by increasing g) and indirectly via improving the primary balance.

Two noteworthy conclusions can be drawn from this period. First, nearly all the improvement in the fiscal indicators stemmed from rapid growth, which averaged about 8 percent in this phase. Second, and one with important lessons for the future, was the ratcheting up of overall expenditures. Until 2005-06, the expenditure to GDP ratio declined in line with rising growth but in the following two years, it increased—at a time when growth averaged 9.5 percent. In other words, real expenditures grew at a staggering 10 percent.

Rapid expenditure growth over 2005-06 to 2007-08 did not stem from any increase in the subsidy burden. Rather, it largely reflected higher growth in interest payments (13.2 percent average annual growth) and an increase in non-plan grants recommended by the Twelfth Finance Commission for state-level fiscal reforms. Unavoidable though some of these expenditures may have been, the consequence was to limit the favourable fiscal impact of rapid growth.

[1] (Roughly, if g-r-pd = 0, the debt-GDP ratio remains stable)

Table 2.1: Select Fiscal Indicators (as per cent of GDP)

	Particulars	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
1	Real GDP growth [g] (in per cent)	3.9	8	7.1	9.5	9.6	9.3	6.7	8.6	8.9	6.7	4.5	4.7^	5.9
2	CPI Inflation # (in per cent)	5	4.1	4	3.7	6.8	5.9	9.2	10.6	9.5	9.5	10.2	9.5	7.2
3	Inflation from GDP Deflator (in per cent)	3.7	3.9	5.7	4.2	6.4	5.8	8.7	6.1	9.0	8.5	7.2	6.9	
4	GDP at market price in ₹ lakh crore	25.3	28.4	32.4	36.9	42.9	49.9	56.3	64.8	78.0	90.1	101.1	113.6	128.8
		Central Government												
5	Total Revenue ## (before devolution)	12.8	14.6	13.9	12.3	13.1	14.8	12.6	11.9	13.4	11.6	12.0	12.2	12.8
6	Gross Tax Revenue	8.5	9.0	9.4	9.9	11.0	11.9	10.8	9.6	10.2	9.9	10.2	10.2	10.6
7	Total Expenditure (including tax devolution)	18.5	18.9	17.8	16.2	16.4	17.3	18.5	18.4	18.2	17.3	16.8	16.8	16.9
	Major Subsidies	1.6	1.5	1.4	1.2	1.2	1.3	2.2	2.1	2.1	2.3	2.4	2.2	1.9
	Food	1	0.9	0.8	0.6	0.6	0.6	0.8	0.9	0.8	0.8	0.8	0.8	0.9
	Fertilizer	0.4	0.4	0.5	0.5	0.6	0.7	1.4	0.9	0.8	0.8	0.6	0.6	0.6
	Petroleum	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.5	0.8	1.0	0.8	0.5
	Tax devolution to States	2.2	2.3	2.4	2.6	2.8	3.0	2.8	2.5	2.8	2.8	2.9	2.8	3.0
	Revenue Expenditure	13.4	12.8	11.9	11.9	12.0	11.9	14.1	14.1	13.4	12.7	12.3	12.3	12.2
	Capital Expenditure	2.9	3.8	3.5	1.8	1.6	2.4	1.6	1.7	2.0	1.8	1.6	1.7	1.8
	Non-Defence	2.4	3.3	2.5	0.9	0.8	1.6	0.9	1.0	1.2	1.0	1.0	1.0	1.0
8	Fiscal deficit	5.7	4.3	3.9	4	3.3	2.5	6	6.5	4.8	5.7	4.8	4.6	4.1
9	Revenue Deficit	4.3	3.5	2.4	2.5	1.9	1.1	4.5	5.2	3.2	4.4	3.6	3.3	2.9
10	Primary Deficit [pd]	1.1	0	0	0.4	-0.2	-0.9	2.6	3.2	1.8	2.7	1.8	1.3	0.8
11	Total outstanding liabilities	66.9	66	65.5	63.9	61.4	58.9	58.6	56.3	52.1	51.7	51.7	50.9	49.8
12	Average cost of borrowing [n] (in per cent)	7.5	7.3	7.2	7	7.3	7.6	7.6	7.5	7.4	7.8	7.7	8.3	--
13	Average cost of borrowing [r] (in per cent)	3.8	3.4	1.5	2.8	0.9	1.8	-1.1	1.4	-1.6	-0.7	0.5	1.4	--
14	Debt Dynamic Wedge [g-r-pd]	-1.0	4.6	5.6	6.3	8.9	8.4	5.2	4.0	8.7	4.7	2.2	2.0	--

^: Provisional n=nominal r= real

 # Back series from the Urjit Patel Committee Report, RBI. CPI Data for 2014-15 is up to November, 2014.

Total revenue consists of GTR, non-tax revenue, recovery of loans and other receipts.

***Note*: 1. Data for 2013-14 and 2014-15 for central government is revised estimates and budget estimates respectively.**

2. Total outstanding liabilities are derived by adding 'other liabilities' (that includes national small savings fund, state provident funds and other accounts) to the government's public debt. External liabilities of the Centre is at current exchange rate.

3. Data on GDP at current market prices and GDP growth numbers at factor cost are from CSO's National Accounts series of 2004-05.

4. The exact formula for the Debt Dynamic Wedge is: $\triangle d_{(t+1)} = p_{(t+1)} + [(r_t - g_t)/(1+g_t)]\, d_t$ where p_t is the primary deficit as per cent of GDP,; r_t is the real rate of interest; g_t is the real growth rate; d_t is debt to GDP ratio

***Source*: Budget documents and MoSPI.**

Figure 2.1: Fiscal Flow Indicators, 2002-03 to 2014-15 (Per cent of GDP)

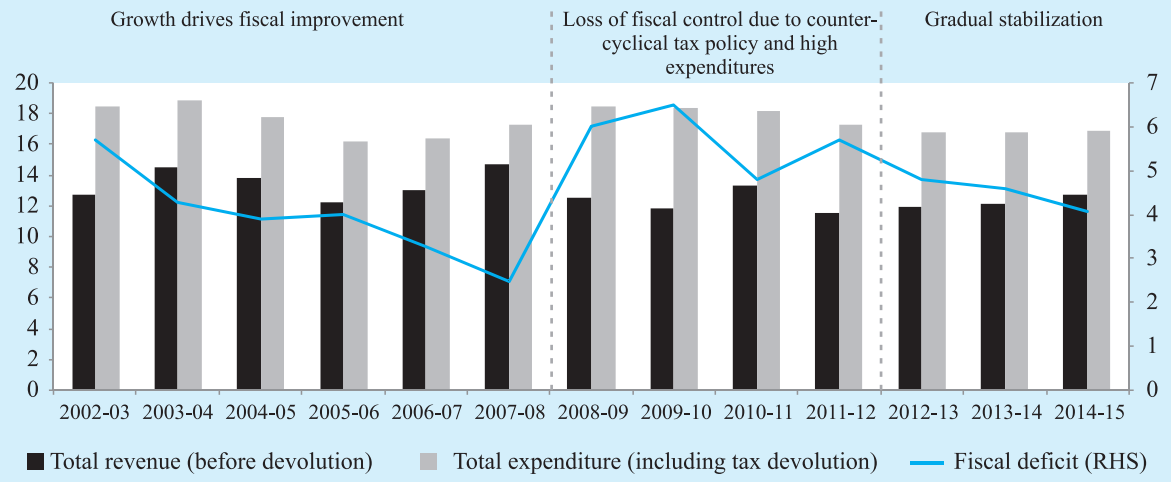
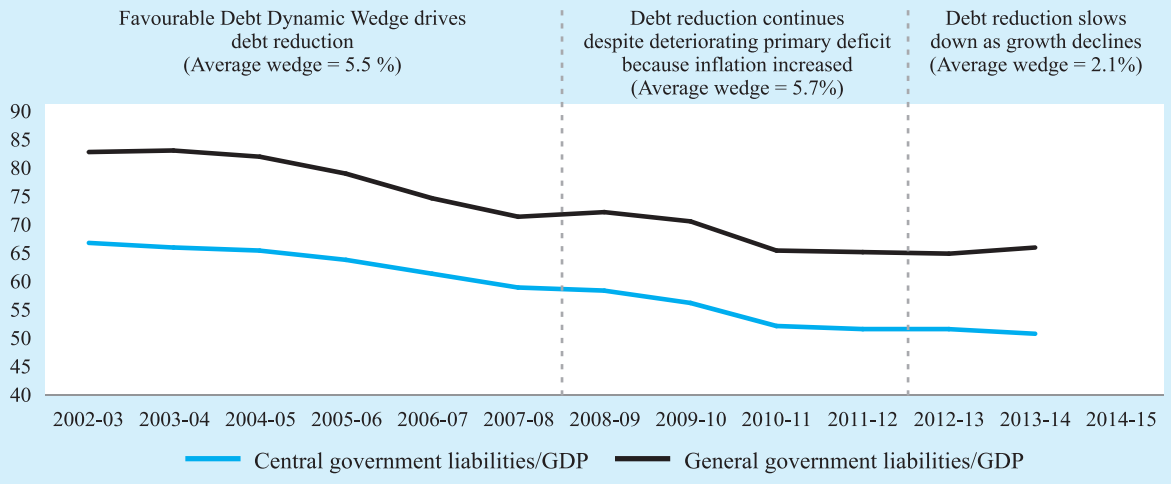
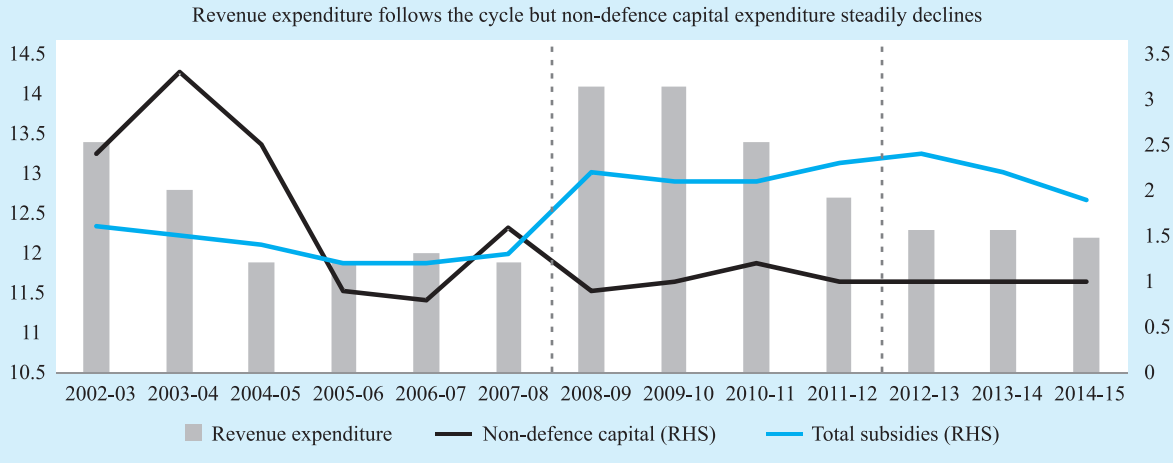


Figure 2.2: Fiscal Stock Indicators, 2002-03 to 2014-15 (Per cent of GDP)



Numbers for the year 2013-14 and 2014-15 for Central government are revised estimates and budget estimates respectively. For General government, numbers for the year 2012-13 and 2013-14 are revised estimates and budget estimates, respectively.

Figure 2.3: Expenditure Quality Indicators, 2002-03 to 2014-15 (Per cent of GDP)



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

The second and difficult phase of Indian fiscal history began with the Lehman crisis in 2008-09 and lasted four years. In this period nearly all the positive trends of the previous six years were reversed. The fiscal deficit increased by about 4 percentage points, shared equally between revenue reductions (owing to large indirect tax cuts) and expenditure increases. In the initial years (2008-09 to 2011-12), current expenditures (public consumption) increased dramatically due to the rising subsidy bill (up by 1 percentage point of GDP); the increase in pay and allowances because of implementation of the Sixth Pay Commission recommendations (0.4 percent of GDP); and schemes that built in permanent entitlements such as MGNREGA (0.3 percent of GDP). Meanwhile, the quality of spending suffered as non-defence capital expenditure stagnated while current expenditures rose by about 2 percentage points on average during the period (Figure 2.3).

Despite the deterioration in the deficit, government debt continued to decline. The basic debt dynamic wedge became less favourable initially because of the increase in the primary deficit but was subsequently shored up by high growth, and rising inflation and the associated financial repression which lowered the real cost of borrowing for the government.

In the third and most recent phase, from 2012-13 to 2014-15, which was characterized by a sharp growth slowdown, the fiscal position finally began to be repaired. The fiscal stimulus provided in the post-Lehman phase was unwound, with equal contributions from revenue increases and expenditure reductions, bringing the deficit close to the level prevailing in the early 2000s, at a comparable stage of the business cycle.

Even so, developments in other key indicators have been less encouraging. During this phase, the debt-GDP ratio stopped declining on account of slowing growth and still-high deficits, which rendered the debt dynamic wedge less favourable. Moreover, non-defence public capital expenditures remained exceptionally low, significantly below the level recorded in the early 2000s. Most significantly, India experienced a near-crisis during July/August 2013, as the conjunction of the U.S. Federal Reserve's decision to taper its monetary stimulus and India's growing current account deficit, high inflation, and still-large fiscal deficits caused capital to flee the country. This episode underscored the final and most critical lesson, namely that India needs to create additional fiscal space, in order to ensure macro stability and to create buffers for economic downturns in the future.

2.3 Medium-term Strategy

To create this fiscal space, a medium-term fiscal strategy needs to be put in place, based on fundamental principles, as well as on legacy and credibility issues. In India's case, both of these considerations point in the same direction.

2.3.1 Investment and the golden rule

The case for increased public investment has been made earlier in this Survey. What are the medium term implications? The *golden rule* of fiscal policy is that governments are expected to borrow *over the cycle* only to finance investment and not to fund current expenditures. This implies that achievement of the government's fiscal consolidation should ideally take place over the business cycle and short-term targets should be set accordingly.

In the first phase of recent fiscal history, India did move toward the golden rule by narrowing revenue deficits. But the period from 2008-09 to 2012-13 saw a reversal. Looking ahead and beginning in this budget, the government should target steady declines in the revenue deficit to move closer to the golden rule. This would also assist the government to take the economy back to a durably higher growth path.

2.3.2 Legacy/credibility

Reinforcing these considerations are legacy issues. India's FRBM Act as well as the Kelkar Committee (2012) established the principle of aiming to bring the centre's fiscal deficit down to 3 percent of GDP. Adhering to this objective is

essential for maintaining credibility and also to bring India closer in line with its emerging market peers. For example, the average general government deficit for India in 2013-14 is about 4.8 percentage points higher than the average for countries in India's investment grade rating[2]. States are a constant while governments come and go. In this regard, if every new government decided to change the rules of the game, volatility and uncertainty would be the rule and the overall credibility of the state and the country would suffer as a result.

Moreover, even if there were good reasons to change the rules of the game, there is a signalling problem. Fiscally responsible governments may not be able to credibly convey to the market early in their tenure that they are indeed fiscally responsible. In this situation, until they can establish a track record, governments will be required to adhere to previous commitments.

Accordingly, the medium-term fiscal strategy should be based on two pillars. First, the fiscal deficit should be reduced over the medium-term to the established target of 3 percent of GDP. Second, and mindful of the experience of the past decade, efforts to achieve this objective should be based on firm control over expenditures, most notably by eliminating leakages in subsidies and social expenditures.

Further, switching from public consumption (via the rationalisation of subsidies) to public investment will, for any given level of overall spending, mitigate long-run inflationary pressures because the latter will add to capacity and boost the aggregate supply potential of the economy. Also, asset sales to finance investment is consistent with boosting growth without adding to aggregate demand pressures in the short run.

If expenditure control is maintained, revenue increases will flow straight through to the flow and stock fiscal aggregates. This effect should be large, since accelerating growth and the introduction of the GST in 2016-17 could raise India's tax-GDP ratio from the current level of 17.5 percent to close to 20 percent for the general government. Moreover, debt dynamics will then work strongly in India's favour. Simple calculations suggest that if growth averages 9 percent over the next three years, and real interest rates remain broadly where they are, overall debt-to-GDP ratios (more precisely, the ratio of total outstanding liabilities[3] to GDP) for the central government could decline to around 40 percent in 2017-18 from the current level of 49.8 percent and would be associated with a similar decline in the general government debt. This would create the buffers to insure against future downturns.

2.4 Short-term issues

Against this medium-term background, what should be the stance of fiscal policy in the short term? A number of perspectives help shape this answer, including cyclical considerations and one-off factors.

1. Cyclical considerations

In the short-run, fiscal policy serves as a cushion, stabilizing demand and growth. A generally accepted rule is that from a demand management perspective governments should not run a pro-cyclical fiscal policy unless there are compelling factors such as macro-economic overheating. Put differently, if short run growth is below potential growth or the actual level of output is below potential output, actual fiscal deficits can increase without reflecting any weakening of fiscal discipline.

As discussed earlier, macro-economic pressures have abated significantly. And, notwithstanding the new GDP growth estimates, the Indian economy appears to be reviving rather than surging. Both these factors weaken the case for pro-cyclical policy.

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[2] In the Fitch ratings, for example, India is in the BBB (investment grade) category.

[3] Total outstanding liabilities are derived by adding 'other liabilities' (that includes national small savings fund, state provident funds and other accounts) to the central government's public debt.

2. One-off/new factors

The budget for 2015-16 will be confronted by a number of one-off factors. One one-off factor/ windfall that favours further consolidation stems from the windfall reduction in prices that will reduce the subsidy burden by about 0.2-0.3 percent of GDP. However, there are three countervailing factors.

- The Fourteenth Finance Commission has just submitted its recommendations on the transfer of resources to the states. It is possible that implementing them will entail the centre having to pay an additional cost.
- Negotiations on the GST had been stalled on account of a trust deficit between the centre and states which had arisen because the centre had not compensated the states for the reduction of the CST (Central Sales Tax) from 4 percent to 2 percent in the aftermath of the global financial crisis. Securing political agreement to launch the GST in 2016/17 was facilitated by the offer of the government to compensate the states for the backlog of CST compensation of up to 25,000 crores.
- As discussed in Chapter 4 of this Volume, there is a pressing need to increase public investment to revive private investment and growth.

2.5 Conclusions

Macro-economic circumstances have improved dramatically in India. Macro-economic pressures have abated and as per the latest estimates for the GDP (2014-15), the GDP growth has exceeded that in most countries including China. Provided that fiscal discipline is maintained, India's debt dynamics will consequently remain exceptionally favourable going forward.

At the same time, India's fiscal situation is close to that about ten years ago at a comparable stage of the cycle. In other words, the stimulus provided in the last few years has mostly been withdrawn. All of these factors suggest that in the short-run, the pressures for sharp further fiscal consolidation have lifted to some extent.

But there is no ground for complacency. The loss in fiscal discipline led to the near-crisis in 2013 and on pure fiscal measures, India does not rank as favourably as its investment grade peers. Even allowing for the fact that a narrow focus on fiscal measures does not capture the full range of factors that go into serious investors' risk-reward calculation when allocating portfolios across countries, India must meet its medium-term target of fiscal deficit of 3 percent of GDP. India must also reverse the trajectory of recent years and move toward the golden rule of eliminating revenue deficits and ensuring that, over the cycle, borrowing is only for capital formation.

In this light, the lessons of recent fiscal history are clear.

For India, the key to achieving medium-term fiscal targets resides in expenditure control, the failure to do so during the boom growth years between 2005-06 and 2008-09, playing a major role in the loss of macro-economic control and the near-crisis of July/August 2013.

Another cost of the failure to maintain expenditure, and hence fiscal control was the quality of spending, with public investment being the casualty and public consumption the beneficiary. This, in turn, has affected India's medium-term growth potential.

These trends need to be reversed, and the nation's public finances need to be set back on the path toward fiscal deficit of 3 percent of GDP, as planned in FRBM (Amendment) Act 2012. To do this, concrete actions will be needed in this budget to control expenditure via subsidy reductions, improve its quality in altering the mix between public consumption and investment in favour of the latter, and move India toward the golden rule of borrowing only for public investment. Broadly, the increase in fiscal space, including that gained from subsidy reductions and higher disinvestment proceeds should be devoted to public investment.

Even with these measures, progress toward the medium-term target may be limited in the upcoming fiscal year by a number of new and exceptional factors, such as implementing the recommendations of the Fourteenth Finance Commission, clearing the compensation obligations to the states for the reduction in the central sales tax, and the need to modestly ramp-up investment.

Subsequently, with current expenditures on a downward path and the quality of spending improving through a switch away from public consumption to investment, India's growth, introduction of the GST, and the associated revenue buoyancy can comfortably ensure the attainment of medium-term targets. This buoyancy is assured by history because over the course of the growth surge over the last decade, the overall tax-GDP ratio increased by about 2-2.5 percentage points even without radical tax reform.

'Wiping every tear from every eye': the JAM Number Trinity Solution

03
CHAPTER

3.1 Introduction

Sixty-eight years after Independence, poverty remains a pressing problem. No nation can become great when the life chances of so many of its citizens are benighted by poor nutrition, limited by poor learning opportunities, and shrivelled by gender discrimination (discussed in section 13 in this Volume). The recent Annual Survey of Education Report (see Box 9.2 of Volume 2, Chapter 9), which documents that only a quarter of standard III students could do a two-digit subtraction and read a standard II text, makes for particularly sobering reading.

Any government must have an agenda on how to help those left behind. This chapter lays out some simple facts and analysis on the current mechanisms employed to help the poor, the efficacy of those mechanisms, and prospective reforms going forward.

Economic growth has historically been good for the poor, both directly because it raises incomes, and indirectly, because it gives the state resources to provide public services and social safety nets that the poor need (more than anyone else). The opportunities that growth creates also encourage individuals to invest in their own human capital. A recent study found strikingly that merely informing families in villages outside Bangalore that call centres were hiring educated women increased the likelihood that adolescent girls in those villages completed school.[1]

But growth needs to be complemented with active government support to improve the economic lives of the poor and vulnerable – about that there is no debate. The issue is *how best* to deploy fiscal resources in support of that goal. Effective anti-poverty programs ought to be:

(i) based on data rather than popular perception,

(ii) mindful of how policies shape – indeed frequently distort – the incentives that individuals and firms face, and

(iii) acutely conscious of the state's own limited implementation capacity to target and deliver services to the poor.

Price subsidies have formed an important part of the anti-poverty discourse in India and the government's own policy toolkit. Both the central and state governments subsidise the price of a wide range of products with the expressed intention of making them affordable for the poor. Rice, wheat, pulses, sugar, kerosene, LPG, naphtha, water, electricity, diesel, fertiliser, iron ore, railways – these are just a few of the commodities and services that the government subsidises. The estimated direct fiscal cost of this illustrative subset of subsidies is about ₹ 378,000 crore or about 4.24 percent of GDP. Just to give a sense of how large this amount is: ₹ 394,000 is roughly how much it would cost to raise the expenditure of every household to that of a household at the 35th percentile of the income distribution[2] (which is well above the poverty line of 21.9 percent).[3]

[1] Jensen, Robert "*Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India*" , 2012, *Quarterly Journal of Economics*, 127(2), p. 753-792.

[2] Economic Survey of India 2014-15, Chapter 3.

[3] Planning Commission, July 2013, reporting on the Tendulkar Commission (http://planningcommission.nic.in/news/pre_pov2307.pdf)

Prima facie, price subsidies do not appear to have had a transformative effect on the living standards of the poor, though they have helped poor households weather inflation and price volatility. A closer look at the price subsidy landscape reveals why they may not be the government's best weapon of choice in the fight against poverty.

3.2 Subsidising whom?

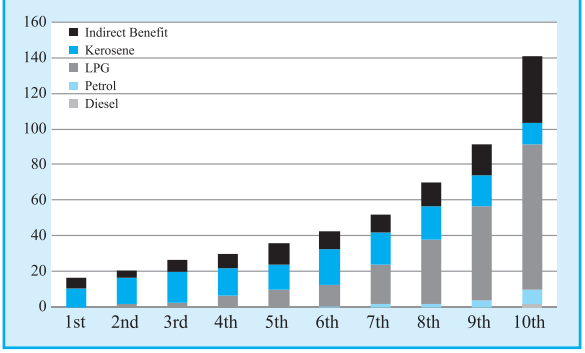
Table 3.1 offers a rough illustration – not an exhaustive compilation– of several price subsidies the government offers, and juxtaposes the intended beneficiaries with simple data computations that suggest how much of these benefits actually reach the poor. We make three observations based on the table.

3.2.1 Price subsidies are often regressive

By regressive, we mean that a rich household benefits more from the subsidy than a poor household. If one were to plot the distribution of welfare gains against income, the benefits of a regressive price subsidy would increase as we move up the income distribution.

For a start consider price subsidies in electricity. Note first that these subsidies can only benefit the (relatively wealthy) 67.2 percent of households that are electrified.[4] Second, note that even among electrified households, richer households (predictably) use much more power: Table 3.1 shows that the bottom quintile of households consume on average 45 kWh per person per month (or 10 percent of the total subsidy amount) while the top quintile consumes 121 kWh (capturing 37 percent of power subsidies).

Figure 3.1: Welfare gains from fuel subsidies by income decile (Rupees per capita per month)



Source: **IMF working paper**

Fuel subsidies can be similarly regressive. Figure 3.1 graphs the benefits that fuel price subsidies confer on households of various income deciles.[5] The welfare gains for households in the second decile are about ₹ 20 per capita per month, while households in the top decile gain about ₹ 120. The story is similar when one just considers subsidies for Liquefied Petroleum Gas (LPG). From the table we note the striking fact that *the poorest 50 percent of households consume only 25 percent of LPG.* Figure 3.1 shows that the bottom 3 deciles gain very little from subsidised LPG – the monthly welfare gain from their LPG subsidies is less than ₹ 10 per capita – whereas the top decile gains significantly (their monthly welfare gain is close to ₹ 80 per capita).

Now move further down the fuel quality ladder and consider kerosene. At first glance, kerosene seems a good candidate for price subsidies as it is popularly conceived to be consumed mostly by the poor. Yet, as Table 3.1 shows, only 46 percent of total consumption of subsidised kerosene is by households with a Below Poverty Line (BPL) or Antyodaya Anna Yojana (AAY) card[6], and only 49 percent is consumed by households in the bottom 3 deciles of the expenditure distribution. Popular perception is thus partly correct: poor households are indeed more likely to use kerosene than rich households, but a majority (51 percent) of subsidised kerosene is consumed by the non-poor and almost 15 percent of subsidised kerosene is actually consumed by the relatively well-off (the richest 40 percent).

4 Census of India (2011), Source of Lighting

5 Rahul Anand, David Coady, Adil Mohommad, Vimal Thakoor, and James P. Wal. "*The Fiscal and Welfare Impacts of Reforming Fuel Subsidies in India*". May 2013, IMF Working Paper.

6 AAY cards are intended for the poorest 5 percent of households.

Table 3.1: How much do subsidies benefit the poor?

Product	Producer subsidy	Consumer subsidy	Fiscal expen diture	Fiscal expen-diture (percent of 2011-12 GDP)	What share of benefits accrue to the poor?
Railways	N/A	Subsidised passenger fares	₹ **51,000**	**0.57**	The bottom 80 percent of households constitute only 28.1 percent of total passenger through fare on railways
Liquefied petroleum gas	N/A	Subsidy (now via DBT)	₹ **23,746**	**0.26**	The bottom 50 percent of households only consume 25 percent of LPG
Kerosene	N/A	Subsidy via PDS	₹ **20,415**	**0.23**	41 percent of PDS kerosene allocation are lost as leakage, and only 46 percent of the remainder is consumed by poor households
Fertiliser & nitrogenous commodities	Firm and . nutrient specific subsidies to manufac-turersthe Import of urea regulated by government	Maximum Retail Price for urea is determined by the government	₹ **73,790**	**0.82**	Urea and P&K manufacturers derive most economic benefit from the subsidy, since farmers, especially poor farmers, have elastic demand for fertiliser
Rice (paddy)	Price floor (minimum support price)	Subsidy via PDS	₹ **129,000**	**1.14**	15 percent of PDS rice is lost as leakage. Households in the bottom 3 deciles consume 53 percent of the remaining 85 percent that reaches households
Wheat					54 percent of PDS wheat is lost as leakage. Households in the bottom 3 deciles consume 56 percent of the remaining 46 percent that reaches households
Pulses	Price floor (MSP)	Subsidy via PDS	₹ **158**	**0.002**	The bottom 3 deciles consume 36 percent of subsidised pulses
Electricity	Subsidy	Capped below market price	₹ **32,300**	**0.36**	Average monthly consumption of bottom quintile = 45 kWh vs top quintile = 121 kWh. Bottom quintile captures only 10percent of the total electricity subsidies, top quintile captures 37 percent of subsidy
Water	N/A	Subsidy	₹ **14,208**	**0.50**	Most water subsidies are allocated to private taps, whereas 60 percent of poor households get their water from public taps
Sugar	Minimum price for sugar cane farmers, subsidy to mills	Subsidy via PDS	₹ **33,000**	**0.37**	48 percent of PDS sugar is lost as leakage. Households in the bottom 3 deciles consume 44 percent of the remaining 52 percent that reaches households
Total			**₹ 3,77,616**	**4.24**	

All expenditure deciles are based on data from the household expenditure module of the 68th Round of the NSS (2011-12)
Railways – *www.ncaer.org/free-download.php?pID=111 , p107 & NSS 68th round*
LPG – Computations from the 68th Round of the NSS (2011-12)
Kerosene – *Economic Survey of India 2014-15, Vol. I ,Chapter 3.*
Fertiliser – *Agricultural Input Survey, http://inputsurvey.dacnet.nic.in/nationaltable3.aspx*
Rice & wheat – *Economic Survey of India 2014-15,Vol. I, Chapter 3.*
Pulses – Computations from the 68th Round of the NSS (2011-12)
Water – Report by MIT and World Bank http://web.mit.edu/urbanupgrading/waterandsanitation/resources/pdf-files/WaterTariff-4.pdf , p2
Sugar – Department of Food & Public Distribution (http://dfpd.nic.in/fcamin/sugar/Notice1.pdf)

Subsidised water is almost as regressive as subsidised heat and light. Table 3.1 shows that a large fraction of price subsidies allocated to water utilities – by one estimate up to 85 percent[7] – are spent on subsidising private taps when 60 percent of poor households get their water from public taps.

It is not just commodity subsidies that are sometimes regressive; subsidised services can be as well. Passenger tariffs on railways are held artificially low – since 1993, the CPI has increased by over 4 times, whereas average passenger rates have not even doubled (from 16.7 paise per passenger-km in 1993-94 to 31.5 paise per passenger-km in 2013-14[8]; Figure 3.2). Controlled rail prices actually provide more benefits for wealthy households than poor households, since the bottom 80 percent of households constitute only 28.1 percent[9] of total originating passengers on non-suburban rail routes.

The exercise above illustrates the value of complementing conventional wisdom with hard data when forming opinions about the likely beneficiaries of subsidies.

3.2.2 Price subsidies can distort markets in ways that ultimately hurt the poor

In a market economy, prices play a key role in allocating scarce resources to different agents. Subsidies can distort the incentives of consumers and producers, and result in misallocation of resources across sectors and firms, which lowers aggregate productivity and often disproportionately hurts the poor and vulnerable[10].

Consider for example rice and wheat subsidies. The government provides both producer and consumer subsidies totalling about ₹ 125,000 crore. Wheat and rice are procured from farmers at guaranteed above-market minimum support prices (MSPs – ₹ 14/kg of wheat, ₹ 13.6/kg of rice).

High MSPs induce distortions, some of which ultimately hurt the poor. Here are two examples.

(a) Ramaswami, Seshadri and Subramanian (2014) describe how high MSPs result in farmers over-cultivating rice and wheat, which the Food Corporation of India then purchases and houses at great cost. High MSPs also encourage under-cultivation of non-MSP supported crops. The resultant supply-demand mismatch raises prices of non-MSP supported crops and makes them more volatile. This contributes to food price inflation that disproportionately hurts poor households who tend to have uncertain income streams and lack the assets to weather economic shocks.

(b) High MSPs and price subsidies for water together lead to water-intensive cultivation that causes water tables to drop, which hurts farmers, especially those without irrigation.

The railway passenger subsidies described in section 3.2.1 are not just regressive; they also induce the following distortions:

(a) loss-making passenger transit services mean that the railways cannot generate sufficient internal resources to finance capacity expansion investments;

(b) the high freight tariffs which cross-subsidise passenger fares has resulted in diversion of freight traffic to road transport. This entails not only financial and efficiency costs but also acute costs associated with emissions, traffic congestion, and road traffic accidents;

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[7] *Do Current Water Subsidies reach the poor?,* MIT and World Bank working paper *(http://web.mit.edu/urbanupgrading/waterandsanitation/resources/pdf-files/WaterTariff-4.pdf)*

[8] *Economic Survey of India 2015,* Volume 1, Chapter 6 (on Railways)

[9] www.ncaer.org/free-download.php?pID=111 , p107 & 68th Round of the NSS

[10] Hsieh, Chang-Tai and Klenow, Peter J, "*Misallocation and manufacturing TFP in China and India*", 2009,The Quarterly Journal of Economics 124(4), pp. 1403—1448.

(c) in order to cross-subsidise low passenger fares, freight tariffs are among the highest in the world (see Chapter 6 on Railways in this Volume). This reduces the competitiveness of Indian manufacturing and raises the cost of manufactured goods that all households, including the poor, consume.

Fertiliser subsidies illustrate another difficulty with using price subsidies as a core anti-poverty strategy. The true *economic incidence of a subsidy* depends on the relative elasticities of demand and supply, with the party *less* responsive to price changes benefiting *more* from a subsidy. The ultimate aim of subsidising fertiliser is to provide farmers with access to cheap fertilisers to incentivise usage and cultivation of high-yielding varieties. Yet because farmers' demand for fertiliser is likely to be more sensitive to prices[11] than fertiliser manufacturers' supply, the larger share of economic benefits from the price subsidy probably accrue to the fertiliser manufacturer and the richer farmer, not the intended beneficiary, the farmer.

Different subsidies may also interact to hurt the poor. For example, fertiliser manufacturers do not have an incentive to sell their product in geographically isolated regions. Since price controls mean that prices are similar everywhere, freight subsidies on railways have been introduced to incentivise manufacturers to supply their produce widely. But those subsidies are sometimes insufficient, since freight rates on Indian railways are among the highest in the world to cross-subsidise artificially low passenger fares. This is an example of how a mesh of well-meaning price controls distort incentives in a way that ultimately hurt poor households

The implementation of subsidies can be fiendishly complex, and are susceptible to the brutal logic of self-perpetuation. In the case of fertilisers, they are firm-specific and import-consignment specific, they vary by type of fertiliser, and some are on a fixed-quantity basis while others are variable. In the case of sugar, to protect sugar cane producers, high support prices are awarded; to offset this tax on mill owners, they are supported through subsidised loans and export subsidies; and then they are again taxed by placing restrictions on sales of molasses that are produced as a by-product.

The associated distortions make the total cost of subsidies much greater than the direct fiscal cost, and many of these distortions ultimately hurt those who are most vulnerable and have the least cushion to bear them.

3.2.3 Leakages seriously undermine the effectiveness of product subsidies

The Prime Minister recently stated that leakages in subsidies must be eliminated without reducing the subsidies themselves.

Price subsidies are often challenging for the state to implement because they offer large rent-seeking opportunities to black marketers. We use the term leakages to describe the subsidised goods that do not reach any households. Like the distortions emphasised above, leakages not only have the direct costs of wastage, but also the opportunity cost of how the government could otherwise have deployed those fiscal resources.

The stance of trying to rationalise subsidy leakages should not be seen as a strike against the poor, for three reasons. First, the regressive nature of many price subsidies reduce their effectiveness as anti-poverty strategies; second, reducing subsidy leakages gives the government the fiscal space required for higher-return social transfer programs without causing welfare losses; and, third, the same amount of benefit that households gain through subsidies can be directly transferred to the poor through lump-sum income transfers, avoiding the distortions that subsidies induce.

Converting all subsidies into direct benefit transfers is therefore a laudable goal of government policy. But developing the state capacity to implement the direct transfers to replace subsidies will take time

[11] One estimate suggests that farmers' demand for fertiliser falls by nearly 6.4 percent for a 10 percent increase in fertiliser prices. Ravindra H. Dholakia and Majumdar Jagdip" *Estimation of Price Elasticity of Fertilizer Demand in India*,", 2006, Working Paper.

and should not be allowed to slow down the pace of reform. In the interim, is the goal of maintaining subsidies while cutting leakages achievable?

In what follows, we estimate leakages using data from the census and NSS. Our calculations suggest that leakages are large, and can – at least in the case of kerosene – likely be reduced without compromising household welfare.

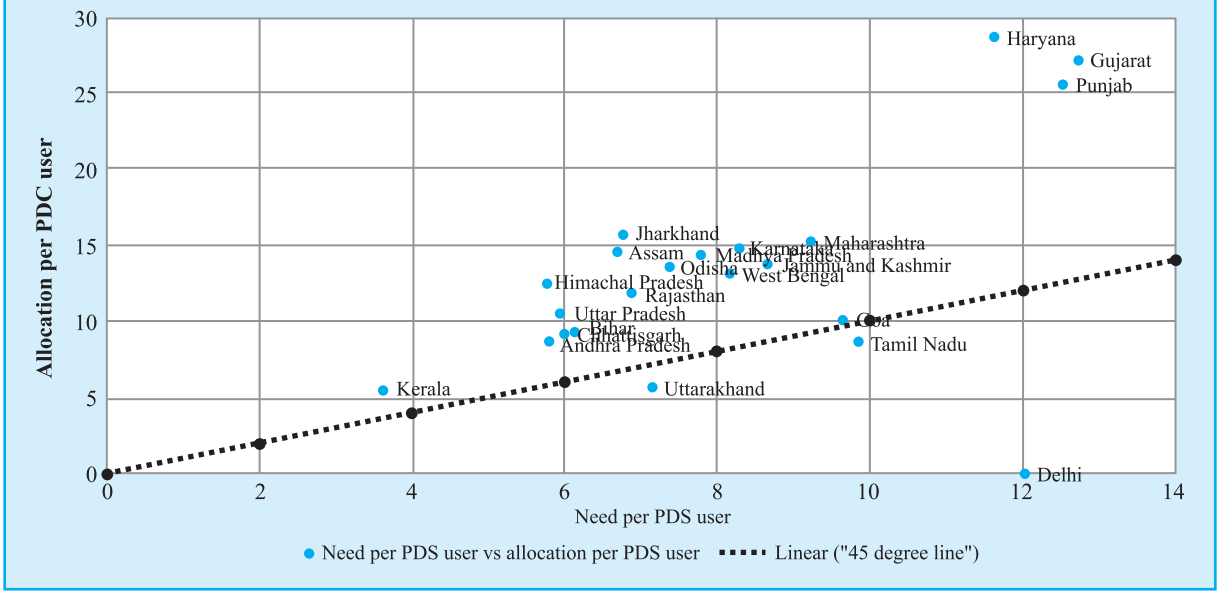
3.3 The case of kerosene

Evenings in poor un-electrified households can be cold and dark. The central government thus subsidises kerosene to lower the cost of accessing this particular source of energy. Kerosene subsidies totaled ₹ 30,574 crores in 2013-14 and are expected to cost ₹ 28,382 crores this financial year.

We quantify leakages of PDS kerosene in different states using data from the household expenditure module of the 68th Round of the NSS (2011-12) and population data from the 2011 Census. PDS leakages are defined as the difference between total allocation of PDS kerosene and *actual household consumption*. Based on these data, we make 5 observations:

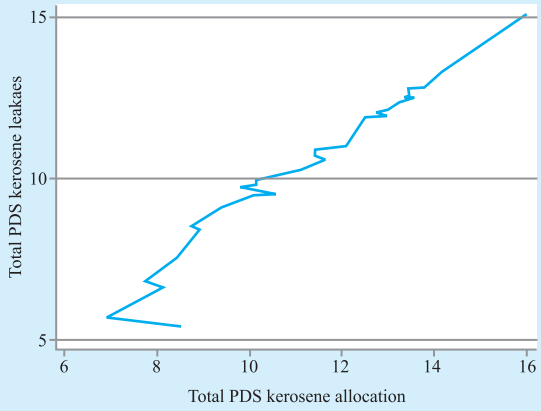
- ***Leakages are large and universal:*** Figure 3.2 plots the kerosene allocation per PDS user against the kerosene consumption per PDS user across states. The chart shows that PDS kerosene allocations significantly exceed consumption in nearly every state – that is to say, nearly all states show a large amount of PDS kerosene leakage.[12] In absolute terms, leakages are greatest in UP, West Bengal, Gujarat, and Maharashtra; in per capita terms, leakages are greatest in Haryana, Gujarat, and Punjab; and in percentage of actual allocations, they are greatest in the Northeastern states of Manipur, Sikkim, and Arunachal Pradesh.
- ***Leakages increase with the size of PDS allocations:*** Figure 3.3 shows that there is a positive relationship between leakages and allocations of PDS kerosene. This positive relationship remains in more formal analysis – a linear regression of leakages on allocations and controlling for states' level of economic development and corruption measures.

Figure 3.2: Need per PDS user relative to allocation per PDS user



[12] There appear to be data problems with a few states such as Tamil Nadu and Delhi

Figure 3.3: Leakages of PDS kerosene vary with allocations



The regression results in Table 3.2 suggest that a 1 percent increase in PDS kerosene allocations are associated with a 1.1 percent increase in PDS leakages. In other words, if allocations are reduced, leakages may decrease by a more-than-proportionate amount. *Put differently, in states that get more allocations, we see the greatest leakages and misappropriation of their allocations.*

- ***The poor consume only 46 percent of subsidised kerosene, so large PDS***

Table 3.2 : Relationship between allocations and leakages in the PDS

	All states	Excluding North eastern states	Only major states
Log (per capita PDS allocation)	1.389***	1.130***	1.227***
	(0.000)	(0.002)	(0.007)
Log (GDP per capita)	-0.376	-0.565	-0.558
	(0.308)	(0.158)	(0.174)
Measure of corruption	0.223	0.281	0.277
	(0.169)	(0.121)	(0.134)
Observations	28	21	17
Adjusted R-squared	0.670	0.702	0.685

p-values in parenthesis* p < 0.10, ** p < 0.05, *** p <0.01

Figure 3.4: Excess kerosene allocation or user relative to the log of GDP per capita

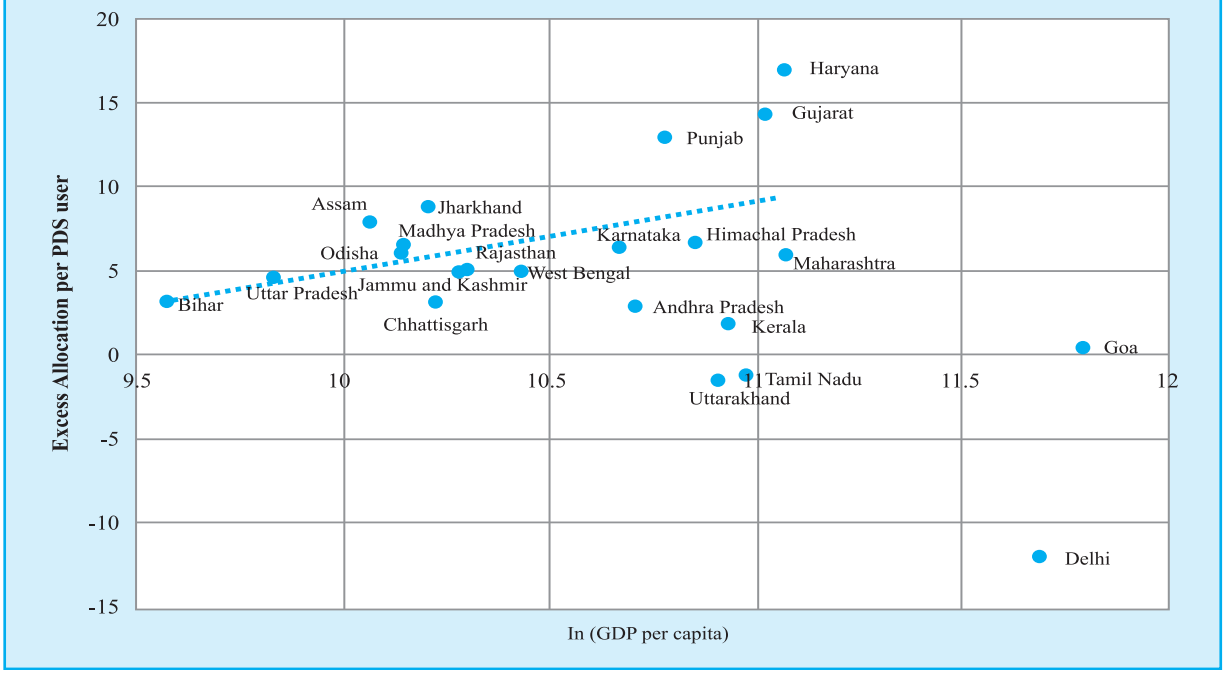


Table 3.3 : Income elasticity of kerosene (dependent variable is log (total kerosene consumption)

	All states	Excluding North eastern states	Only major states
Log (GDP per capita)	-1.857***	-2.228***	-1.620***
	(0.004)	(0.000)	(0.001)
Measure of corruption	0.0169	0.363*	0.395**
	(0.963)	(0.080)	(0.048)
Observations	30	23	19
Adjusted R-squared	0.152	0.424	0.420

p-values in parenthesis* p < 0.10, ** p < 0.05, *** p <0.01

kerosene allocations – far in excess of actual consumption – are difficult to justify on equity grounds: Large allocations of subsidised kerosene are sometimes justified on the grounds that they are used as a source of lighting by poor households. While that is true, Figure 3.4 shows that PDS kerosene leakages are larger in richer states. Reducing allocations in these states – while allowing a buffer so that they are still significantly above *actual consumption levels* – is likely to affect wealthier states more. Moreover, the NSS micro data show that 46 percent of subsidised kerosene is consumed by households holding a BPL or AAY card, which is inconsistent with the popular perception that it is exclusively poor households who use kerosene.

- ***Kerosene is an inferior good:*** Kerosene consumption tends to decline as incomes rise. As households get richer, they consume less of it because they substitute to cleaner, higher quality but more expensive fuels like LPG. Table 3.3 demonstrates this intuition by estimating a series of linear regressions of total kerosene per capita on a state's per capita GDP. The results are shown for different samples of states to check for robustness. For every 1 percent increase in a state's income, total kerosene consumption tends to decline by more than 1.5 percent. Income growth between 2011-12 (68th Round of NSSO) and the current year can thus be expected to have reduced household demand for kerosene rather than increase it. The policy implication is that kerosene allocations should 'naturally' decline over time.

- ***PDS allocations exceed total (i.e. PDS + non-PDS) consumption of kerosene:*** Table 3.4 suggests that in fact PDS kerosene allocations are more than even *the sum of PDS and non-PDS kerosene consumption*. 1.8 million kiloLitres of allocated subsidised kerosene remains unaccounted for – that is, unconsumed by households—and may be indicative of illicit activities such as adulteration of petrol and diesel fuels.

Table 3.4 also shows the fiscal cost of these leakages. Using a per unit subsidy rate of ₹ 33.9 per litre (columns 3 and 4), we calculate that kerosene consumption of states can be met even if PDS allocations of subsidised kerosene are reduced by 41 percent from its current level of approximately 9 million kilolitres to about 5.3 million kilolitres. The fiscal cost of these leakages is about ₹ 10,000 crore, and indicates that the opportunity cost of wasting these fiscal resources is indeed significant.

Table 3.4 : Savings from Rationalising Allocations

States	Total PDS allocation (kiloLitres)	Total PDS consumption as per aggregate NSS data 2011-12 (kL)	Fraction of consumption by poor households (%)	Excess PDS allocation (kL)	Leakage (%)	Total PDS consumption of all ration card holders as per NSS micro data 2011-12 (kl)	Fiscal cost of excess PDS allocation (₹ crores)
All-India	**9,028,806**	**5,349,541**	**46**	**3,679,265**	**41**	**4,776,000**	**10,044**
Uttar Pradesh	1,590,000	897,104	28	692,896	44	771,600	**1,892**
West Bengal	963,528	598,645	33	364,883	38	548,400	**996**
Gujarat	673,416	316,528	45	356,888	53	296,400	**974**
Maharashtra	730,464	442,258	37	288,206	39	399,600	**787**
Madhya Pradesh	625,668	339,104	50	286,564	46	291,600	**782**
Bihar	814,068	537,918	49	276,150	34	453,600	**754**
Karnataka	522,888	294,351	79	228,537	44	270,000	**624**
Rajasthan	508,764	294,658	30	214,106	42	262,800	**585**
Odisha	398,988	217,362	60	181,626	46	176,400	**496**
Assam	327,966	150,700	50	177,266	54	132,000	**484**
Andhra Pradesh	465,996	310,257	96	155,739	33	298,800	**425**
Jharkhand	268,704	116,363	50	152,341	57	91,440	**416**
Chattisgarh	180,072	118,196	69	61,876	34	105,360	**169**
Haryana	91,260	37,113	83	54,147	59	36,840	**148**
Punjab	90,132	44,260	50	45,872	51	38,640	**125**
Kerala	120,192	79,595	35	40,597	34	78,960	**111**
Jammu and Kashmir	90,072	56,831	30	33,241	37	43,440	**91**
Manipur	24,967	3,893	35	21,074	84	2,556	**58**
Meghalaya	25,943	7,827	62	18,116	70	7,092	**49**
Nagaland	17,100	579	7	16,521	97	310	**45**
Tripura	39,179	25,273	37	13,906	35	24,360	**38**
Himachal Pradesh	24,660	11,394	36	13,266	54	10,560	**36**
Arunachal Pradesh	11,479	2,766	21	8,713	76	2,016	**24**
Sikkim	6,348	1,282	67	5,066	80	1,142	**14**
Mizoram	7,800	3,216	36	4,584	59	2,868	**13**
A & N islands	6,912	3,100	12	3,812	55	2,832	**10**
Puducherry	4,440	2,653	76	1,787	40	2,508	**5**
Dadra & N Haveli	2,280	1,326	41	954	42	1,308	**3**
Chandigarh	3,528	2,764	52	764	22	2,208	**2**
Lakshwadeep	1,008	699	16	309	31	583	**1**
Goa	5,244	5,016	11	228	4	4,884	**1**
Daman & Diu	876	920	12	(44)	(5)	533	**(0)**
Delhi	-	4,704	51	(4,704)	-	3,504	**(13)**
Uttarakhand	36,168	45,478	31	(9,310)	(26)	42,360	**(25)**
Tamil Nadu	348,696	396,244	39	(47,548)	(14)	366,000	**(130)**

Notes: **a) The per litre subsidy cost of ₹ 33.9 per litre for 2013-14 was used in the calculations. This data was provided by the Policy and Analysis Cell of the Petroleum Ministry.**

b) The 68th round of the NSS (2011-12) reports PDS consumption of kerosene for surveyed households. We scale household consumption by each household's multiplier which indicates how representative that household is of the overall sample.

Table 3.5 : Quantifying and estimating the fiscal cost of PDS rice leakages

States	Total PDS offtake (tonnes)	Total PDS consumption as per NSS 2011-12 (tonnes)	Leakage (tonnes)	Leakages (%)	Fiscal cost of excess PDS allocation (₹ crores)
All-India	**24,325,843**	**19,188,000**	**3,639,478.89**	**15**	**5,892**
All-India ex NFSA	**17,717,053**	**13,881,541**	**3,835,512**	**22**	**6,210**
Uttar Pradesh	2,824,555	1,635,600	1,188,955	42	1,925
Maharashtra	1,432,041	892,320	539,721	38	874
Andhra Pradesh	3,031,942	2,960,400	71,542	2	116
West Bengal	1,222,344	798,480	423,864	35	686
Karnataka	1,925,849	1,428,000	497,849	26	806
Jharkhand	1,000,369	568,800	431,569	43	699
Assam	1,229,041	895,200	333,841	27	540
Bihar	1,630,176	1,368,000	262,176	16	424
Kerala	1,155,661	922,800	232,861	20	377
Tamil Nadu	3,532,541	3,156,000	376,541	11	610
Gujarat	305,644	154,800	150,844	49	244
Manipur	124,444	5,268	119,176	96	193
Delhi	129,384	18,672	110,712	86	179
Odisha	1,685,706	1,536,000	149,706	9	242
Nagaland	106,512	9,780	96,732	91	157
Meghalaya	155,719	90,120	65,599	42	106
Tripura	256,990	225,600	31,390	12	51
Himachal Pradesh	190,807	151,200	39,607	21	64
Arunachal Pradesh	75,963	50,760	25,203	33	41
Goa	51,562	28,560	23,002	45	37
Sikkim	42,236	22,560	19,676	47	32
Puducherry	41,209	36,120	5,089	12	8
Uttarakhand	190,977	170,400	20,577	11	33
Dadra & N Haveli	9,219	5,340	3,879	42	6
Chandigarh	3,353	917	2,436	73	4
A & N islands	10,873	19,200	(8,327) -	77-	13
Daman & Diu	3,041	125	2,916	96	5
Lakshwadeep	4,053	4,344	(291) -	7-	0
Punjab	0	534	(534)	--	1
Haryana	0	2,436	(2,436)	--	4
Rajasthan	0	4,380	(4,380)	--	7
Mizoram	58,378	67,560	(9,182)	167	15
Madhya Pradesh	404,878	316,800	88,078	22	143
Jammu and Kashmir	522,074	505,200	16,874	3	27
Chattisgarh	892,302	1,123,200	(230,898) -	26-	374

Table 3.6 : Quantifying and estimating the fiscal cost of leakages in PDS wheat

States	Total PDS offtake (tonnes)	Total PDS consumption as per NSS 2011-12 (tonnes)	Leakage (tonnes)	Leakages (%)	Fiscal cost of excess PDS allocation (₹ crores)
All-India	**18,776,070**	**8,592,000**	**10,184,070**	**54**	**12,598**
All-India ex NFSA	**13,350,441**	**5,605,725**	**7,744,716**	**58**	**9,580**
Uttar Pradesh	3,820,778	1,380,000	3,013,326	69	3,727
Maharashtra	2,107,204	1,088,400	1,018,804	48	1,260
West Bengal	2,058,861	552,000	1,506,861	73	1,864
Gujarat	937,155	312,000	625,155	67	773
Rajasthan	2,078,693	870,000	1,208,693	58	1,495
Madhya Pradesh	2,248,539	1,094,400	1,154,139	51	1,428
Bihar	1,127,174	1,015,200	111,974	10	139
Punjab	686,355	264,000	422,355	62	522
Haryana	586,431	313,200	273,231	47	338
Delhi	415,911	74,760	341,151	82	422
Assam	363,710	12,960	350,750	96	434
Odisha	372,299	88,920	283,379	76	351
Chattisgarh	192,892	116,520	76,372	40	94
Jharkhand	15,669	7,428	8,241	53	10
Uttarakhand	265,889	166,800	99,089	37	123
Kerala	273,146	150,000	123,146	45	152
Himachal Pradesh	321,856	235,200	86,656	27	107
Karnataka	308,763	243,600	65,163	21	81
Nagaland	33,582	109	33,473	100	41
Manipur	20,440	3	20,437	100	25
Tripura	18,391	4,152	14,239	77	18
Meghalaya	26,971	358	26,613	99	33
Chandigarh	30,863	8,820	22,043	71	27
A & N islands	5,153	3,072	2,081	40	3
Mizoram	7,855	754	7,101	90	9
Goa	8,859	3,984	4,875	55	6
Arunachal Pradesh	7,626	686	6,940	91	9
Daman & Diu	1,628	40	1,588	98	2
Sikkim	2,700	71	2,629	97	3
Puducherry	6,607	9,276	(2,669)	(40)-	3
Dadra & N Haveli	1,028	174	854	83	1
Lakshwadeep	-	42	(42)	-	-
Andhra Pradesh	33,532	40,680	(7,148)	(21)-	9
Jammu and Kashmir	221,411	187,200	34,211	15	42
Tamil Nadu	-	352,800	(352,800)	--	436

Notes on Tables 3.5 and 3.6:

a) Excess allocations are computed as the difference between PDS allocation and PDS consumption.

b) The fiscal cost is calculated by multiplying the per quintal subsidy (₹ 1237 for wheat and ₹ 1619 for rice) by the total excess allocation.

c) Our proposed allocation is calculated by scaling up the 2011-12 PDS consumption as per NSS by 25 percent

d) Savings due to our proposal is the difference between the PDS allocation and our proposed allocation.

e) Fiscal savings is again calculated by multiplying the total savings (in tonnes of grain) by the per quintal subsidy.

3.4 The Case of Food

A similar situation prevails in the distribution of subsidised grain via the PDS. Table 3.5 and 3.6 show that leakages are large and present in most states, and that they are significantly larger for wheat (54 percent) than for rice (15 percent). The fiscal cost of these leakages is also large – about ₹ 5800 Cr for PDS rice and ₹ 12,600 Cr for PDS wheat. Recent academic research on the subject of PDS leakages has found that leakages are falling though still unacceptably high[12]. There is also suggestive evidence that leakages are larger in the APL rather than the BPL category[13]. We note that any proposal to reduce food subsidy leakages has to bear in mind the provisions of the National Food Security Act, which provides for a total of 5 kg of subsidised grain (rice, wheat and/or millet at ₹ 3, 2 and 1 per kg, respectively) to households as well as cash benefits for pregnant women and hot meals for young children.

Like for kerosene, leakages are also larger in states that have larger allocations (Table 3.7), and consumption of grains tends to decrease as households get wealthier (Table 3.8).

Table 3.7 : Relationship between rice allocations and PDS leakages

	All states	Excluding North eastern states	Only major states
Log (per capita PDS allocation)	0.972***	0.736***	0.913***
	(0.000)	(0.010)	(0.015)
Log (GDP per capita)	0.226	0.332	0.252
	(0.382)	(0.139)	(0.340)
Measure of corruption	-0.172	-0.225	-0.270
	(0.262)	(0.212)	(0.186)
Observations	27	20	17
Adjusted R-squared	0.428	0.292	0.279

Dependent variable is Log(per capita excess PDS allocations)p-values in parenthesis* p < 0.10, ** p < 0.05, *** p <0.01

Table 3.8 : Income elasticity for rice

	Log(consumption)	Log(consumption)	Log(consumption)	Log(consumption)
Log (per capita PDS allocation)	-0.142***	-0.137***	0.106***	-0.123***
	(0.000)	(0.000)	(0.000)	(0.000)
District fixed effects	No	Yes	Yes	Yes
State fixed effects	No	Yes	Yes	Yes
Observations	30835	3085	18581	1703
Adjusted R-squared	0.019	0.518	0.516	0.628

p-values in parenthesis* p < 0.10, ** p < 0.05, *** p <0.01

[12] Ashok Gulati and Shweta Saini "*Leakages from Public Distribution System (PDS) and the Way Forward*", 2015, ICRIER working paper

[13] Jean Dreze and Reetika Khera "*Understanding Leakages in the Public Distribution System*", 2015, Economic and Political Weekly, February 14.

3.5 The possibilities offered by cash transfers

Technology is increasingly affording better means for the government to improve the economic lives of the poor. In particular, technologies that enable the state to better target and transfer financial resources to households expand the set of anti-poverty tools the government has in its armoury. These technological innovations have renewed political, policy and academic interest in the potential of direct cash transfers to help the poor. Recent experimental evidence documents that unconditional cash transfers – if targeted well – can boost household consumption and asset ownership and reduce food security problems for the ultra-poor.[14]

Cash transfers can also augment the effectiveness of existing anti-poverty programs. By reducing the number of government departments involved in the distribution process, opportunities for leakage are curtailed. A recent study[15] reported evidence from Andhra Pradesh where MGNREGA and Social Security payments were paid through Aadhaar-linked bank accounts. Households received payments on average 10 days faster with the new Aadhaar-linked direct benefits transfer system, and leakages reduced by 10.8 percentage points. The value of the fiscal savings – due to lower leakages – were 8 times greater than the cost of implementing the program. This shows the high returns to public investments in the state capacity required to deliver secure payments.

In addition to net fiscal savings, income transfers can compensate consumers and producers for exactly the welfare benefits they derive from price subsidies without distorting their incentives in the way described in Section II above.

3.6 The JAM Number Trinity solution

Eliminating or phasing down subsidies is neither feasible nor desirable unless accompanied by other forms of support to cushion the poor and vulnerable and enable them to achieve their economic aspirations. The JAM Number Trinity – ***J****an Dhan Yojana*, ***A****adhaar* and ***M****obile numbers* – allows the state to offer this support to poor households in a targeted and less distortive way.

As of December 2014, over 720 million citizens had been allocated an Aadhaar card. These enrolments are increasing at a rate of 20 million per month and by December 2015, the total number of Aadhaar enrolments in the country is expected to exceed 1 billion. Linking the Aadhaar number to an active bank account is key to implementing income transfers. To this effect, the government had seeded over 100 million bank accounts with registered Aadhaar numbers by December 2014. With the introduction of Jan Dhan Yojana, the number of bank accounts is expected to increase further and offering greater opportunities to target and transfer financial resources to the poor. Indeed, the government is already attempting this transition in certain areas by paying cooking gas subsidies directly via Direct Benefit Transfer into the bank accounts of 9.75 crore recipients.

We describe two alternative financial delivery mechanisms below:

- ***Mobile Money*** – With over 900 million cell phone users and close to 600 million unique users, mobile money offers a complementary mechanism of delivering direct benefits to a large proportion of the population.[16] Moreover, 370 million

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[14] Johannes Haushofer & Jeremy Shapiro (2013), *Household Response to Income Changes: Evidence from an Unconditional Cash Transfer Program in Kenya*, Working Paper.

[15] A group of 158 sub-districts implemented this new payment system, but were enrolled in the program in a random order, which enabled the researchers to carefully examine the impact of enrolment on leakages of MGNREGA payments. Karthik Muralidharan, Paul Niehaus & Sandip Sukhtankar (2014), *Building State Capacity: Evidence from Biometric Smartcards in India*, Working Paper.

[16] *http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Presspercent20Release-TSD-Mar,14.pdf*

of these cell phone users are based in rural areas, and this number is increasing at a rate of 2.82 million every month. Mobile money therefore offers a very viable alternative to meet the challenge of last mile connectivity. Given that Aadhaar registrations include the mobile number of a customer, the operational bottlenecks required to connect mobile numbers with unique identification codes is also small. With several cell phone operators reportedly applying for a payment bank license in February 2015[17], mobile money platforms offer tremendous opportunities to direct Aadhaar based transfers.

- ***Post Offices*** – India has the largest Postal Network in the world with over 1,55,015 Post Offices of which (89.76 percent) are in the rural areas.[18] Similar to the mobile money framework, the Post Office (either as payment transmitter or a regular Bank) can seamlessly fit into the Aadhaar linked benefits-transfer architecture by applying for an IFSC code which will allow post offices to start seeding Aadhaar linked accounts. The post office network also enjoys a long-standing reputation of using its deep network to serve many geographically isolated consumers in the country.

If the JAM Number Trinity can be seamlessly linked, and all subsidies rolled into one or a few monthly transfers, real progress in terms of direct income support to the poor may finally be possible. The heady prospect for the Indian economy is that, with strong investments in state capacity, that *Nirvana* today seems within reach. It will be a *Nirvana* for two reasons: the poor will be protected and provided for; and many prices in India will be liberated to perform their role of efficiently allocating resources in the economy and boosting long run growth. Even as it focuses on second generation and third generation reforms in factor markets, India will then be able to complete the basic first generation of economic reforms.

[17] *http://articles.economictimes.indiatimes.com/2015-02-03/news/58751845_1_payments-banks-small-banks-shinjini-kumar*

[18] *http://www.indiapost.gov.in/our_network.aspx.*

The Investment Climate: Stalled Projects, Debt Overhang and the Equity Puzzle

04
CHAPTER

4.1 Introduction

India's investment has been much below potential over the last few years. From a peak of 24 per cent in the last quarter of 2009-10 financial year, the rate of growth of gross fixed capital formation now languishes around zero (Figure 4.1). Stalling of "projects," a term synonymous with large economic undertakings in infrastructure, manufacturing, mining, power, etc., is widely accepted to be a leading reason behind this decline. The stock of stalled projects at the end of December 2014 stood at ₹ 8.8 lakh crore or 7 per cent of GDP.

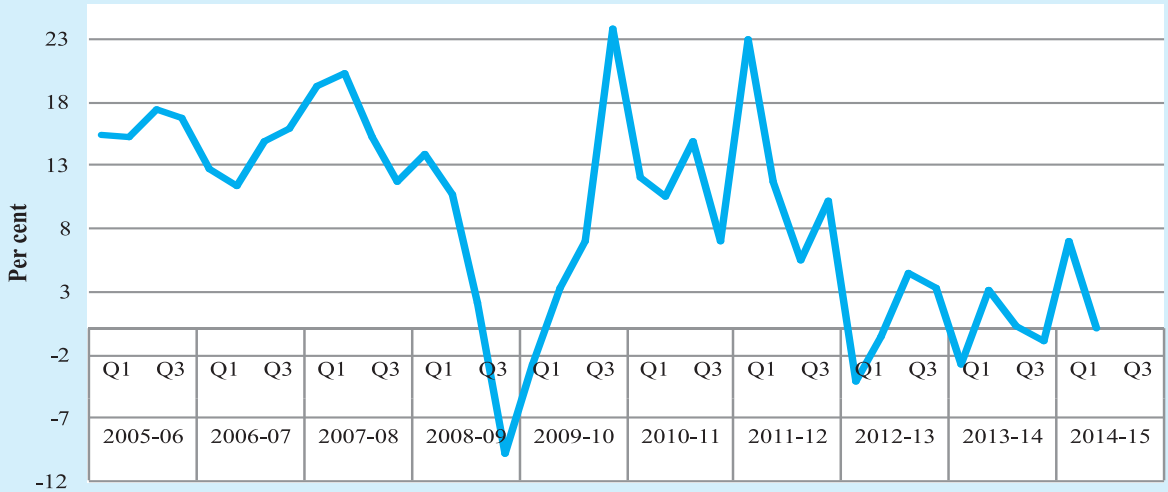
This analysis uses the CAPEX database in the Center for Monitoring Indian Economy (CMIE) platform to analyse stalled projects, offering some insights and policy lessons. The database contains a large sample of firm level public and private investment data, balance sheet reports and survey of companies, and the timeline of projects. This mix of data allows us to generate a plausible picture of the investment climate in the country with the caveat being that it is a sample and hence not immune to selection biases.

This chapter provides five key take-home messages and two policy lessons. The key messages are follows.

i. The stalling rate of projects has been increasing at an alarmingly high rate in the last five years, and the rate is much higher in the private sector.

ii. The good news is that the rate of stalling seems to have plateaued in the last three quarters. Moreover, the stock of stalled projects has come down to about 7 per cent of the GDP at the end of the third

Figure 4.1: Gross Fixed Capital Formation (year-on-year, rate of growth)



Source : Central Statistics Office

quarter of 2014-15 from 8.3 per cent the previous year.

iii. The data shows that manufacturing and infrastructure dominate in the private sector, and manufacturing dominates in total value of stalled projects even over infrastructure. The government's stalled projects are predominantly in infrastructure. Unfavourable market conditions (and not regulatory clearances) are stalling a large number of projects in the private sector, and in contrast regulatory reasons explain bulk of stalling in the public sector. Also, clearing the top 100 stalled projects will address 83 per cent of the problem of stalled projects by value.

iv. Stalling of projects is severely affecting the balance sheets of the corporate sector and public sector banks, which in turn is constraining future private investment, completing a vicious circle, characterised by an investment slowdown leading to less financing back to weak investment.

v. Despite high rates of stalling, and weak balance sheets, the equity market seems to be performing quite well. A plausible hypothesis being that equity valuations of affected companies are not being sufficiently priced in. Through an event study we show that the stalling of projects is indeed not having a significant impact on firm equity. This may potentially be due to the pure political economy reason that the market is internalising the expectations of bailouts.

And, the two policy lessons are as follows.

i. Combining the situation of Indian public sector banks and corporate balance sheets suggests that the expectation that the private sector will drive investment needs to be moderated. In this light, public investment may need to step in to recreate an environment to crowd-in private sector investment in the short term.

ii. Efforts must be made to revitalise the public-private partnership model of investment, albeit in a different manner (specific details are offered in Box 4.1). In addition, serious consideration must be given to setting up an Independent Renegotiation Committee. In the presence of weak mechanisms for bankruptcy and exit, we have to think creatively about distributing pain amongst the stakeholders from past deals gone sour.

4.2 Rate of stalling and stock of stalled projects

4.2.1 Alarmingly high and dominated by the private sector

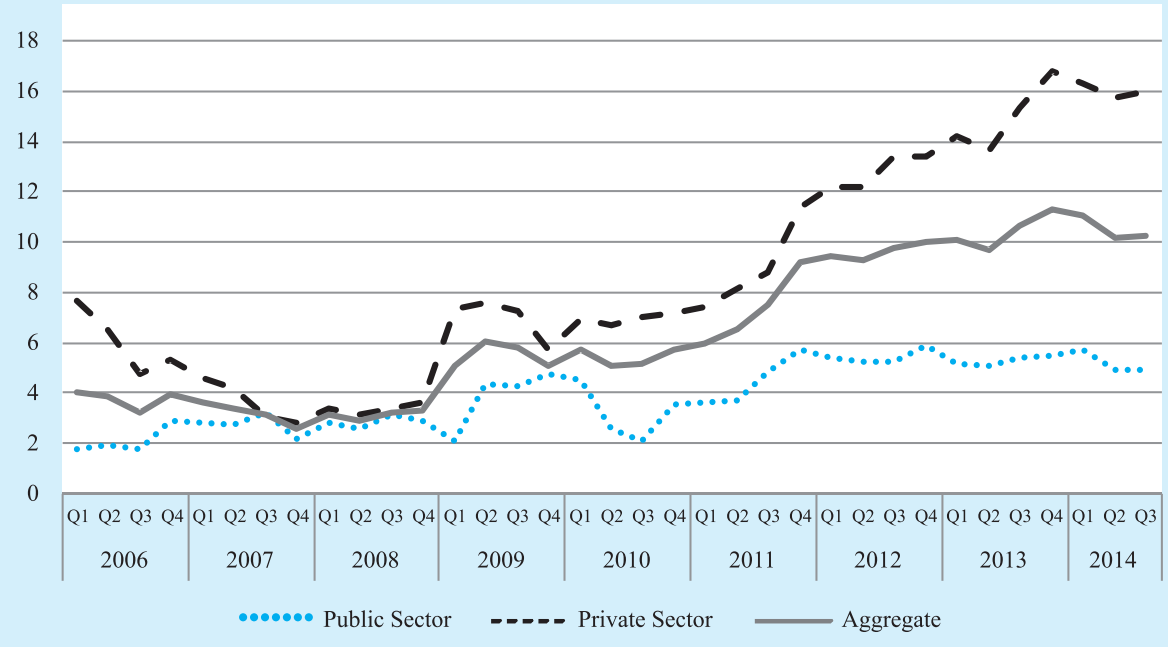
Figure 4.2 plots quarterly data on the stalling rate, defined as the stock of stalled projects as a percentage of those under implementation in terms of value of projects. It is evident that the stock of stalled projects has been rising at an alarming rate. Moreover, it is dominated by the private sector, especially in the last five years. At end of the third quarter of the current financial year, for every 100 rupees of projects under implementation, 10.3 rupees worth of projects were stalled, and the number for private sector stood at 16.

4.2.2 Tapering in the last three quarters

The stock of stalled projects is driven by two factors: rate of stalling and the rate of revival. Figure 4.3 depicts the gross value of projects stalled and revived during the last few quarters. As can be seen both were contributing to the problem, a large volume of projects were being stalled, and not enough were being revived. However, in the last few quarters there have been some improvements on both fronts.

Table 4.1 reports the stock of stalled projects as a fraction of GDP. Stalled investments at the rate of 8-9 percent of GDP over the last three fiscal years have been a leading reason behind the decline in gross fixed capital formation seen earlier in Figure 4.1. However, the number has come down to around 7 per cent of GDP at the end of

Figure 4.2: Stalling Rate by Value (Stock of Stalled Projects as Percentage of Projects under Implementation



Source **: CMIE.**

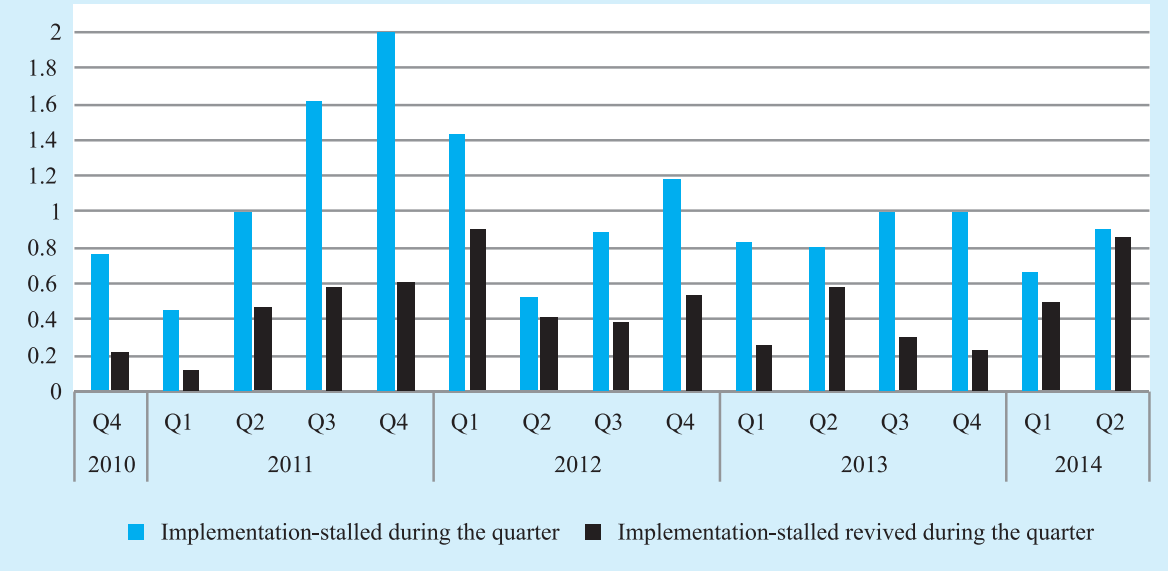
the third quarter of 2014-15, showing a gradual improvement.

4.3 An Analysis of Stalled Projects

Using all the available information in the CAPEX database, we analyse the set of stalled projects along five dimensions: ownership, value, sector, geography and reasons for stalling (disaggregated in further detail in Table 4.2).

Figures 4.4 and 4.5 show the sectoral decomposition of the ₹ 8.8 lakh crore worth of stalled projects for public and private sector firms, respectively. The first thing to note is that the public and private sector account for ₹ 1.8 and ₹ 7 lakh

Figure 4.3: Stalling and Revival of Projects by value (in lakh crore)



Source **: CMIE**

Table 4.1 : Stalled Projects (by value) as a fraction of GDP

Year	Government	Private	Total
2011-12	2.0%	5.7%	7.7%
2012-13	1.9%	6.1%	8.9%
2013-14	1.8%	6.5%	8.3%
2014-15 (till Q3)	1.4%	5.5%	6.9%

Source **: CMIE and Central Statistics Office**

crores, respectively, of the total worth of stalled projects. In terms of share in total, electricity and services dominate for both public and private sectors[1], while manufacturing forms the major component of stalled projects in the private sector.

One sector with large a number (and total worth) of stalled projects in both public and private sectors is electricity. At the end of third quarter of this financial year, 80 projects were stalled in the electricity sector out of which 75 are in generation and 5 in distribution, and 54 of these 80 are in fact private. It is important to note that almost all the projects in electricity under the "private" category

Table 4.2 : Characterising Stalled Projects

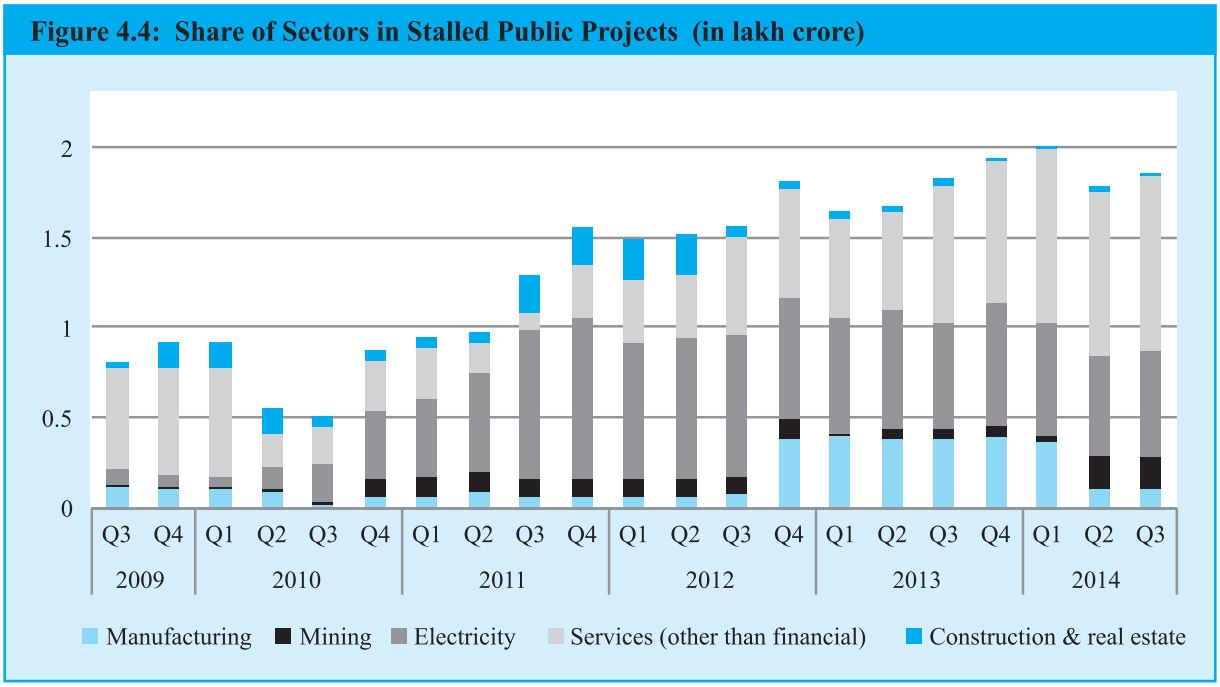
Dimension	Components
Ownership	Public, Private (Indian), Private (Foreign)
Sector	Infrastructure: Electricity, Highways, Airports, Construction Mining: Coal, Iron Manufacturing: Steel, Cement, Drugs, Garments, Processed Food
Geography	States
Value	In rupees
Reason for Stalling	Clearances: Environmental, LandFuel. Other raw materials Market: lack of demand, funds

Source **: CMIE**

are actually public-private partnerships, which affects the public sector directly.

A more granular analysis shows that manufacturing, mining and electricity, in that order, have had the highest stalling rates in the last few quarters among all sectors. Air transport, roads and shipping are the other big contributors in infrastructure, and steel, cements, garments, and food processing are the

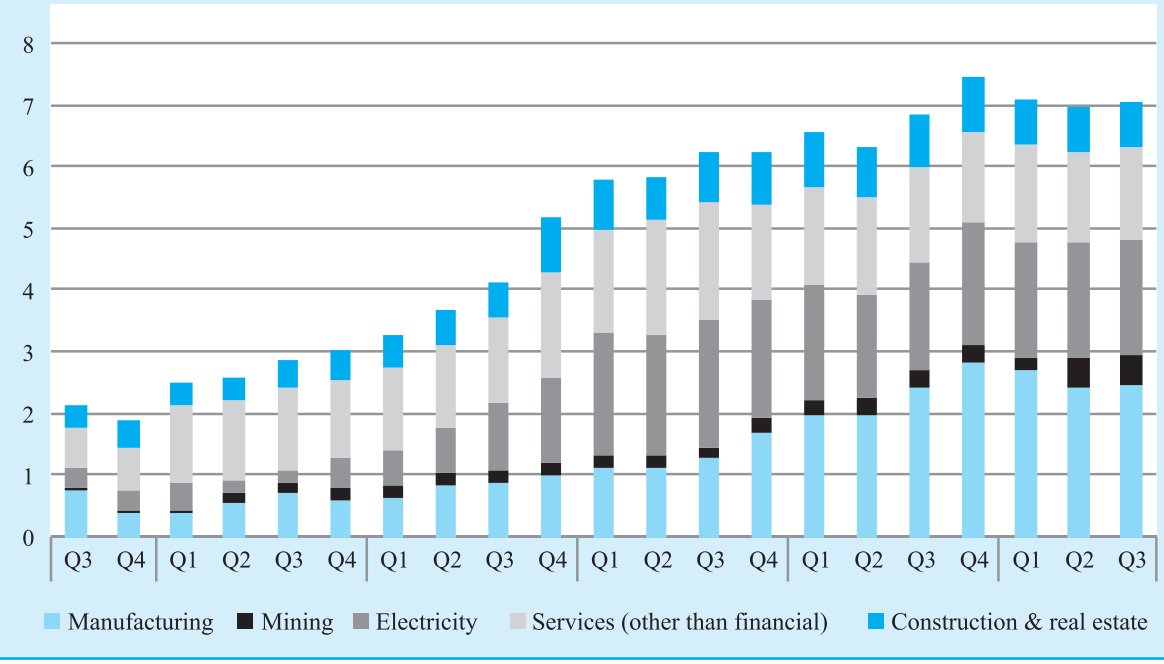
Figure 4.4: Share of Sectors in Stalled Public Projects (in lakh crore)



Source**: CMIE**

[1] Services includes Hotel and Tourism, Wholesale and retail trading, Transport services, Communication services, IT and other miscellaneous non-financial services.

Figure 4.5: Share of Sectors in Stalled Private Projects (in lakh crore)



***Source* : CMIE**

largest contributors within the manufacturing sector.

Next, in Table 4.3, we analyse primary reasons for stalling in public and private sectors. It is clear that private projects are held up overwhelmingly due to market conditions and non-regulatory factors whereas the government projects are stalled due to lack of required clearances.

Perhaps contrary to popular belief, the evidence points towards over exuberance and a credit bubble as primary reasons (rather than lack of regulatory clearances) for stalled projects in the private sector. On the flipside, government projects were the most severely affected by "policy paralysis" of regulatory clearances. There are of course interdependencies, but a private sector "project bubble" is not inconsistent with the data.

Table 4.4 shows the top reasons for stalling across sectors. Two lessons are crucial here. First manufacturing is being stifled by a general deterioration in the macroeconomic environment. Second, stalled projects in electricity are a victim of lack of coal (or coal linkages).

Table 4.5 presents all the states that have stalling rates in excess of 10 per cent. While it is true that some states have large amounts of projects under implementation to begin with (thus the large volume of stalled projects may potentially be driven by aggregate volume of projects in the state), our definition of stalling rate, as the value of stalled projects as a percentage of projects under implementation, scales the numbers appropriately. On this measure, it seems that with a few exceptions states with relatively weak institutional environments have more stalled projects.

Table 4.3 : Top Reasons for stalling across ownership

Owner	No. of Projects	Top Reasons for Stalling
Private (Indian)	585	Unfavourable market conditions Lack of promoter interest Lack of non-environmental clearances
Government	161	Land acquisition problem Lack of non-environmental Clearances Lack of funds

***Source* : CMIE**

Table 4.4 : Top reasons for stalling across industries

Industry	No. of Projects	Top Reasons
Manufacturing	212	Unfavourable market conditions
Mining	40	Lack of non-environmental clearances
Electricity	80	Fuel/feedstock/raw material supply problem
Services	283	Lack of promoter interest
Construction and Real Estate	143	Lack of non-environmental clearances

Source **: CMIE**

Finally what is the distribution of the value of stalled projects? They are top heavy in the sense that a small fraction accounts for a bulk of the total value of stalled projects. Table 4.6 shows that clearing the top 100 projects by value will address 83 per cent of the problem of stalled projects. This makes the problem look relatively manageable.

4.4 Balance Sheet Syndrome with Indian Characteristics

As reported in the Mid-Year Economic Analysis (2014-15), corporate balance sheets in India continue to be over-extended. Here we provide a deeper empirical analysis of the same, and add banks' balance sheets to the picture.

Table 4.5 : States with stalling rate > 10%

State	2013 Q4	2014 Q3
West Bengal	34.4	28.9
Himachal Pradesh	20.2	22.7
Odisha	11.4	19.9
Jharkhand	32.0	17.3
Uttar Pradesh	26.2	16.6
Chhattisgarh	20.2	15.4
Andhra Pradesh	12.3	14.9
Maharashtra	7.5	12.4
Telangana	9.0	10.0

Source **: CMIE**

Table 4.6 : Share of top stalled projects in total value of stalled projects

Percentile	Percentage of Total
Top 10	28.67%
Top 20	43.91%
Top 50	65.73%
Top 100	82.55%

Source **: CMIE**

Figure 4.6 shows the debt to equity ratio of non-financial corporates in the BSE 500 across time and in comparison to other countries. Debt to equity is a measure of financial leverage that indicates the proportion of debt and equity used by the company to finance its assets. An unambiguous fact emerging from the data is that the debt to equity for Indian non-financial corporates has been rising at a fairly alarming rate

Figure 4.6A: Debt to Equity Ratio of Non-financial Corporates (MSCI index as of December 2014)

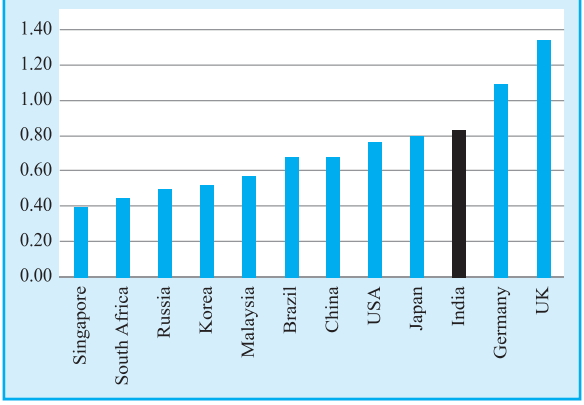
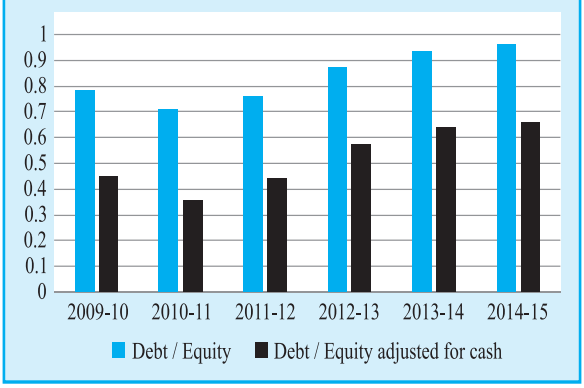


Figure 4.6B: Debt to Equity Ratio of Indian Corporates (BSE 500)



Source**: Bloomberg and J.P. Morgan**

over time and is significantly higher when viewed against other comparator countries.

To some extent high levels of debt may be justified if a company has sufficient earnings to pay the interest component of outstanding debt. This ability of a company to pay the interest on its outstanding debt is measured using the Interest Coverage Ratio (ICR). ICR is technically defined as the ratio of a company's earnings before interest and taxes (EBIT) of one period to its interest expenses over the same period. An ICR below 1 therefore indicates a low EBIT relative to interest expenses and highlights serious weaknesses in the company's balance sheet.

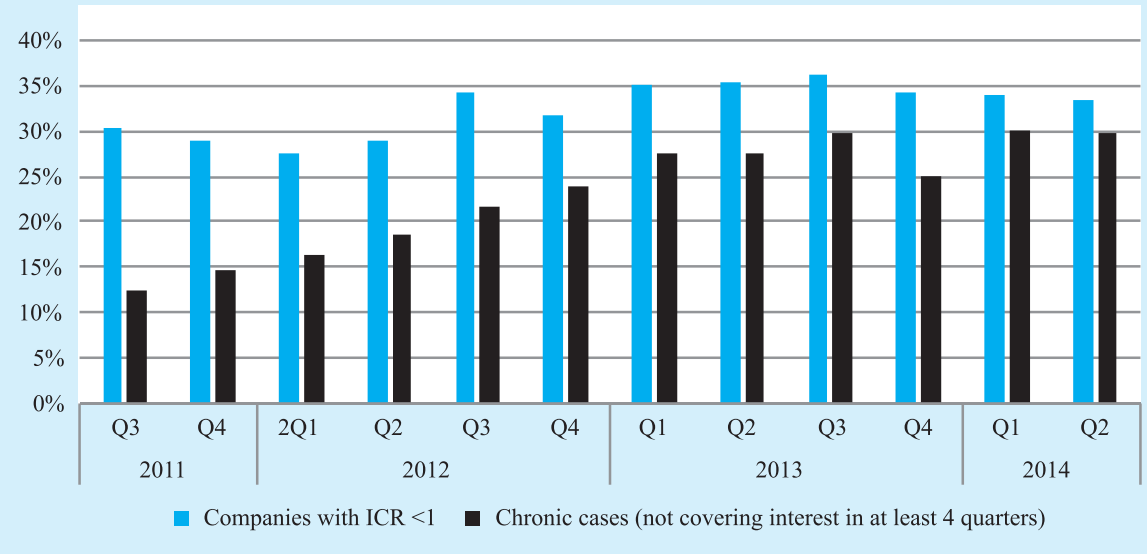
The figure 4.7 shows the percentage of companies in a large sample of 3,700 listed companies in India that have ICR <1. Of these a fairly large fraction have not been able to cover interest in the last four quarters for which data was available. In fact, Credit Suisse reports that of the total debt of US$ 450bn in the sample, US$ 140bn (about 33 per cent) is currently with companies with ICR<1. Four years ago only 17 per cent of the debt was with such companies.

Many countries before, including Japan in the aftermath of the real estate and equity boom of the late 1980s, have experienced over-extended corporate balance sheets. However, there is something fundamentally Indian about this phenomenon.

First, the debt overhang of the corporate sector is accompanied by a relatively high growth of around 6 to 7 per cent. Second, it has been accompanied by high inflation (instead of the price deflation in the Japanese example), see Figure 1.1A in Chapter 1. Third, the public sector is exposed to corporate risk in the form of public private partnerships, and lending by the public sector banks. Fourth, unlike many other countries with high debt to equity ratios currently, India's debt is almost exclusively financed by public sector banks. This has translated into high and rising non-performing assets for these banks, see Figure 4.8.

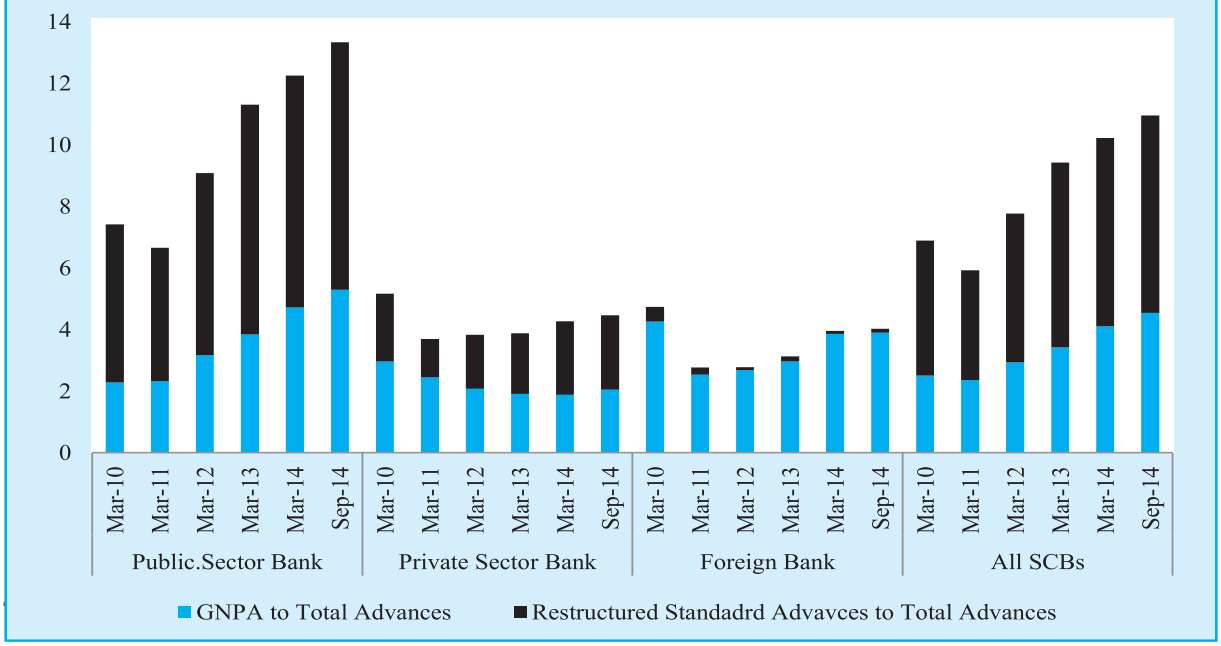
Tying things together- a steep decline in gross fixed capital formation, a large volume of projects in suspended animation, worryingly high number of stressed assets in banks' balance sheets and a highly leveraged corporate sector- suggests that Indian firms face a classic debt overhang problem in the aftermath of a debt fuelled investment bubble, translating into a balance sheet syndrome with Indian characteristics.

Figure 4.7: Companies with ICR<1 (percentage of total sample)



***Source*: Credit Suisse (sample of 3,700 listed companies)**

Figure 4.8: Gross NPA and Restructured Assets as per cent of total advances



***Source*: RBI**

4.5 What is the impact of Balance Sheet Syndrome on Firm Equity?

Figure 4.9A shows the Nifty Index since January 2011. There is a clear surge in equity values of Indian firms in the last three years. The puzzle though is that this surge coexists with rising stalling rates of big projects (see Figure 4.2), weak balance sheets (see Figure 4.6 and 4.7), declining new investments in the private sector (see Figure 4.9B), and toxic assets on banks' balance sheets (see Figure 4.8).

Frozen credit and overleveraged balance sheets should theoretically have a direct impact on the stock value of firms. The evidence to the contrary can be driven by (i) expectations of a significant turnaround in the macroeconomic environment, and (ii) internalisation of political economy factors in that the markets perceive that promoters and financiers of stalled projects will be aided by the government in some way (too big to fail).

While some indicators in the macroeconomy (inflation and current account deficit) have definitely turned around, it is a very recent phenomenon. Moreover, investment has remained muted (see Figure 4.1 and 4.9B). The market's reaction to a strong political mandate for the new government is definitely a reason, as can be seen in the rise in the slope of the equity surge post May 2014. But, can that be the exclusive explanation?

The rest of this section tests the hypothesis that stalling of projects has not had a significant impact on firm equity. To that end, we analyse the stock returns around the date of stalling of all firms with stalled projects and compare the same to the Nifty Index.

Figure 4.10A reports the rate of change of raw returns of all listed companies with stalled projects hundred days before and after the date of stalling, since 2008. The 100 day window is used to account for uncertainty regarding both the exact day of stalling and its perceived impact on the firm. The absolute numbers are accompanied by the 95 per cent confidence interval of the sample.[2] There is a clear decline in the value of firms with stalled projects around the date of stalling. The decline starts a bit before the projects is declared stalled because the market often internalises the status of the project as being stalled before the database declares so.

[2] The values are statistically significant if the confidence interval lies above or below the x-axis.

Figure 4.9A: Nifty Stock Price Index (daily, end of day)

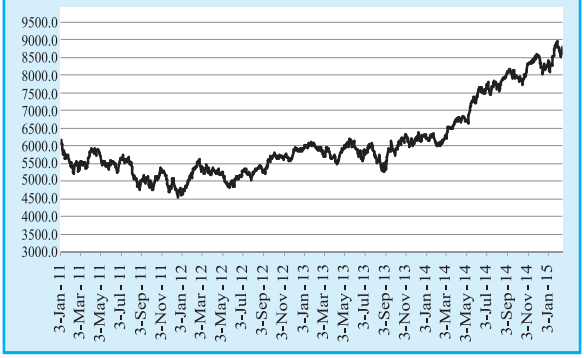
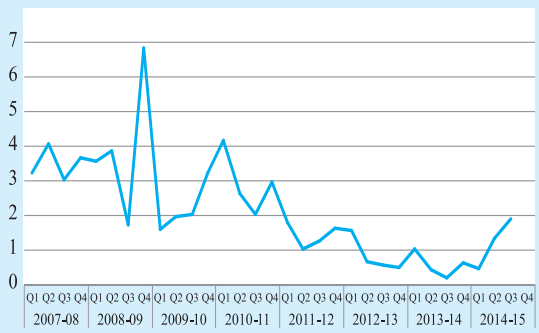


Figure 4.9B: New Private Investments (in lakh crore)



Source **: Nifty and CMIE**

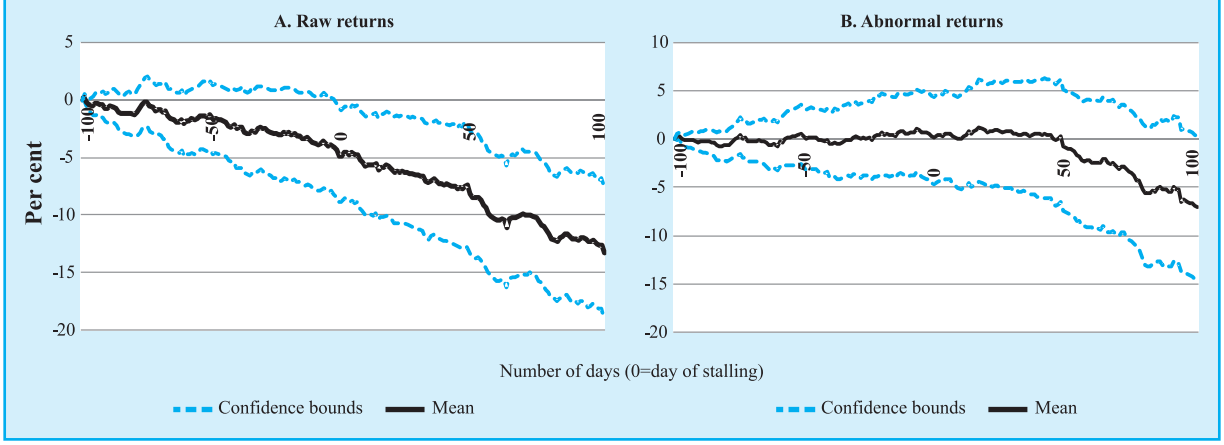
The question though is- Is the decline "enough"? In other words, how much impact does a stalled project have on a firm's equity relative to the index?[3] To answer this question, we plot the abnormal returns around date of stalling for all listed companies with stalled projects since 2008 (Figure 4.10B). Abnormal returns are defined as the returns generated by a given security or portfolio over a period of time that is different from the expected rate of return. We take the given portfolio to be the companies with stalled projects and the expected rate of return to be the Nifty index. Since this is an event study, the analysis of equity returns is conducted around the date of stalling.

We find that the abnormal returns are not statistically different than zero. The returns on the firms with stalled projects are not statistically different than the Nifty index before stalling and at least 50 days after stalling of the project. Even from the 50th to the 100th day after stalling the returns decline by not more than 5 per cent. This provides suggestive evidence that the market is not penalising firms severely for the debt pile-up in the wake of investments turning sour.[4] This may potentially be due to the pure political economy reason that the market is internalising the expectations of bailouts.

4.6 Policy Lessons

India needs to tread the path of investment-driven growth. Can the private sector be expected to rise to the occasion? Highly leveraged corporate

Figure 4.10: Rate of change around the date of stalling of all listed companies with stalled projects



Source **: CMIE, Prowess and Bloomberg** ***Source*** **: CMIE, Prowess and Bloomberg**

[3] Technically speaking, the null hypothesis is whether the market penalises firms with stalled projects sufficiently relative to the overall Nifty index?

[4] The result must be caveated in that it is based on a very reduced form exercise. Though it does provide much food for thought and an invitation for further exploration of the equity puzzle.

balance sheets, and a banking system under severe stress suggest that this will prove challenging. Against this backdrop, public investment may need to be augmented to recreate an environment to crowd-in private sector investment. The argument for desirability of public investment, and finding the fiscal space for its realisation are detailed in Chapters 2 and 6.

But, the call for public investment is not a counsel of despair for private investments going forward, especially the public-private partnership model. Concrete ideas on re-orienting the public-private partnership model of investment are provided in Box 4.1.

The biggest lesson from stalled projects and the associated credit aided infrastructure bubble is that perhaps more than a run up problem (over exuberant and misdirected private investment), we face a clean-up problem (bankruptcy laws, asset restructuring, etc.). Creative solutions are necessary for distributing pain equally amongst the stakeholders from past deals gone sour.

An idea to fix the clean-up problem is setting up of a high powered Independent Renegotiation Committee. In the presence of a market and regulatory failure, perhaps a creative step would be to involve external experts for a quick and independent resolution of the problems.

Box 4.1 : Restructuring the Framework for Public-Private Partnerships*

Many infrastructure projects are today financially stressed, accounting for almost a third of stressed assets in banks. New projects cannot attract sponsors, as in recent NHAI bids, and banks are unwilling to lend. Given its riskiness, pension and insurance funds have sensibly limited their exposure to these projects. This current state of the public private partnership (PPP) model is due to poorly designed frameworks, which need restructuring.

Flaws in existing design

First, existing contracts focus more on fiscal benefits than on efficient service provision. For example, in port and airport concessions, the bidder offering the highest share of gross revenue collected to the government is selected. Thus, if this share is 33% (higher in many actual contracts), the user pays 50% more than what is required, since the concessionaire is able to provide service even though it gets only ` 1 for every ` 1.50 charged.

Second, they neglect principles allocating risk to the entity best able to manage it. Instead, unmanageable risks, e.g., traffic risk in highways, even though largely unaffected by their actions, are transferred to concessionaires. This is also true for railways and in part, for ports (though inter-terminal competition is possible) and airports.

Third, the default revenue stream is directly collected user charges. Where this is deemed insufficient, bidders can ask for a viability grant, typically disbursed during construction. This structure leaves the government with no leverage in the case of non-performance, with few contractual remedies short of termination.

Fiscal reporting practices also affect this choice. Current accounting rules treat future committed expenditure as a contingent liability. However, foregone future revenue is not accounted for.

Fourth, there are no ex-ante structures for renegotiation. If a bureaucrat restructures a project, there are no rewards; instead it may lead to investigation for graft. Failed projects lead neither to penalties nor investigation. With such asymmetric incentives, bureaucrats naturally avoid renegotiation.

Finally, contracts are over-dependent on market wisdom, e.g., bidders in ultra-mega power projects (UMPP) could index tariff bids to both fuel prices and exchange rates, but almost all chose very limited indexation. When fuel prices rose and the rupee fell, these bids became unviable. To enforce market discipline and penalise reckless bidding, these projects should have been allowed to fail.

Needed Modifications

Despite such flaws, PPP generated significant investment. Can these flaws be rectified in a country, like India, which is reluctant to let concessionaires fail? What should future contracts look like?

First, it is better to continue combining construction and maintenance responsibilities to incentivise building quality. In many projects, especially highways, maintenance costs depend significantly on construction quality. If a single entity is responsible for both construction and maintenance, it takes lifecycle costs into account. Separating

Contd.

these responsibilities provide an incentive to increase profits by cutting corners during construction. Suggestions to let the public sector build assets and have the private sector maintain and operate them ignore this linkage.

Second, risk should only be transferred to those who can manage it. In a highway or a railway project, it is not sensible to transfer usage risk since it is outside the control of the operator. But, it can be done in telecom projects and for individual port terminals that compete with each other, where demand can respond to tariff and quality.

Third, financing structures should be able to attract pension and insurance funds, which are a natural funding source for long-term infrastructure projects.

What does this mean for key sectors? First, rather than prescribe model concession agreements, states should be allowed to experiment.For example, in ports, terminals can be bid on the basis of an annual fee, with full tariff flexibility, subject to competition oversight. For electricity generation, bids can be two-part, with a variable charge based on normative efficiency, or alternatively, determined by regulators and a capacity charge.

Another option, without that drawback, is the Least Present Value of Revenue (LPVR)[a] contract, where the bid is the lowest present value (discounted at a pre-announced rate) of total gross revenue received by the concessionaire. The concession duration is variable and continues until the bid present value amount is received. A key advantage of this contract is that it converts usage risk to risk of contract duration, which is more manageable for financial institutions. Since the bid is on gross revenue, it also selects bidders who can execute at low cost and demand relatively lower margins and by limiting the scope for renegotiation to the remaining uncollected value of the LPVR bid, it discourages opportunistic bidding. Further, since the present value is protected, this structure is suitable for pension and insurance funds.

Restructuring of existing contracts

Revival of private interest and bank lending needs existing contracts to be restructured, with burden sharing among different stakeholders. Lenders may have extended credit without necessary due diligence, assuming that projects were implicitly guaranteed. Without burden sharing, this behaviour will be reinforced. Similarly, many bidders may have assumed that they could renegotiate in the event of negative shocks. Thus, there was potentially adverse selection of firms who felt they had the capacity to renegotiate; rather than firms better at executing and operating the project. In particular, this may have limited participation by foreign firms. In the absence of burden sharing, such adverse selection would be supported. Thus, the guiding principle should be to restructure contracts based on the project's revenues, differentiating between temporary illiquidity and insolvency.

For example, all stressed highway projects could be switched to electronic tolling. All revenues can go, as now, into an escrow account, but with a revised order of priority. Long-term bullet bonds, at the risk-free government rate, can be issued to the extent of the debt in the project. After operations and maintenance, interest payments on these bonds, which may also be guaranteed by the Union government, will be first in order of priority. Lenders can opt to switch existing debt to these bonds. Allocations for repayment of their principal will have second priority and existing debt that has not been switched, the next priority. Equity can be the residual claimant. If the project makes money over its lifetime, equity holders will earn a return, though some may exit now, at a discount.

The private sector remains key to rapid delivery of high quality infrastructure. Restructured PPP frameworks will revive their interest in infrastructure and bring in funding from pension and insurance funds.

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* Inputs from Partha Mukhopadhyay (Center for Policy Research, New Delhi) are gratefully acknowledged.

[a] Engel E, R Fischer and A Galetovic (1997), 'Highway Franchising: Pitfalls and Opportunities', The American Economic Review, 87(2), pp 68–72. Engel E, R Fischer and A Galetovic (2001), 'Least-Present-Value-of-Revenue Auctions and Highway Franchising', Journal of Political Economy, 109(5), pp 993–1020.

Credit, Structure and Double Financial Repression: A Diagnosis of the Banking Sector

05 CHAPTER

"The nature of transactions between creditors and debtors on which the welfare of the kingdom depends, shall always be scrutinized," Kautilya in Arthshastra around 3rd century BC.

5.1 Introduction

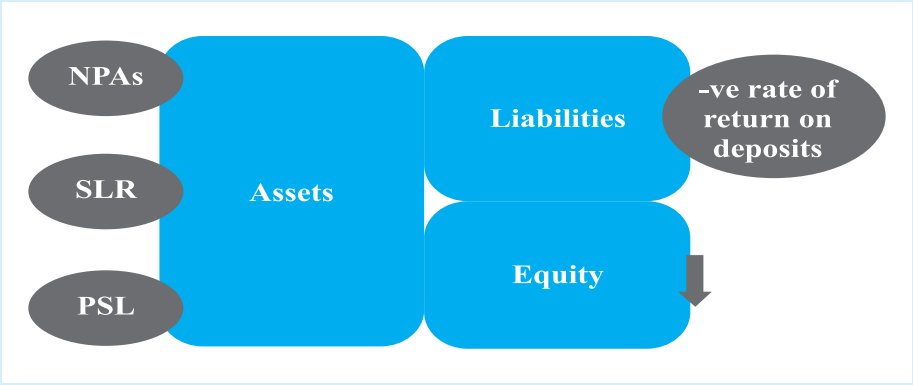
The policy discourse around banking in India has thrown up many specific ideas and challenges recently, prominent amongst them being the problem of stressed and restructured assets, the difficulty in acquiring the resources to meet the looming Basel III requirements on capital adequacy, and the need for governance reform (see for example the Nayak Committee Report).[1] Stepping back from these proximate issues allows a deeper analytical diagnosis of the problems of Indian banking which in turn provide the basis for more calibrated solutions.

We start with the size of credit in India. In terms of a number of indicators, the Indian financial sector does not appear to be an outlier. The overall credit-GDP ratio as well as the proportion of total credit accounted for by the banking sector is not out of line taking account of India's level of development. Moreover, its size hasn't increased dramatically over time compared to other countries. While the boom years of the last decade both spawned and were fed by a credit boom, originating in the public sector banks, irrationally exuberant behaviour was not out of line with similar experiences in other countries.

Rather, the challenges in the Indian banking system lie elsewhere and fall into two categories: policy and structure.

The policy challenge relates to financial repression. The Indian banking system is afflicted by what might

Figure 5.1: Double Financial Repression on the Indian banking balance sheet



NPA: Non-Performing Assets (bad loans), SLR: Statutory Liquidity Ratio, PSL: Priority Sector Lending

[1] Recapitalisation requirements for Public Sector Banks as estimated by Krishnamurthy Subramanian (ISB and member of Nayak Committee) range from ₹ 9.6 lakh crore to ₹ 4.8 lakh crore depending on the assumptions on forbearance and the ratio of restructured assets turning into NPAs.

be called "double financial repression" (Figure 5.1). Financial repression on the asset side of the balance sheet is created by the statutory liquidity ratio (SLR) requirement that forces banks to hold government securities, and priority sector lending (PSL) that forces resource deployment in less-than-fully efficient ways. Financial repression on the liability side has arisen from high inflation since 2007, leading to negative real interest rates, and a sharp reduction in households' financial savings. As India exits from liability-side repression with declining inflation, the time may be appropriate for addressing its asset-side counterparts.

The structural problems relate to competition and ownership. First, there appears to be a lack of competition, reflected in the private sector banks' inability to increase their presence. Indeed, one of the paradoxes of recent banking history is that the share of the private sector in overall banking aggregates barely increased at a time when the country witnessed its most rapid growth and one that was fuelled by the private sector. It was an anomalous case of private sector growth without private sector bank financing. Even allowing for the irrational exuberance of the Public Sector Banks (PSBs) that financed this growth phase, the reticence of the private sector was striking.

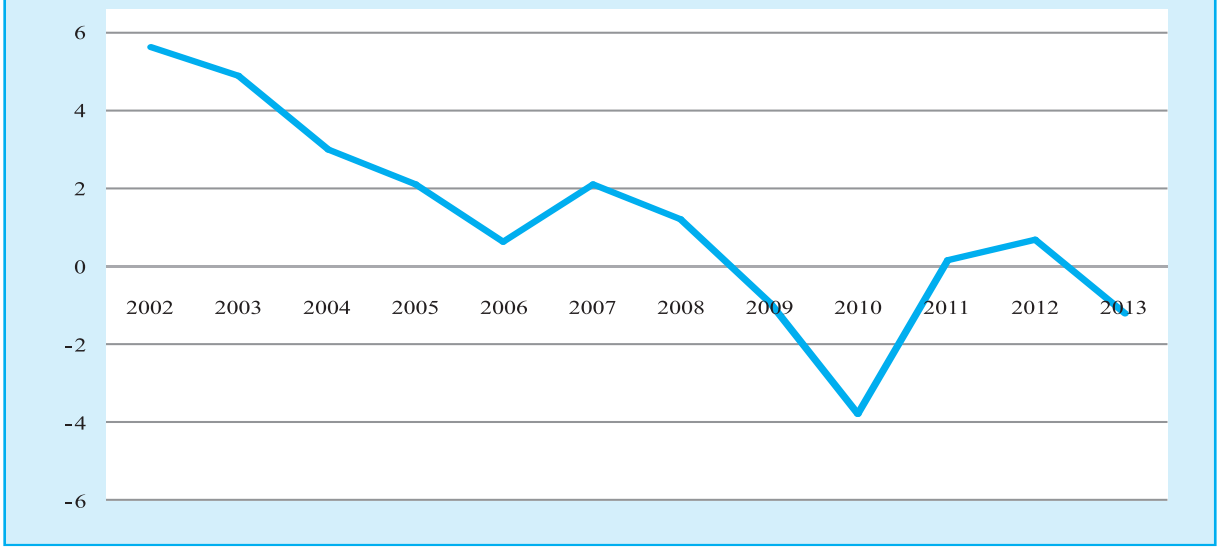
Finally, even within the public sector banks there is sufficient variation in performance. Viewing public sector banks as one homogenous block would be a mistake. Rather than adopting a one-size-fits-all approach, there needs to be greater selectivity in relation to recapitalisation, exit, and the level of government ownership.

The chapter ends with four key policy recommendations which we call the four Ds: *deregulate (in relation to financial repression), differentiate (within the PSBs), diversify (within and outside banking), and disinter (to create more efficient exit).*

5.2 Financial Repression on the Liability Side

Figure 5.2 plots the average rate of return on deposits in all scheduled commercial banks in India over the last 14 years. These are calculated as the difference between the weighted average return on term deposits as reported by the Reserve Bank of India minus the CPI-IW inflation rate for that year as reported by the Central Statistics Office. High inflation and limited return on banks' assets has ensured that the rates maintained by banks fetched households a negative real rate of return on deposits.

Figure 5.2: Average Real Rate of Return on Deposits



***Source* : RBI and Central Statistics Office**

Table 5.1: Savings as a percentage of GDP

	2004-05	2009-10	2010-11	2011-12	2012-13	2013-14
Household (Financial)	10.1	12.0	9.9	7.0	7.1	7.2
Household (Physical)	13.4	13.2	13.2	15.8	14.8	10.6
Household (Total)	23.6	25.2	23.1	22.8	21.9	17.8
Gross	32.4	33.7	33.7	31.3	30.1	30.6

***Source* : Central Statistics Office. Caveat: New method employed in 2013-14.**

Household savings continue to be the largest contributor to gross capital formation. Household savings has two components- financial and physical, where the latter typically does not lend itself easily to financial intermediation in the economy. As can be seen from Table 5.1, the contribution of physical assets to household savings has stood stubbornly above 60 per cent all through the last decade.

5.3 Financial Repression on the Asset Side

Financial repression on the asset side has had a long history in India. As the state expanded its role in the economy and especially the financial sector in the 1970s, new rules had to be introduced to set aside bank capital to provide for it. Two key legacies of this piece of history are the Statutory Liquidity Ratio and Priority Sector Lending.

5.3.1 Statutory Liquidity Ratio

The Statutory Liquidity Ratio is a requirement on banks to hold a certain share of their resources in liquid assets such as cash, government bonds and gold. In principle, the SLR can perform a prudential role because any unexpected demand from depositors can be quickly met by liquidating these assets.

SLR requirements have traditionally been high. From 38 per cent in the period before 1991, there was a dramatic decline to about 25 per cent at the end of the 1990s. Since then however, the number has hovered around the quarter century mark, only recently falling to 22 per cent. As of Feb 4, 2015 the minimum requirement is 21.5 per cent of total assets. Banks typically keep more than the required SLR, the current realised SLR is in fact over 25 per cent.[2] In practice, the SLR has become a means of financing (at less than market rates presumably) a bulk of the government's fiscal deficit, suggesting that SLR cuts are related to the government's fiscal position.[3]

Box 5.1 presents the case for gradually reducing this requirement- both to free up capital for the banks and to make the market for government bonds more liquid.

5.3.2 Priority Sector Lending (PSL)

A key component of equality of credit in India has been the so called "priority sector lending". All Indian banks are required to meet a 40 per cent target on priority sector lending. The law states that all domestic commercial banks, public or private, have to lend 40 per cent of their adjusted net bank credit (ANBC) or credit equivalent amount of their off balance sheet exposure—whichever is higher—to the priority sectors, and number for foreign banks (with more than 20 branches) is 32 per cent. Further, public sector banks have clearly defined rules they have to follow in the subcategories- agriculture, micro and small enterprises, education, housing, export credit and others. The most important amongst them is that 45 per cent of all priority sector lending must be made to agriculture.

[2] This anomaly could probably be the result of the high level of stressed assets which encourage overinvestment in risk free government securities to maintain a respectable risk-weighted capital adequacy ratio. As the financial sector addresses this problem and the economy creates lending opportunities, this anomaly should be corrected.

[3] Vishwanathan, Vivina: "*DYK: Difference between CRR and SLR,*" Livemint, June 2014

Box 5.1 : Reducing the Statutory Liquidity Ratio

The SLR is a form of financial repression where the government pre-empts domestic savings at the expense of the private sector. Real interest rates are lower than they would be otherwise.

Recently, the RBI has taken commendable and gradual steps in lowering the SLR from 25 per cent to 21.5 per cent. The question is whether the ambitions in this area should be ratcheted up. Three developments make this question particularly salient.

The argument has always been that SLRs can only be reduced if the government's fiscal situation improves. That is only partly correct because stocks rather than flows should condition SLR reform. India's fiscal deficit situation still needs consolidation but the public debt situation has been steadily improving and will continue to improve because of India's growth and inflation compared to borrowing costs. Overall indebtedness (center and states) has declined from over 80 percent to 60 percent in a decade. And this trend will continue because favorable debt dynamics will continue to operate in the future as long as growth remains above 8 percent.

This creates the first opening for phasing down the SLR over time. To be sure the government's borrowing costs will go up but the magnitudes are likely to be small for two reasons: first, costs will rise only on debt that is maturing, which over the next five years is about 21.1 per cent of total outstading debt; and second, the macro-environment and progress in durably reining in inflation may favor lower real interest rates.

The second reason relates to the health of the banks. As interest rates decline, there is scope for capital appreciation for the banks that hold the bulk of government securities. SLR reductions could allow them to offload G-secs and reap the capital gains which could help recapitalise them, reducing the need for government resources, and helping them raise private resources. (This is a better and cleaner way of recapitalizing the banks than to allow banks to mark their G-secs to market and realize the accounting profits). To avoid any moral hazard issues, gains from recapitalization should go first towards provisioning against NPAs, and only the surplus should go towards being counted as capital.

The third reason relates to the recent experience of infrastructure financing. PPP-based projects have been financed either by public sector banks or through foreign currency-denominated debt (ECBs). The former has proven tricky to say the least and the latter contributed to decline in corporate sector profitability especially in the infrastructure sector: investors borrowed in dollars and their revenues were predominantly in rupees so that when the rupee depreciated their profitability and balance sheets were adversely affected.

The time is therefore ripe for developing other forms of infrastructure financing, especially through a bond market. But SLRs have also stymied the development of government bond markets which in turn stifles the development of corporate bond markets. Reducing SLRs are therefore critical to finding better sources of infrastructure financing. The end-point of reform should be to combine the SLR and the Capital to risk weighted assets ratio (CRAR)[a] into one liquidity ratio set at a desirable level depending on international norms.

[a] *Capital to risk weighted assets ratio* (CRAR) is arrived at by dividing the capital of the bank with aggregated risk weighted assets for credit risk, market risk and operational risk.

To be sure, the social and economic objectives that underlie PSL make it a salient feature of banking in India. But like in the case of subsidies and direct transfers, greater attention must be given to ensuring that the deployed means are the most effective to achieving desired ends. There is hence greater need for evidence-driven policy and Box 5.2 below illustrates this point in relation to agricultural lending.

In this Box, we draw on the results from Ramakumar and Chavan (2014) and summarize striking findings on agricultural credit. The main takeaway is that a much more careful approach needs to be applied to defining what constitutes priority sector and closer monitoring of how these funds are disbursed. This is especially important because a 40 per cent requirement absorbs a large fraction of the banks' resources.

Box 5.2 : Agricultural Credit: Scratching the Surface of Rising Numbers*

1. Total agricultural credit has increased substantially since the turn of the century. The annual rate of growth that averaged 6.8 per cent in 1981-1991, was at 17.8 per cent for 2001-2011. In nominal terms, agricultural credit has grown more than 8 times in the last 15 years compared to the facts that agriculture's share in GDP has remained almost constant, and that significant urbanisation has occurred in this time.

Period	Annual Growth Rates		
	Credit to agriculture	Total Bank Credit	Agricultural GDP
1981-1991	6.8	8.0	3.5
1991-2001	2.6	7.3	2.8
2001-2011	17.8	15.7	3.3

2. There has been a sharp increase in the share of large-sized loans in agricultural credit as the table below shows which warrants scrutiny.

Year	Distribution of direct advances (per cent) along benchmark credit limits in rupees			
	< 2 lakhs	> 2 lakhs	< 10 lakhs	> 10 lakhs
1990	92.2	7.8	95.8	4.2
1995	89.1	10.9	93.6	6.4
2000	78.5	21.4	91.3	8.7
2003	72.6	27.4	87.5	12.5
2005	66.7	33.4	88.1	11.9
2011	48.0	52.0	76.2	23.8

3. There has been a substantial increase in share of agricultural credit outstanding that emanates from urban and metropolitan areas, which is deeply puzzling.
4. There has been a concentration of disbursal of agricultural credit from January to March, which are generally not the normal periods of borrowing by farmers. This shows that in order to meet priority sector lending targets banks possibly raise their lending activity in months when farmers may not necessarily need it the most.
5. There is a sharp decrease in the share of long-term credit in total agricultural credit. Thus, the portion of agricultural credit that was used for capital formation in agriculture has become small. The number has come down from over 70 per cent in 1991-92 to about 40 per cent in 2011-12.
6. The implication of this evidence is that lending to agriculture may be excessive and going predominantly to large farmers. It is not being used for agricultural capital formation. Perhaps most significantly a large share of it may not be going to core agricultural activities at all.

**Points 1 to 5 are based on the analysis of Ramakumar and Chavan (2014), "Bank Credit to Agriculture in India in the 2000s: Dissecting the Revival," Review of Agrarian Studies.*

5.4 A COMPARATIVE ANALYSIS OF BANKING AND CREDIT

5.4.1 Is India credit-addled and over-banked?

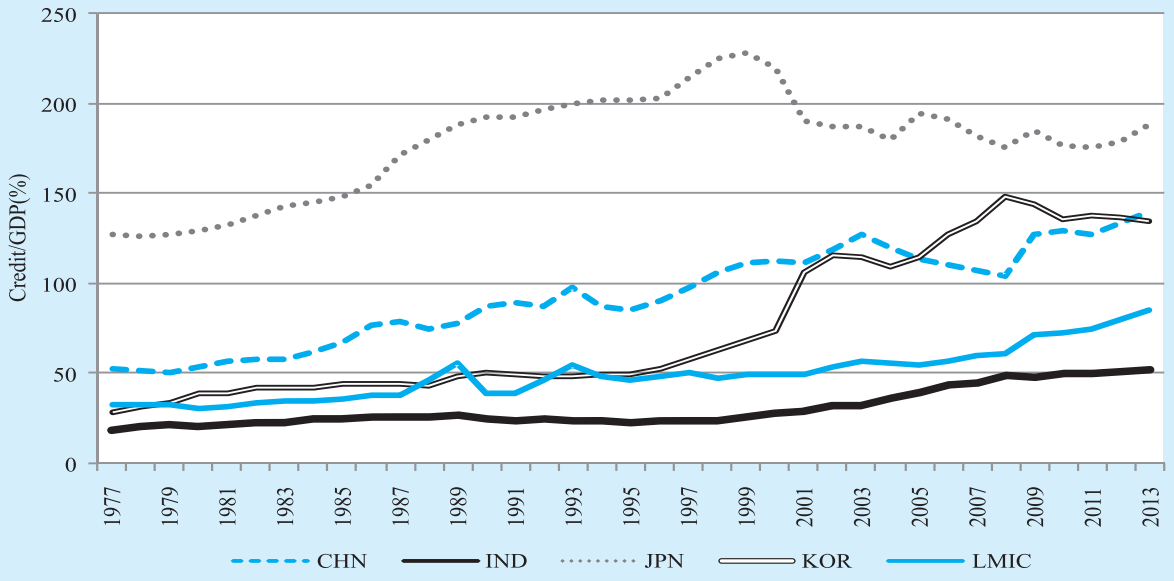
India has witnessed a credit boom over the last decade[4], with the share of credit-GDP increasing from 35.5 percent in 2000 to 51 percent in 2013, with the bulk accounted for by bank lending. Is this unusual? We answer this question in four ways.

First, we show the evolution over time in credit-GDP ratios in India and selected other countries (Figure 5.3) (as defined by the World Bank).[5] The

[4] See "*Corporate Vulnerabilities in India and Banks' Loan Performance*," IMF Staff Working Papers (2014), and "*House of Debt*," Credit Suisse Research (2013).

[5] The graphs uses World Bank's domestic credit to private sector, defined as financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment.

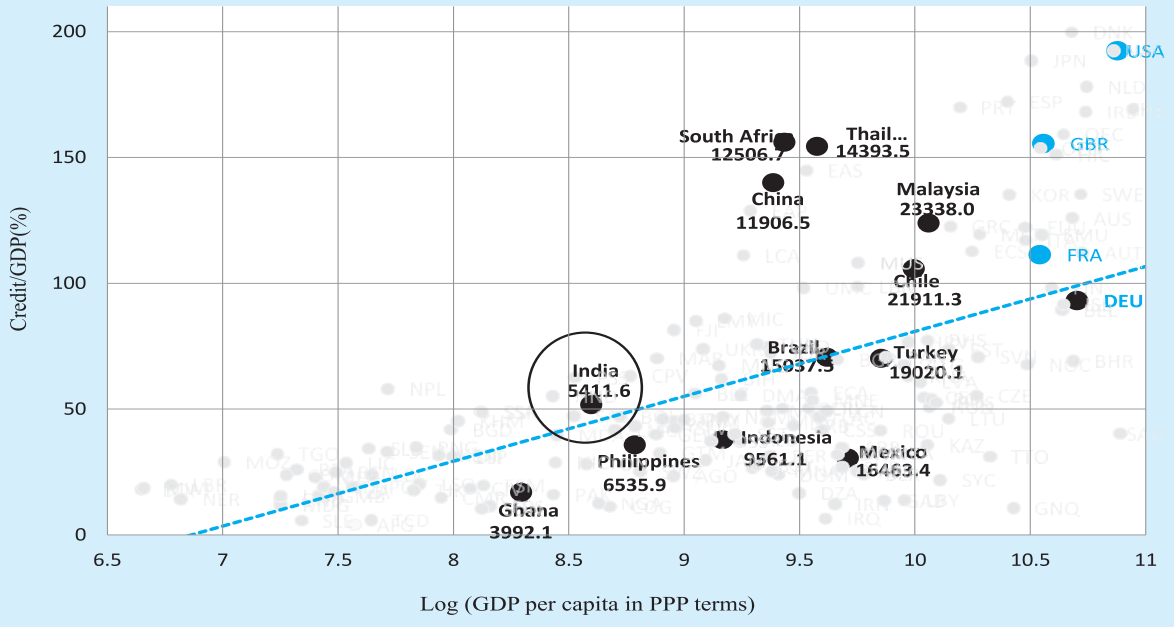
Figure 5.3: Domestic Credit to GDP Ratio (Time Series) India below Low Middle-Income Countries



***Source*: World Bank Databank. Note: LMIC stands for low and middle income countries.**

level of credit is lower than most countries nor has it increased more rapidly. Next we undertake a cross-country comparison plotting this same indicator against a country's level of development using the log of per capita GDP in purchasing power parity (PPP) terms as a proxy (Figure 5.4). As countries become richer, they tend on average to see a rise in credit, reflected in the upward sloping trend line.[6] But again, India is close to the trend line, indicating that for its level of development, credit levels are reasonable.

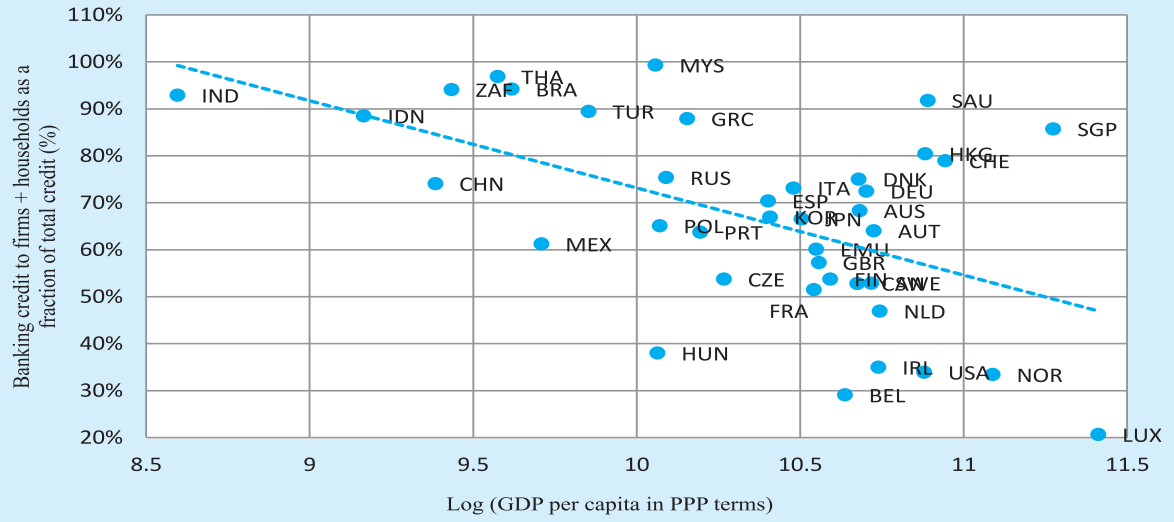
Figure 5.4: Domestic Credit to Per-capita GDP for 2013-India Placed Well



***Source* : World Bank Data**

[6] Note that the trend line drawn for the entire set of 176 countries in the World Bank data set.

Figure 5.5: Banking Credit as a Fraction of Total Credit for 2014

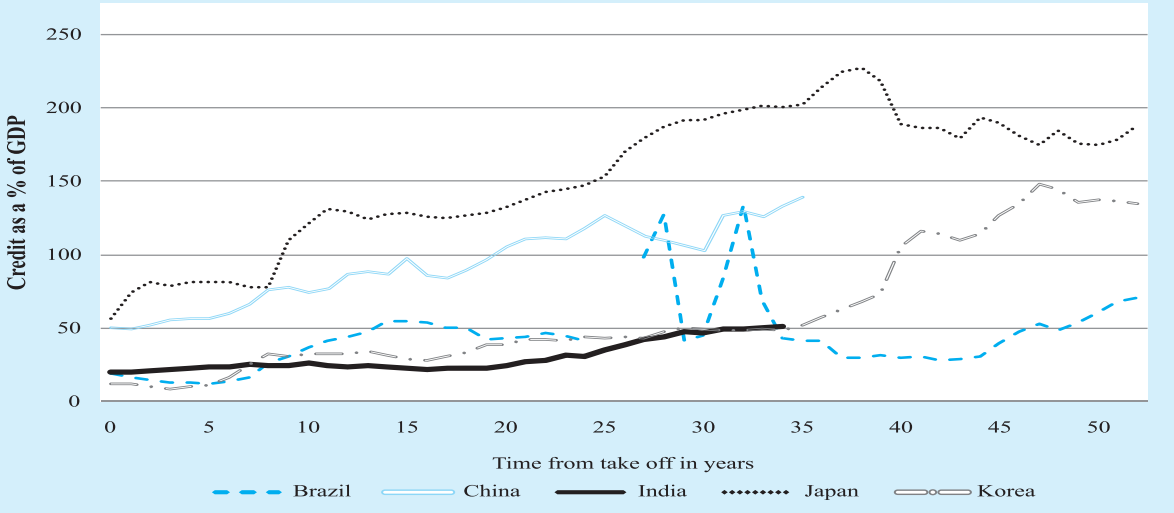


Source **: Bank of International Settlements**

Next we ask whether India is over-banked. In Figure 5.5 we plot the share in total credit in the economy that is accounted for by banks against a country's level of development.[7] The trend line is downward sloping suggesting that banking should shrink in size over the course of development relative to other sources of funding such as capital markets. Here too, India is well placed, in fact it is below the trend line. India is neither over-banked nor are capital markets too small at this stage of development. That will have to change over time and the policy conditions should facilitate that transition but for the moment India is not an outlier.

Finally, it is worth asking, whether the Indian banking and financial system has been especially irresponsible and imprudent in the growth phase.

Figure 5.6: Domestic Credit to GDP Since Take-off-India placed well



Source **: World Bank Databank**

Notes **: Years of takeoff. Brazil, Japan and Korea: 1961, China: 1978, India: 1979.**

[7] As defined by the Bank of International Settlements, this consists of "credit to non-financial corporations (both private-owned and public-owned), households and non-profit institutions serving households as defined in the System of National Accounts 2008."

Figure 5.7A: Ratio to total deposits (fraction)

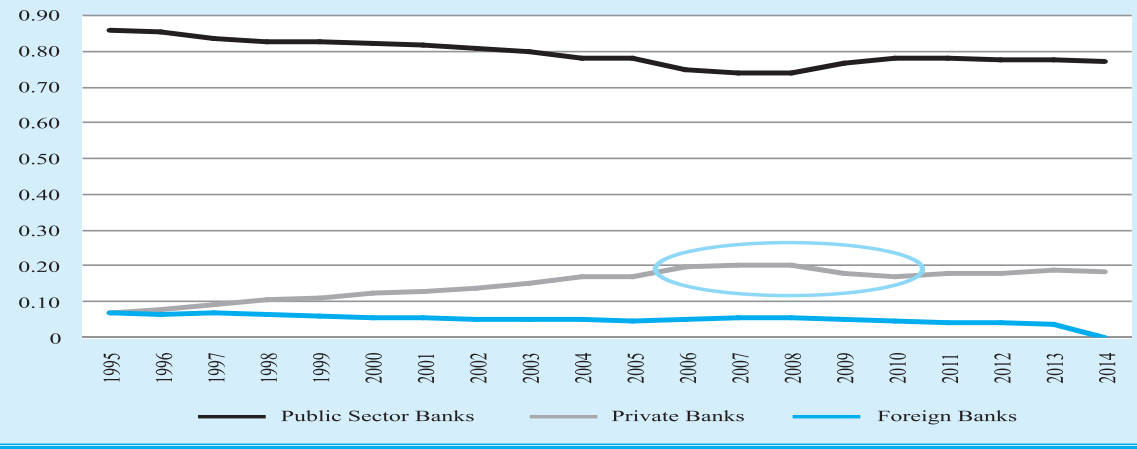
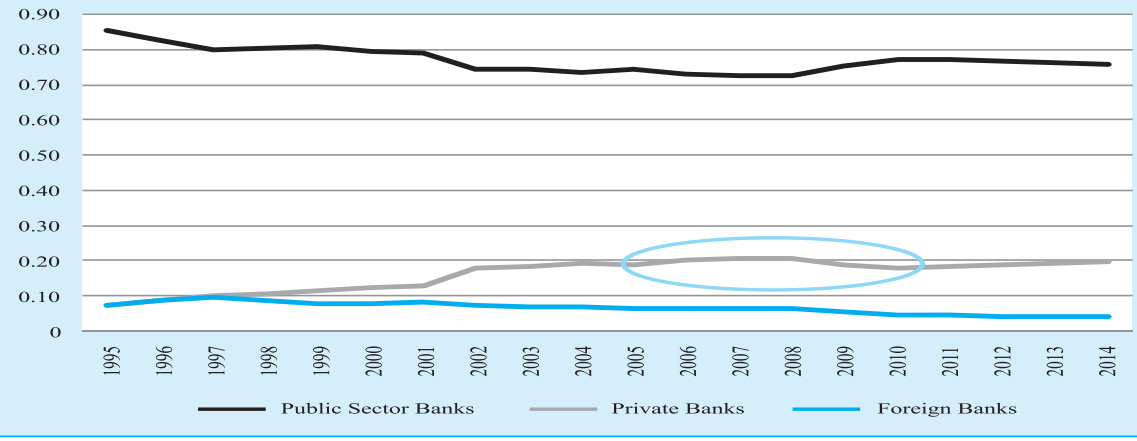


Figure 5.7B: Ratio to total advances (fraction)



***Source* : RBI**

To answer this, we plot the evolution of credit-GDP in take-off time (Figure 5.6). For each country, the starting point is when its growth started to accelerate. The chart shows that India's credit bubble was not worse than the experience of countries during comparable times. Other countries such as Japan and China saw faster credit growth during boom years. Thus, even in the last phase of rapid credit growth during the 2000s, the Indian financial system was no more irrationally exuberant than those around the world.

This evidence leads naturally to the question of what then is the problem on the structural side.

5.4.2 Is there adequate competition?

A primary concern of the health of the banking sector in India has been lack of sufficient internal competition. Private banks have slowly been brought into the arena since 1990. It is important to note that India's approach was not privatisation of public sector banks, rather it was based on allowing entry of new private banks. This strategy worked reasonably well in the telecommunication and civil aviation sectors but did it work in banking? The results have been mixed.

Figure 5.7 A and B show that India saw a steady rise in the size of private sector banks till 2007 both in relation to deposit and lending indicators. Thereafter, the process slowed considerably (and of course in the aftermath of the Lehman crisis, there was a flight to safety toward the PSBs).

So, one of the paradoxes of recent banking history is that the share of the private sector in overall banking aggregates barely increased at a time when the country witnessed its most rapid growth and one that was fuelled by the private sector. It was a case of private sector led growth without private sector bank financing. Even allowing for the irrational exuberance of the PSBs that financed

this growth phase, the reticence of the private sector was striking.

The question of competition extends to other sources of funding as well. Figure 5.5 suggested that India's size of the banking is not too large relative to the level of development, suggesting that that level of competition from capital markets is line with a cross country comparison. Of course, over time, if India grows at 8 percent a year for the next twenty years, a rapid shift in the composition of India's financial sector away from banking is desirable. This shift will encourage transparency and better pricing of corporate risk.

5.5 Are Public Sector Banks uniform in performance?

How much variation in performance exists within the public sector banks and between the public sector and private sector banks? To answer this questions, Figure 5.8 plots the time series of four key banking indicators for public and private sectors banks- CRAR, Leverage Ratio, Return on Assets and Non-performing + Restructured Assets.[8]

In addition to the weighted average numbers, the figure also plots a 95 per cent confidence interval for the public sector banks (the upper line refers to the upper confidence bound and the lower line refers to the lower confidence bound). Note that

Figure 5.8A: Banking Indicators: CRAR

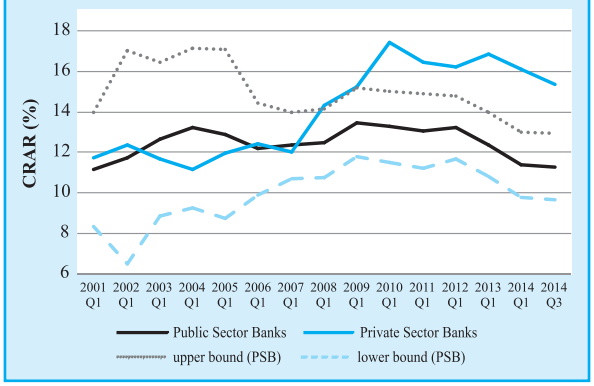


Figure 5.8B: Banking Indicators: Leverage Ratio

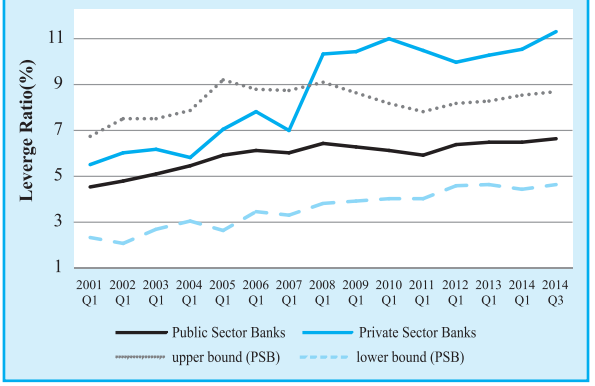


Figure 5.8C: Banking Indicators: Return on Assets

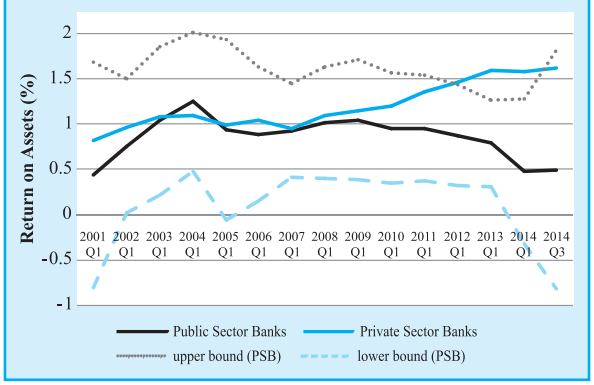
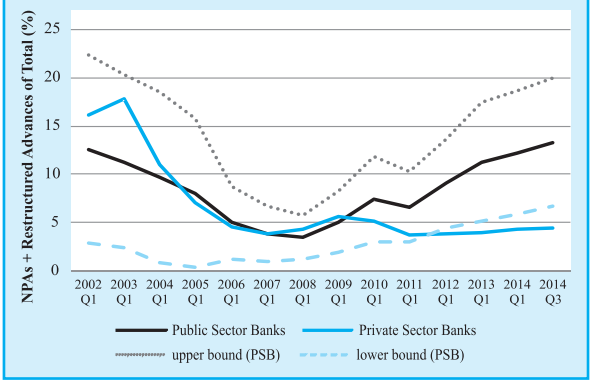


Figure 5.8D: Banking Indicators: NPAs + Restructured Advances



[8] *Capital to risk weighted assets ratio* (CRAR) is arrived at by dividing the capital of the bank with aggregated risk weighted assets for credit risk, market risk and operational risk. *Leverage ratio* is defined by the RBI as ratio of total assets to total capital. The international definition, for example as laid out by the Bank of International Settlements, is typically the inverse. For the purpose of this chapter we will use the international definition. *Return on Assets* (ROA) is a profitability ratio which indicates the net profit (net income) generated on total assets. It is computed by dividing net income by average total assets. *Non-Performing Asset*: An asset, including a leased asset, becomes non-performing when it ceases to generate income for the bank. *Restructured Asset*: A restructured account is one where the bank, grants to the borrower concessions that the bank would not otherwise consider.

except for NPAs, the higher the number, the better the indicator value.[9] The figures show that there is a lot of variation within the public sector banks. In numerical terms, the leverage ratio for the best bank is about 1.7 times more than for the worst, and the Gross NPAs plus restructured assets are 4 times more for the worst bank than the best.

It is also important to note that the best amongst the public sector banks are often performing less than the private sector average, although this fact should be seen against the greater social obligations imposed on the PSBs.

There are two other key things to notice in Figure 5.8. First, the variation in the Leverage Ratio is

Box 5.3 : Leverage Ratio

One of the legacies of the Great Recession (2008-2013) in the West has been active soul searching for adequate measures of risk and safe capital in the banking system. Almost all stress tests formerly were based on ratio of a risk weighted measure of capital to the total assets. In India this avatar, called CRAR- Capital to Risk (Weighted) Assets Ratio, has been the dominant measure of capital adequacy for bank stability in policy and popular discourse.

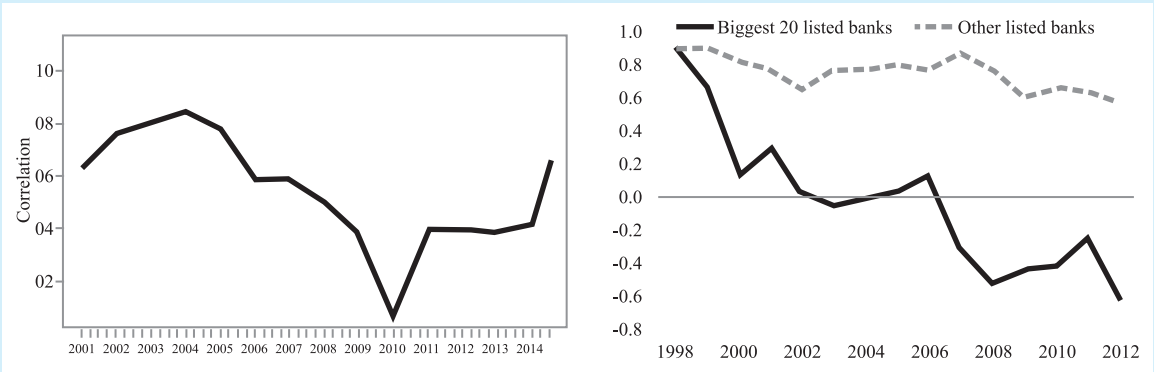
There is however growing international discontent with the measure because it failed to capture risk appetite before the financial crises in the US and in Europe. For this reason the focus is shifting to giving more weight to the Leverage Ratio. Defined by the Reserve Bank of India as the ratio of total assets to total capital, the international definition, for example as laid out by the Bank of International Sentiments, is typically the inverse. We will use the international definition.

A study by prominent economists, Pagano et all (2014), on the European banks states 'While large banks' leverage ratios fell between 2000 and 2007, the regulatory ratio – Tier 1 capital to risk-weighted assets – remained relatively stable. The median Tier 1 capital ratio was around 8 per cent in each year between 1997 and 2007 – a period over which the median leverage ratio fell by half. These insights reflect increasing divergence between book and regulatory measures of leverage. These two measures were highly correlated in the 1990s, as one would expect. But the correlation between them broke down in the early 2000s for the largest banks. By 2012, the correlation had turned strongly negative. Remarkably, a negative correlation implies that banks that were more capitalised according to the regulator had lower equity-to-asset ratios."

Why did this happen? Simple arithmetic implies that the ratio of total assets to risk weighted assets diverged over time. The risk weights were no longer doing their job!

Figure below plots the time series of the correlation of the two indicators- CRAR and Leverage Ratio for Europe and India. In Europe, the correlation has steadily gone south over the last decade with alarmingly negative numbers for the last few years. For the public sector banks in India the correlation of the average of last three years of CRAR and Leverage Ratio stands at 0.45, which is good but definitely not great. In fact as the figure shows the correlation dipped to less than 0.1 in 2010.

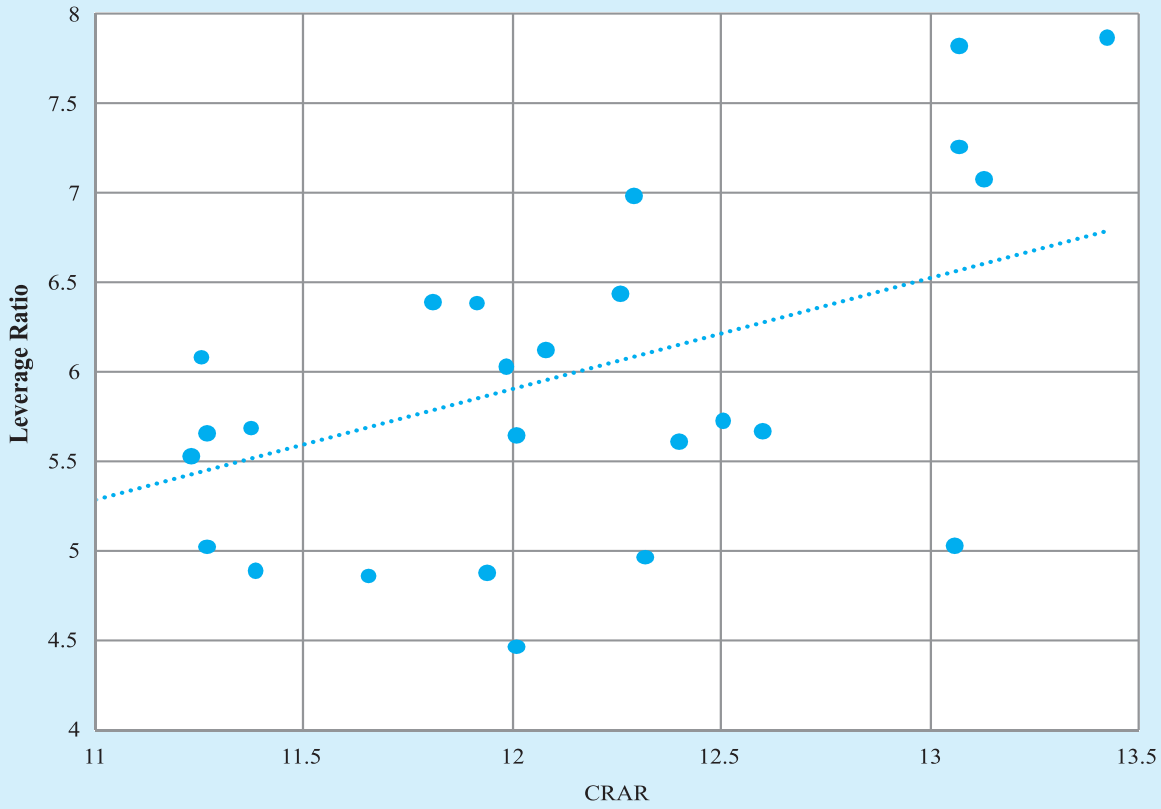
Figure: Correlation Between CRAR-Leverage Ratio for Indian PSBs (lhs) & Europe (rhs)



***Source*: RBI, Bloomberg and Pagano et all (2014)[a]**

[9] The upper and lower lines represent the second or third best and worst banks, respectively for CRAR, Leverage Ratio, Return on Assets, and the reverse for NPAs.

Figure: Scatter Plot of Leverage Ratio and CRAR (3 year averages, 2012-2014) for PSBs



***Source*: RBI**

The next Figure below shows a scatter plot for the last three year average of CRAR and Leverage Ratio for all public sector banks in India. As can be seen the trend-line is positively sloped which is good news. However, there are some worrying outliers that must be examined imminently.

The scatter plot Figure also shows the average of Leverage Ratios for public sector banks varies from 7.8 to 4.5. Admati and Hellwig in a new book called "*Bankers New Clothes*" argue that at 3 per cent the bank will go bankrupt if its assets loose more than 3 per cent in value. Banks themselves would never grant loan to a firm that only had only 3 per cent effective equity.[b] They propose a much higher leverage ratio in excess of 10, even 15 per cent.

It is important to note that if a bank has a moderate-low leverage ratio, and excellent return on assets and negligible NPAs, the leverage ratio is less of a concern. But, this changes dramatically when there is a substantial quantity of toxic loans on its books.

There are at least two reasons why we should focus on the leverage ratio in India. First, as the European and indeed Indian experience shows, the CRAR can be a very poor indicator of stability, especially in adverse situations when risk weights loose meaning and value. More important, given weak governance systems within banks and the difficulty of regulating them from the outside, it is difficult to know how the risk weights are being assigned. This becomes more important because of the size of stressed assets. In other words, today with weak institutions and sizable stressed assets, there is an even greater premium on transparency in India which a leverage ratio provides.

Indian regulators and policymakers should therefore elevate the role of the leverage ratio in financial stability and soundness assessments.

[a] Pagano M, V Acharya, A Boot, M Brunnermeier, C Buch, M Helwig, S Langfield, A Sapir, and L van den Burg (2014), *Is Europe Overbanked?* Report of the Advisory Scientific Committee, European Systemic Risk Board, June.

[b] Admati, Anat, and Martin Hellwig. 2013. *The Bankers' New Clothes: What's Wrong with Banking and What to Do about It.* Princetion University Press.

much more than in CRAR. And, second the return on assets has declined and stressed assets loans have increased to worrying levels with substantial variation across banks. On the former, Box 5.3 presents the case, especially strong for India, for using the leverage ratios to measure, test, and monitor financial stability almost as much as, if not more than, the CRAR ratio.

5.6 Policy Implications

To summarize, we propose the 4Ds of policy going forward- deregulate, differentiate, diversify and disinter.

- *Deregulate*: As the banking sector exits the financial repression on the liability side, aided by the fall in inflation, this is a perfect opportunity to relax asset-side repression. First, as described in Box 5.1, SLR requirements can be gradually relaxed. This will provide liquidity to the banks, depth to the government bond market, and encourage the development of the corporate bond market. The right sequence would be to gradually reduce SLR and then provide incentives for a deeper bond market. Second, PSL norms can be re-assessed. There are two options: one is indirect reform, bringing more sectors into the ambit of the PSL, until in the limit every sector is a priority sector; the other is to redefine the norms to slowly make priority sector more targeted, smaller, and need-driven. The dual responsibility of building a modern economy and lifting the standard of living at the lowest percentiles of income demand creativity, including more evidence-based policy making especially in relation to PSL.
- *Differentiate within PSBs*: The analysis in this chapter suggests that there is sufficient variation in the performance of public sector banks. The policy implication is that a one-size-fits-all approaches to governance reforms, public ownership, exit and recapitalisation should cede to a more selective approach.
- *Diversify within and outside the banking system*: More banks and more kinds of banks must be encouraged. Healthy competition from capital markets is essential too which will require policy support which was discussed extensively in last year's Economic Survey.
- *Disinter*: Better bankruptcy procedures for the future is essential. Debt Recovery Tribunals are over-burdened and under-resourced, leading to tardy turnaround times and delayed justice. The ownership structure of Asset Restructuring Companies in which banks themselves have significant stakes creates misaligned incentives. The SARFAESI act seems to work more against the smallest borrowers and medium sector enterprises. Distressed assets hang like a Damocles sword over the economy and require creative solution. One possibility is the appointment of an Independent Renegotiation Commission with political authority and reputational integrity to resolve some of the big and difficult cases. When the next boom and bust comes around, India needs to be better prepared to distribute pain between promoters, creditors, consumers, and taxpayers. Being prepared for the clean-up is as important as the being prudent in the run-up.

Putting Public Investment on Track: The Rail Route to Higher Growth

06 CHAPTER

"the introduction of the railways has been historically the most powerful single initiator of take-offs" - W. W. Rostow[1]

6.1 Introduction

Since the new government assumed office, a slew of economic reforms has led to a partial revival of investor sentiment. But increasing financial flows are yet to translate into a durable pick-up of real investment, especially in the private sector. This owes to a number of interrelated factors that stem from what has been identified as the "*balance sheet syndrome with Indian characteristics.*" If the weakness of private investment offers one negative or indirect rationale for increased public investment, there are also more affirmative rationales that are elucidated in chapter 1. As emphasized in the *Mid Year Economic Analysis* 2014-15 there is merit in considering the case for reviving targeted public investment as a key engine of growth in the short run- not to substitute for private investment- but to complement and indeed to crowd it in.

This chapter starts off with simple facts to demonstrate that an increase in public investment would not crowd out private investments in India under in the present circumstances, and then goes on to build the case for targeting public investment to the sector where it can generate the largest spillovers- which could well be the Indian Railways.

6.2 Effects of increasing public investment on overall output and private investments

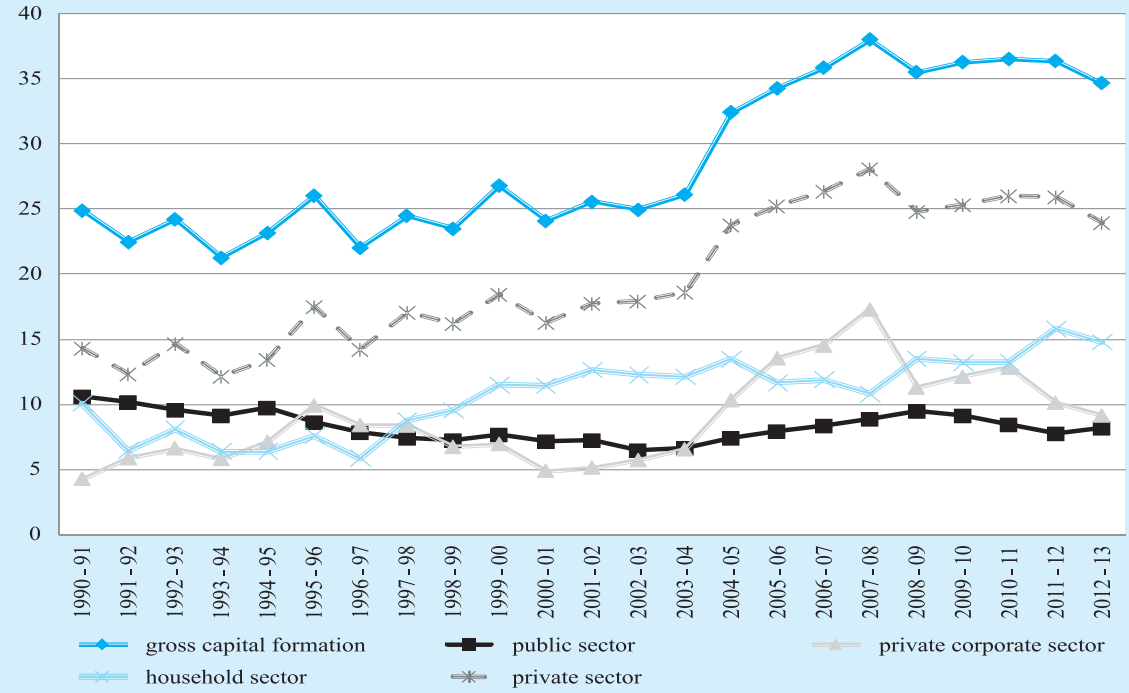
The decline in public as well as private corporate investment has been associated with the growth decline in recent years. Data based on the older series of the Central Statistics Office (CSO) indicates that a boom in private corporate investment in the high growth phase (2004-05 to 2007-08) was accompanied by an increase in public investment by about 1.5 percentage points. A decline in public investment by more than 1 percentage point between 2007-08 and 2012-13, is accompanied by a general decline in private corporate investment by more than 8 percentage points (barring an increase during 2009-10 and 2010-11) (Figure 6.1).

The International Monetary Fund (IMF), in the World Economic Outlook (October 2014)[2], has noted that increases in public infrastructure investment, if efficiently implemented, affects the economy in two ways. In the short run it boosts aggregate demand and crowds in private investment due to the complementary nature of infrastructure services. In the long run, a supply side effect also kicks in as the infrastructure built

[1] Rostow, W. W. "*The process of Economic Growth*" , Oxford, Clarendon Press, 2d ed., 1960, pp. 302-3 cited in Mitchell, B. R. "*The Coming of the Railway and United Kingdom Economic Growth*", The Journal of Economic History, 24(3), September 1964.

[2] IMF, "*Is it Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment*", World Economic Outlook, Chapter 3, October 2014.

Figure 6.1: Gross Capital Formation by Sectors as a ratio of GDP, 1990-91 to 2012-13



Source: **Central Statistics Office.**

feeds into the productive capacity of the economy. Econometric exercises reported by the IMF confirm that public investment increases can have positive effects on output. The medium term public investment multiplier for developing economies is estimated to be between 0.5 and 0.9 - a little lower than that estimated for advanced economies. However, the magnitudes depend on the efficiency of implementation.

Indeed, the two biggest challenges facing increased public investment in India are financial resources and implementation capacity. The former is addressed in Chapter 5 in this volume. As regards the latter, the trick is to find sectors with maximum positive spillovers and institutions with a modicum of proven capacity for investing quickly and efficiently. Two prime candidates are rural roads and railways. The impetus to roads was imparted by the previous NDA government under the then Prime Minister Atal Bihari Vajpayee [The National Highways Development Project (NHDP) and the Pradhan Mantri Gram Sadak Yojana (PMGSY)] and the evidence suggests that the payoffs, especially with regard to rural employment, were large in villages that were not already connected to the road network[3].

The present government can now do for the neglected railways sector what the previous NDA government did for rural roads. This impetus has the potential to *crowd in* greater private investment and do so without jeopardizing India's public debt dynamics.

What does existing empirical evidence say about the influence of public investment on growth in India? Rodrik and Subramanian (2005)[4] while analysing India's productivity surge around 1980 acknowledge a possible productivity boosting role of public infrastructure investments (in contrast to the demand creating effects). They analyse the effects on overall growth using a framework

[3] Asher, Sam & Paul Novosad, "*The Employment Effects of Road Construction in Rural India*", 2014, Working Paper accessed at http://www.nuffield.ox.ac.uk/users/Asher/research.html.

[4] Rodrik, D. & A. Subramanian, *"From "Hindu Growth" to Productivity Surge: The Mystery of the Indian Growth Transition"* 2005, IMF Staff Papers, 52(2).

developed by Robert Barro ("*Government Spending in a Simple Model of Endogenous Growth*", 1990, Journal of Political Economy, 98(5)) where government infrastructure services are an input into private production. Their results indicate that allowing for the appropriate lag (around five years) between public infrastructure spending and growth, the former can explain around 1.5-2.9 percent of overall growth. A Study by the Reserve Bank of India (RBI) reports the *long run* multiplier (of capital outlays on GDP) to be 2.4[5]. The study also confirms that the effect of revenue expenditure on GDP, though high, fades out after the first year, suggesting gains from re-prioritizing expenditures.

6.3 The Case for Public Investment in Railways

6.3.1 Why railways? Under investment and Lack of Capacity Addition

Conceptually, there is a strong case for channeling resources to transport infrastructure in India given the widely known spillover effects of transport networks to link markets, reduce a variety of costs, boost agglomeration economies, and improve the competitiveness of the economy, especially manufacturing which tends to be logistics-intensive. However, resources need to be *prioritized among sectors* based on assessments of risks, rewards, and capacity for efficient implementation.

The first railway lines in India were built in the 1850s and after by private British companies who were guaranteed, by the colonial government, a return of 5 percent on their capital investment[6]. The establishment of railways led to integration of markets and boosted incomes[7]. Today the 'lifeline of the nation' operates over 19,000 trains carrying 23 million passengers and over 3 million tonnes of freight per day while employing over 13 lakh people.

In contrast to sectors such as civil aviation, the two major land transport sectors— roads and especially railways– are dependent on public investments. While all public investment in the railways is undertaken by the central government, public investment in roads is undertaken by the central government as well as state governments.

How much resources have flowed to railways over the years? Successive plans have allocated less resources to the railways compared to the transport sector as Figure 6.2A shows. The legacy of inadequate allocation is reflected in the fact that

Figure 6.2A: Resource Allocation in Transport Sector and Railways (Per cent)

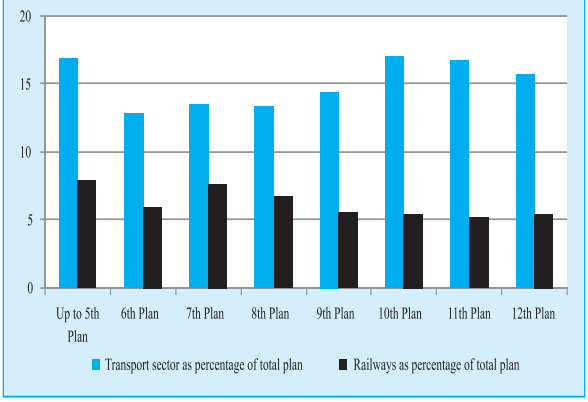
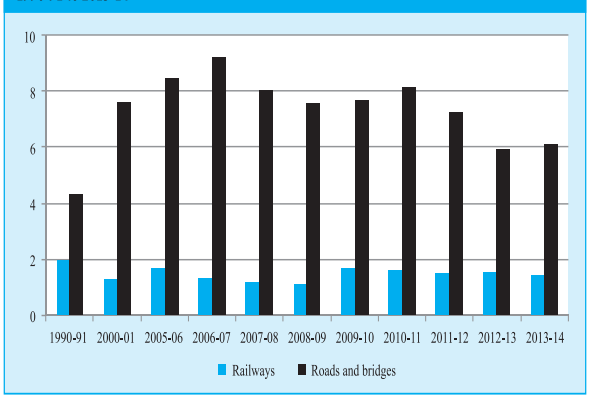


Figure 6.2B: Share of Railways and Roads in Total Developmental Expenditure* (Per cent), 1990-91 to 2013-14



***Source* : Indian Public Finance Statistics, Ministry of Finance.*; Includes both Centre and States.**

[5] Reserve Bank of India, "*Fiscal Multipliers in India*" Box II.16, Annual Report 2011-12.

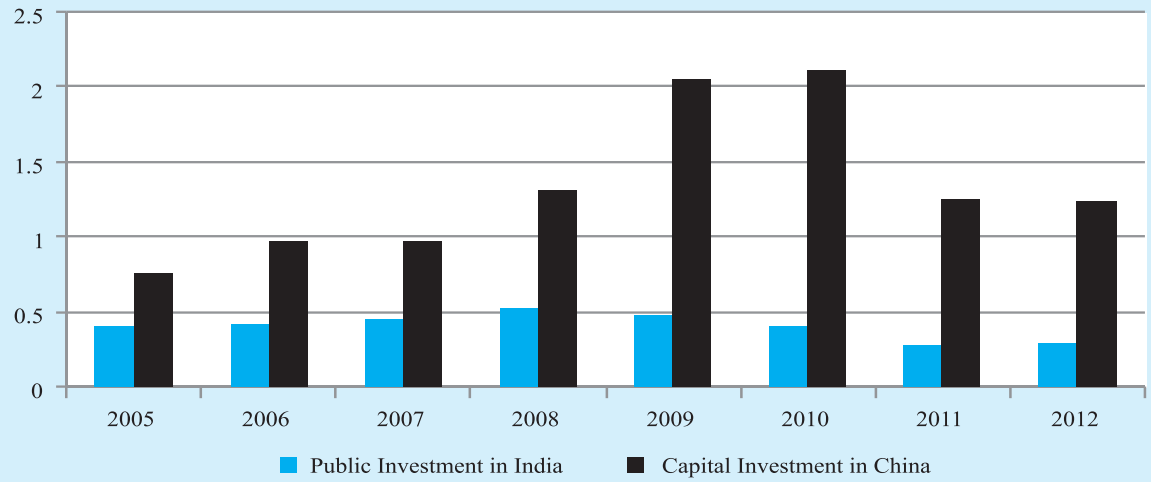
[6] Bogart, Dan & Latika Chaudhary, "*Could railways have done more to aid economic development in India?*", May 2013, accessed at http://www.ideasforindia.in/article.aspx?article_id=142. Expert Group on Indian Railways, "*The Indian Railways Report – 2001: Policy Imperatives for Reinvention and Growth*". New Delhi. NCAER 2001.

[7] Bogart, Dan & Latika Chaudhary, "*Railways in Colonial India: An Economic Achievement?*", May 2012 , accessed at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2073256.

the share of railways in total plan outlay is currently only 5.5 per cent vis-à-vis about 11 per cent for the other transport sectors and its share in overall development expenditure has remained low at below 2 percent over the past decade (Figure 6.2B).

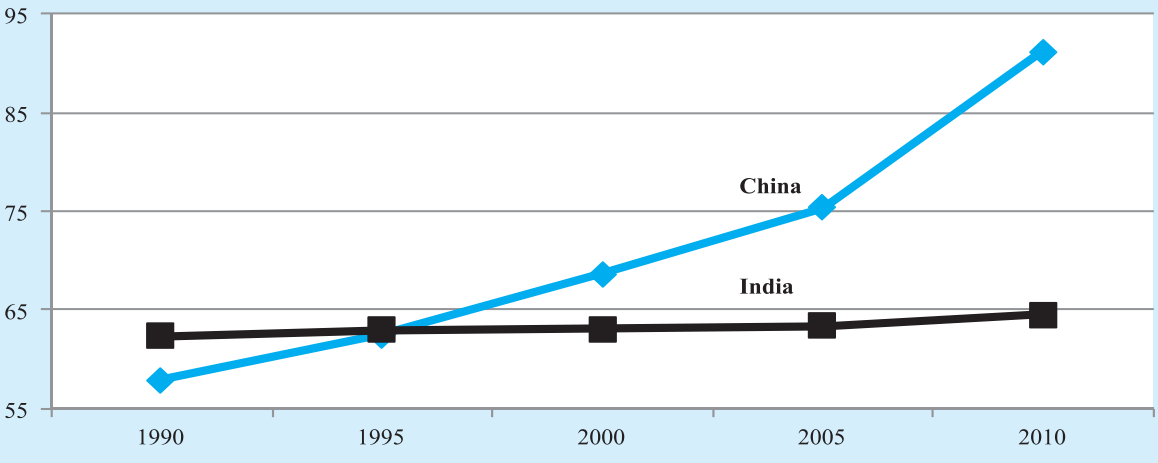
That these numbers are low is indicated by a comparison with China. In absolute terms and as a share of GDP, Chinese investment in railways dwarfs that in India. As a share of GDP, China has invested around three times as much as India on average over the period 2005-2012 (Figure 6.3). In per-capita terms, China has invested on average eleven times as much over the same period even though both countries have similar populations[8]. Even allowing for China's size, these numbers are telling.

Figure 6.3: Investment in Railways-India and China (Per cent of GDP), 2005 to 2012



Source **: World Bank and MoF calculations.**

Figure 6.4: Addition to Capacity (route kilometres, '000) , 1990 to 2010



Source **: World Bank.**

[8] It is important to note that a significant portion of investment in the Chinese Railways is via joint ventures of the government with provincial authorities and, for some freight railways, major users such as coal mines are also a party. A part of the freight tariff is earmarked as a Railway Construction Fund (RCF) which is used only for infrastructure capital spending. This eases strain on the budget and facilitates capacity creation. Since the Chinese Railways has been corporatized, it is also allowed to issue debt and borrow from the market to meet funding requirements.

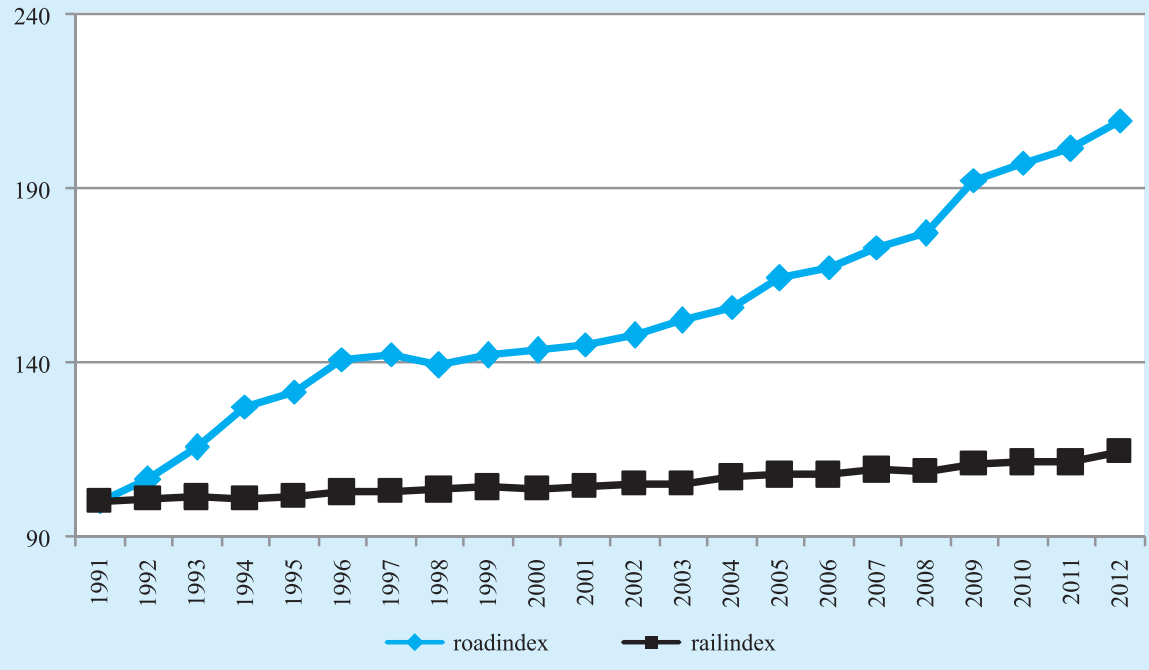
What have been the consequences of such underinvestment for the Indian Railways? The first casualty has been capacity expansion. Figure 6.4 indicates that in 1990 the Chinese rail network of about 57,900 route kilometers lagged behind India's 62,211 route kilometers. By 2010, the situation was reversed in favour of China with the country's network expanding to over 90,000 route kilometers while India's grew marginally to 64000 route kilometers. With lack of capacity addition, the share of railways in the GDP has declined to stand at around 1 per cent in recent years.

As figure 6.5 shows, track expansion in the Indian railways (as measured by an index of running track kilometers over the period 1991 to 2012 with base 1991) has miserably lagged behind capacity addition in the domestic roads sector (measured by an index of length of roads in kilometers inclusive of national and state highways, urban and rural roads**).**

This has effectively led to railways ceding significant share in passenger and especially freight traffic to the road sector. The *Total Transport System Study on Traffic Flows & Modal Costs (Highways, Railways, Airways & Coastal Shipping*) by RITES Ltd. had estimated that the share of the railways in originating tonnage has fallen from 65 per cent in the late 1970s to 30 per cent in 2007-08. McKinsey's *Building India: Transforming the Nations' Logistic Infrastructure* (2010) study has estimated that the modal share in freight traffic stands at 36 per cent for the railways vis-à-vis 57 per cent for roads. According to the Report of the National Transport Development Policy Committee (NTDPC, 2014) this share is estimated to decline further to 33 per cent in 2011-12. The share of railways in freight traffic in some other countries as of 2011 is reported in figure 6.6. The cross-country numbers need to be interpreted with care. For example, the US has a 44 per cent share despite having extensive networks of coastal shipping links and elaborate inland waterways that carry significant freight (Amos, 2011).

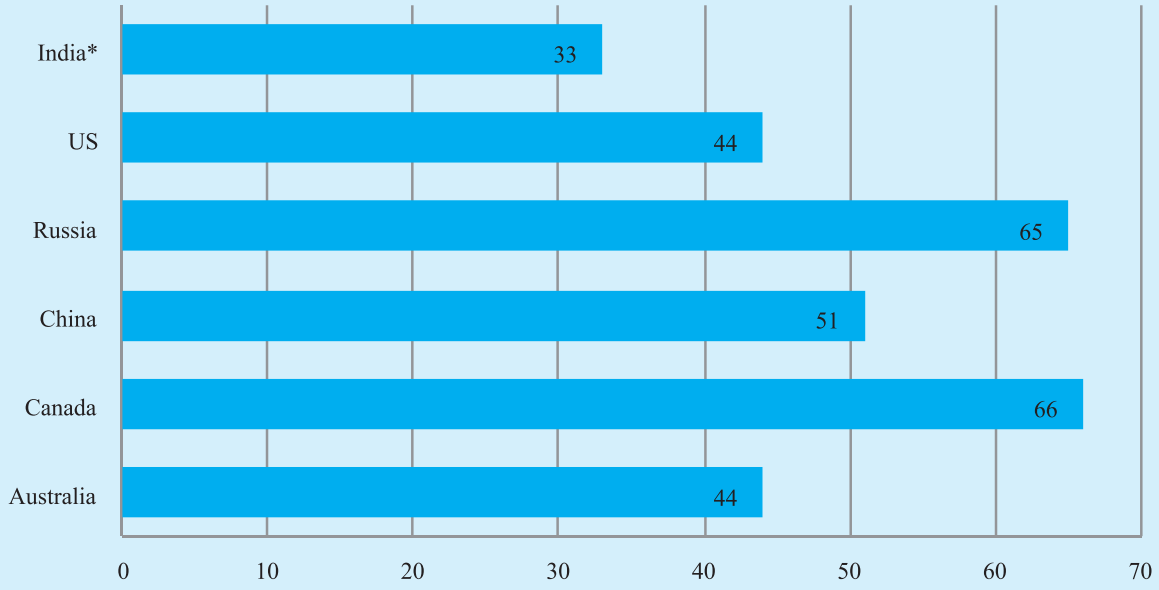
According to the McKinsey Study (2010) continuation of the current state of affairs in India would imply the share of railways in freight traffic declining further to 25 percent by 2020. As Amos

Figure 6.5: Indian Railways; *The Road Less Traveled* (1991=100)



Source: **CEIC database.**

Figure 6.6: Modal Share of Railways in Domestic Freight (Per cent)



Source: **Amos, Paul "*Freight Railways Governance, Organization and Management: An International Round-up*", July 2011, World Bank Paper submitted to NTDPC (2014). *Data for India is an estimate for 2011-12 reported in the Report of the NTDPC (2014).**

(2011) observed "International experience is unequivocal. The more efficiently that freight railways are managed, the greater will be their role in the markets they serve, the fuller will be their contribution to economic development and the higher will be their external benefits." An efficient rail freight network can help industry to transport raw materials at lower costs and also with associated lower green house gas emissions, comparatively better energy efficiency, and reduced congestion. As compared to road, railways consume 75 to 90 per cent less energy for freight and 5 to 21 per cent less energy for passenger traffic and, typically, the unit cost of rail transport for freight was lower vis-à-vis road transport by about ₹ 2 per net tonne-kilometer (NTKM) and for passenger by ₹ 1.6 per passenger-kilometre (PKM) (in the base year 2000)[9].

Consequently just as the previous NDA government transformed the Indian road sector through initiation of the NHDP and PMGSY, the current need is for a bold accelerated programme of investment in dedicated freight corridors (DFCs) that can parallel the golden quadrilateral, along with associated industrial corridors. Such an initiative will transform Indian manufacturing industry with "Make in India" becoming a reality. With the separation of freight traffic passenger trains can then be speeded up substantially with marginal investments.

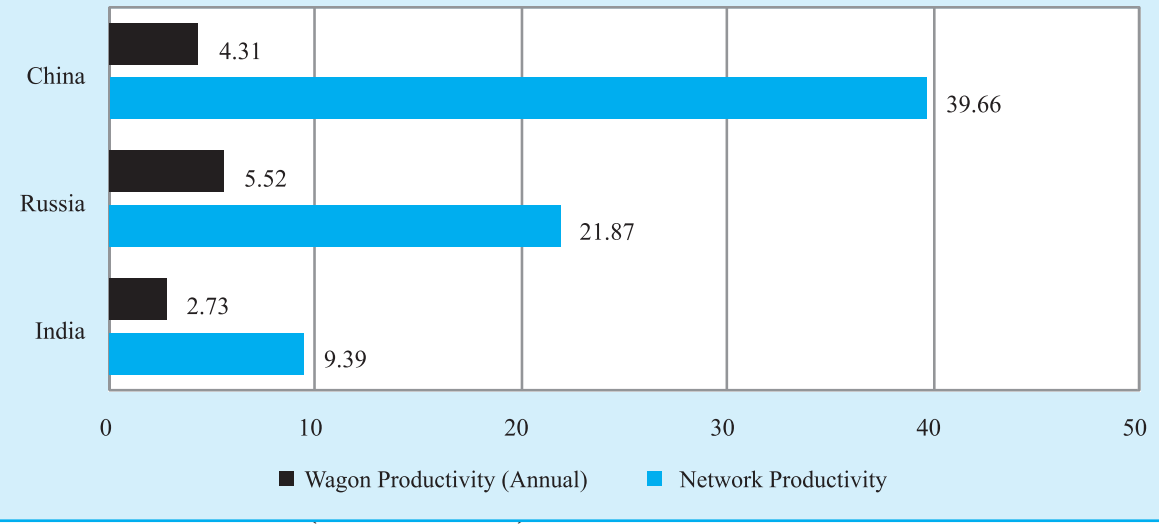
6.3.2 Congestion

A second and related consequence has been congestion and stretching of capacity. The increasing load on railway infrastructure and lower speeds are a logical consequence of lack of capacity addition. For example, the speed of the average freight train has remained virtually constant between 2000-01 and 2012-13 at around 24-25 km/hour. In contrast, in China, the maximum speed of freight trains was 80 km/h around 2008-09, and the maximum train speed that was around 80 - 100 km/h in 1991 was raised in stages to 160 and 200 km/h on the most popular passenger corridors by 2008[10] and is above 300 km/h at present.

[9] Report of the NTDPC (2014), Table 1.4, p.6.

[10] World Bank, "*Tracks from the Past, Transport for the Future: China's Railway Industry 1990-2008 and its Future Plans and Possibilities*" China Country Office, Beijing, May 2009.

Figure 6.7: Benchmarking Efficiency: India vis-a-vis China and Russia



How congested are the Indian Railways vis-à-vis the two other comparable countries-China and Russia? Given that the Chinese Railways also faces congestion and has embarked on huge capacity expansion, network productivity (as measured by NTKM (million) /network length) turns out to be much greater in China vis-à-vis both Russia and India. Wagon productivity (as measured by NTKM (million)/wagon holding) is the lowest in India among the three (Figure 6.7).

The same track network is shared by both passenger and freight trains in India. The extent of congestion can be gauged from map 6.1 below where the black lines represent the rail network and grey lines indicate those that are operating at above 100 percent capacity. Congestion exists irrespective of the railways network being thick or thin. On high density network (HDN) routes, over 65 per cent of total sections (161 out of 247) are running at a capacity of 100 percent or above[11]. This percentage is higher for specific zones. For example, in the north central railways 96 percent of sections and in the south eastern railway about 75 percent of sections are operating at above full capacity. The NTDPC (2014) report argues that capacity utilisation of 80 per cent is the optimum as some slack in line capacity is necessary to absorb and recover from unforeseen disruptions in operations of trains.

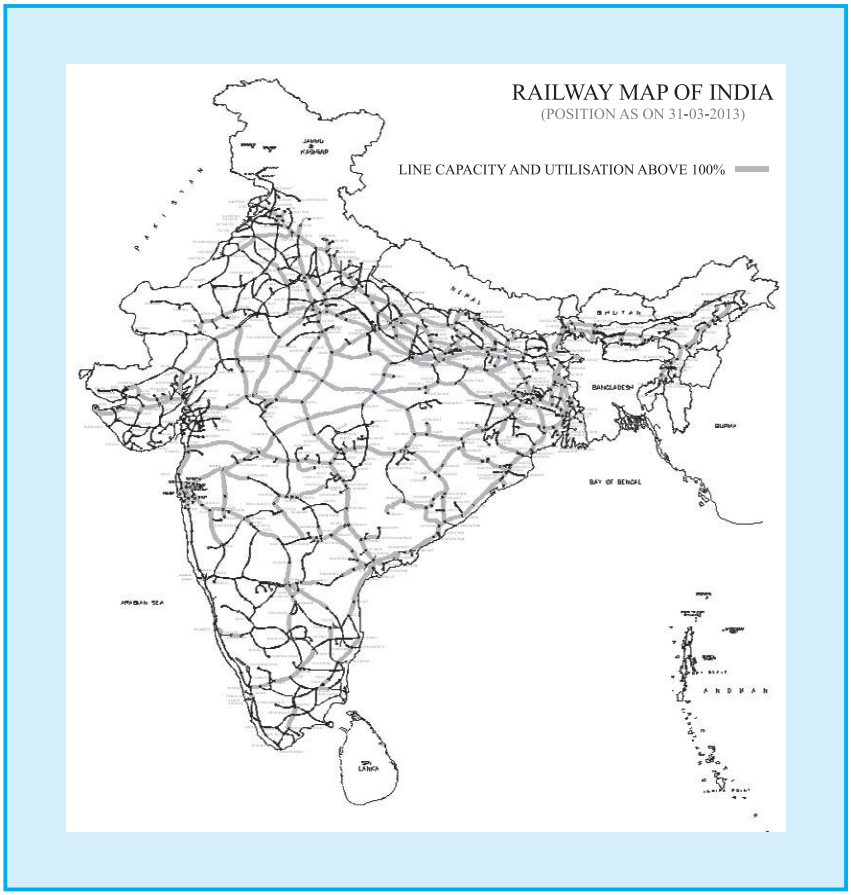
With passenger trains utilizing around 65 percent of the network capacity, the above situation imposes constraints on the running of heavy freight trains (that hampers the ability of the railways to carry bulk commodities from mines to power and steel plants) and high speed passenger trains[12]as passenger traffic is generally accorded priority. Over these years, data indicates that the load carried and distance travelled by a wagon per day and the turnaround time has almost stagnated.

The preceding paragraphs provide an overview of the 'route to nowhere' that the Indian Railways find themselves in: underinvestment resulting in lack of capacity addition and congestion; below-potential contribution to economic growth; neglect of commercial objectives, poor service provision, and consequent financial weakness (to which we revert later). Greater public investments, once utilized efficiently, can help the railways to overcome some of these problems. But even if it received an investment boost what would be the economy-wide impact?

[11] Source: Ministry of Railways data.

[12] Report of the NTDPC (2014), p. 40.

Map 6.1 : Capacity Utilization in Indian Railways*



***Source*: Ministry of Railways. * Grey lines indicate capacity utilization above 100 percent.**

6.3.3 How much boost can vibrant railways provide to the economy?

i. Forward and Backward Linkages of the Railways

Transport, and especially railways infrastructure, are critical for manufacturing and services. How much impetus would the fiscal boost provided to the railways generate for the economy? One way to estimate this is to draw upon Albert Hirschman's idea of backward and forward linkages. The former measures the effect on other sectors that provide inputs consequent upon a big push for railways. The latter measures the effects of the big push on other sectors that use railways as an input. The input output tables published by the CSO provide data on the value of output of a sector that is used by other sectors as input for their production as well as for consumption purposes. Backward and forward linkages can be calculated from this data[13].

[13] To capture backward and forward linkages, it is important to capture direct as well as indirect linkages. For this, the inverse of the input-output matrix (Leontief inverse) needs to be calculated. The inverse matrix shows the value of input (direct and indirect both) required to produce 1 unit of output of any sector. Increasing the output of railway service by Re 1 would not only increase the demand for output from other industries that are used as inputs by the railways, but also increase the input available for other sectors that use railway services for production. To find the backward linkage of railways, sum of value of output used from all input sectors is calculated (column sum of the matrix) and to find the forward linkage of railways, sum of value of output of railways used as an input by all other sectors is calculated. The methodology is outlined in: Guo, J & A. Planting "*Using Input-Output Analysis to Measure US Economic Structural Change Over a 24 Year Period*", 2000 accessed at http://www.bea.gov/papers/pdf/strucv7all.pdf.

Railways are found to posses strong *backward* linkages (demand pull from other sectors) with manufacturing and services (Table 6.1). Based on 2007-08 data (the latest year for which the input-output tables are available), it appears that increasing the railway output by ₹ 1 would increase output in the economy by ₹ 3.3. This large multiplier has been increasing over time, and the effect is greatest on the manufacturing sector. Investing in Railways could thus be good for "Make in India."

Further, there are sectors where railway services are an input to production (*forward* linkages). A ₹ 1 push in railways will increase the output of other sectors by about ₹ 2.5. This forward linkage effect has declined over time but this is largely endogenous to capacity constraints in the railways sector which has led to reliance on other modes of transport.

Combining forward and backward linkage effects suggests a very large multiplier (over 5) of investments in Railways.

ii. Effects of public investment in railways on overall output and private investment: An econometric analysis

We can supplement the backward-forward linkage estimates with more formal econometric analysis which we show in figure 6.8. The impulse responses from the vector error-correction model (VECM)[14] indicate that increases in railway investment have positive and durable effects on levels of manufacturing and aggregate output. They confirm the results derived from the input-output tables.

The figure shows that an unanticipated shock to public investment in railways has a strong positive effect on both manufacturing and aggregate output and the effects are permanent. In order to convert the statistical representation in figure 6.8 to a standard interpretation of a multiplier, (i.e. the unit change in manufacturing and aggregate output for a unit change in public investment in railways) we follow the procedure outlined in Ramey[15] (2008).

Table 6.1 : Railways; Backward and Forward Linkages

Sector	1993-94	1998-99	2003-04	2007-08
	Backward Linkage			
AGRICULTURE	0.01	0.01	0.01	0.02
INDUSTRY	0.63	0.76	0.93	2.04
SERVICES	1.28	1.32	1.24	1.23
Total Backward Linkage	**1.92**	**2.08**	**2.19**	**3.29**
	Forward Linkage			
AGRICULTURE	0.13	0.12	0.16	0.07
INDUSTRY	2.15	2.03	2.11	1.18
SERVICES	1.13	1.13	1.16	1.19
Total Forward Linkage	**3.41**	**3.28**	**3.44**	**2.45**

***Source* : Calculations based on CSO input-output tables.**

[14] Typically for such analyses a vector auto-regression (VAR) model is used to assess the impact of a shock to one variable on the others. We use a variant of this, the vector error-correction model (VECM), as the data on public investment in railways as well as manufacturing and aggregate output are non-stationary in levels. These variables are, however, co-integrated and we are interested in their relationships both over the short as well as the long run.

[15] Ramey, Valerie A., "*Identifying Government Spending Shocks: It's All in the Timing*", 2009, National Bureau of Economic Research. http://www.nber.org/papers/w15464. In order to convert the 1 standard deviation (s.d.) shock to public investment in the railways to a standard multiplier we divide the elasticity coefficient (obtained from VECM) by the average ratio of railway public investments to manufacturing and aggregate output.

Figure 6.8: Impact of Railway Investment on Output

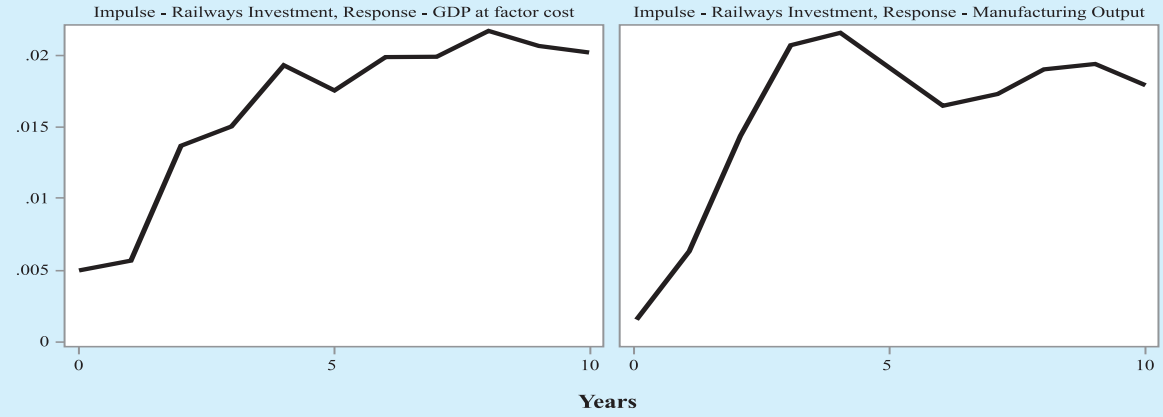


Table 6.2: Railway Public Investment: Output Multipliers

Years	Cholesky Impulse-Response (1-S.D.)		Rescaled Multipliers	
	Manufacturing Output	*Aggregate Output*	*Manufacturing Output*	*Aggregate Output*
0	0.00	0.01	0.04	0.94
1	0.01	0.01	0.17	1.05
2	0.01	0.01	0.40	2.56
3	0.02	0.02	0.58	2.80
4	0.02	0.02	0.60	3.58
5	0.02	0.02	0.53	3.27
6	0.02	0.02	0.47	3.71
7	0.02	0.02	0.48	3.70
8	0.02	0.02	0.53	4.04
9	0.02	0.02	0.54	3.86
10	0.02	0.02	0.50	3.76

Table 6.2 above underlines the large positive multiplier effect of railways. For instance, a ₹ 1 increase in railway investment has a cumulative multiplier effect of ₹ 7.4 and ₹ 1.2 on aggregate and manufacturing output respectively, within three years of investment. This effect intensifies over the subsequent years. Taking the econometric results and those from the I-O analysis together, it seems safe to infer that the railways multiplier effect is around 5 or more: that is a ₹ 1 increase in railways investment would increase economy-wide output by 5 rupees. These numbers are consistent with results of the linkages analysis.

6.3.4 Price Distortions

Ultimately, the railways has to be a viable commercial organization that is less dependent on state support and able to generate enough resources on its own to not only provide world-class passenger amenities but also by providing freight services at reasonable rates. In the long-run, state support should be largely restricted to the universal service obligations that the railways fulfill. Passenger tariffs have registered negligible increases over the past several years as indicated by a persistent larger gap between the index of consumer prices and that of passenger rates (Figure 6.9A). In contrast, the freight rate index tracks the wholesale price index more closely (Figure 6.9B). The profits generated via freight services have cross-subsidized passenger services and Indian (PPP adjusted) freight rates remain among the highest in the world as indicated in table 6.3.

Figure 6.9A: Index of Consumer Prices and Passenger Rates (1993-94 = 100)

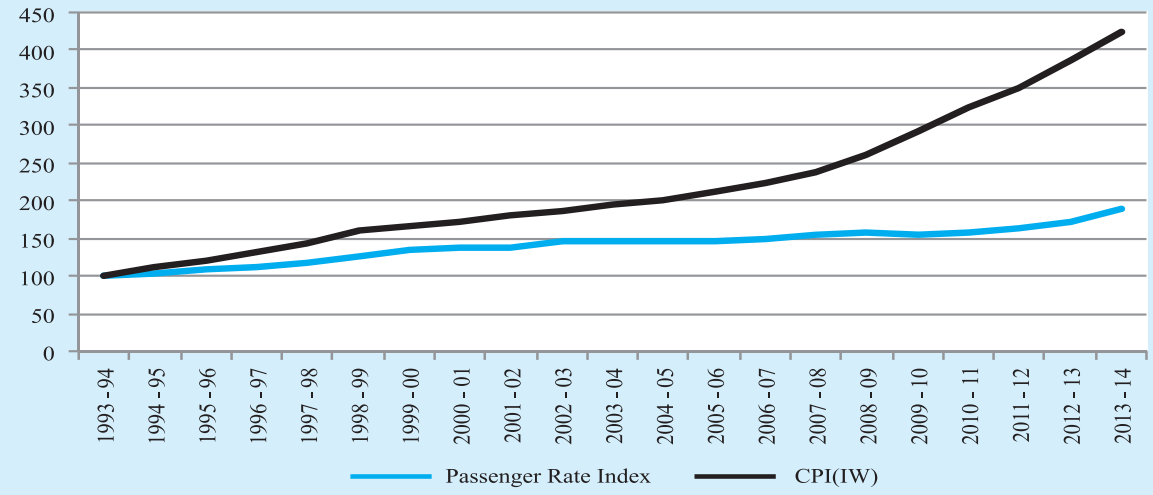


Figure 6.9B: Index of Wholesale Prices and Freight Rates (1993-94 = 100)

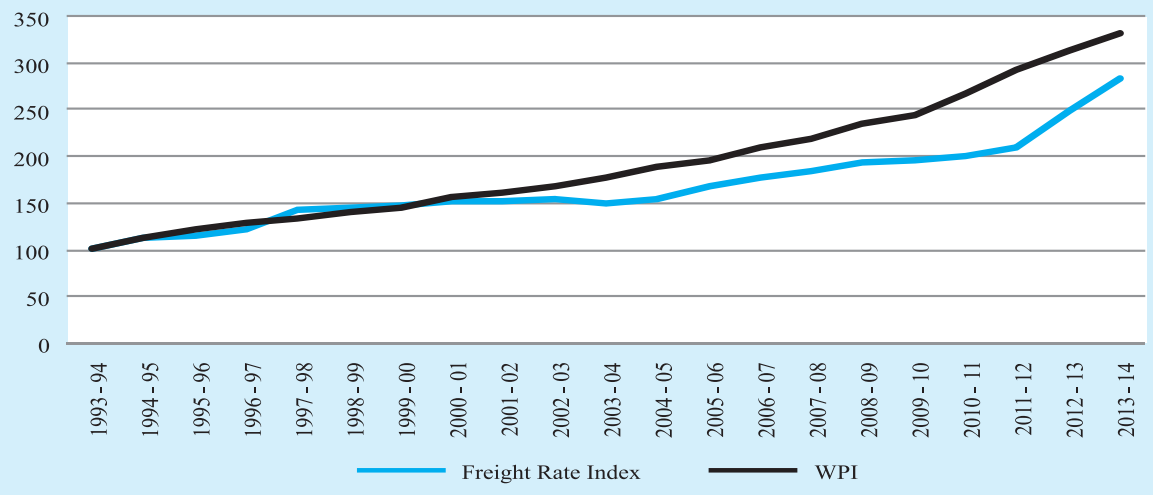


Table 6.3 : Passenger and Freight Yields in some Major Economies

Country	Passenger Service Yield US Cents/ Passenger-km adjusted for PPP (India=1)	Freight Yield US Cents/Total Tonne-km adjusted for PPP (India=1)
India	1.0	1.00
China	2.7	0.58
Russia	6.7	0.75

Source: **World Bank (2012): Railways International Overview: Issues for India (12th Plan document).**

Table 6.3 captures the heart of the price distortions in the Indian Railways. The objective of keeping fares low for consumers has forced high freight tariffs – high even by cross-country standards. The political economy of price setting and railway operations over the years has also meant that new investments are often directed at populist projects at the cost of those that help to ease congestion and enhance productivity. Apart from the problems discussed in the earlier sections this tendency has undermined the commercial viability of railways, including the inability to generate enough internal resources to finance capital investments. More importantly, the cross-subsidization and consequently high freight charges, along with inefficiency and stressed capacity, has undermined the competitiveness of Indian industry.

Table 6.4 : Freight Carried; The Case of Coal in India and China

		India	China	Ratio (India/China)
1.	Average distance (km)	639*	653#	0.98
2.	Cost ($)	0.021*	0.016^	1.31
3.	Cost(PPP terms) ($ per ton-km)	0.064	0.029	2.21
4.	Load carried by avg. freight train (ton)	1700*	3500#	0.49
5.	Avg. freight train speed (km/hr)	25	34^	0.74
		Indicators		
6.	Time inefficiency (hours) (1/5)	25.6	19.2	**1.33**
7.	Capacity (ton/hour)(4/6)	67	182	**0.37**
8.	Cost inefficiency($/ton)in PPP terms (1x3)	40.89	19.23	**2.13**

***Note* *: Ministry of Railways, India. #: Statistical Yearbook, China 2013. ^: World Bank. Data on the load carried by the average freight train is for 2011.**

To illustrate the impact on *competitiveness*, we compare selected indicators of Indian railways vis-a-vis China, for coal, as it accounts for over 40 per cent of freight carried in both countries. Competitiveness, among other things, crucially depends on the cost of transporting coal (to, say, steel and power plants), the amount transported and the time taken to do so. The cost of transportation of a ton of coal, for each country, is derived by multiplying the average distance (in kilometers) travelled by the coal with the average cost (PPP adjusted $) of transportation per ton kilometer. The average distance over which the coal is transported divided by the average speed yields the time taken. Load carried by the average freight train divided by the time taken yields capacity (tons carried per hour). As the ratios reported in table 6.4 indicates, China carries about thrice as much coal freight per hour vis-à-vis India. Coal is transported in India at more than twice the cost vis-à-vis China, and it takes 1.3 times longer to do so.

There is some, albeit limited, scope for adjusting rates to correct these anomalies. In what follows, a few simple observations on passenger and freight prices are made based on estimate of new price elasticities for different types of passenger and freight traffic.[16] There is potential for price discrimination among different passenger and freight types because of varying price elasticities (Table 6.5).

Table 6.5 : Price Elasticity of Demand

	Per cent
Total passengers	**14.4**
Overall suburban passengers	23.2
Overall non-suburban passengers	13.4
Upper class passengers	9.8
Mail and express class passengers	13.0
Ordinary passengers	14.5
Total Freight	**55.4**
Cement	37.4
Coal	47.9
Fertilizer	44.1
Iron ore	17.9
Petroleum and petro products	91.4
Pig iron ore	33.3

***Source:* MoF estimates.**

It is clear from the table that freight traffic is more price sensitive than passenger traffic. Within passenger traffic categories, upper-class passengers are less price sensitive and may be

[16] The elasticities are arrived at by regressing passenger kilometers on average passenger prices (downloaded from MOSPI's infrastructure statistics report) and NTKMs on average tariff rates (identical source). They should be treated as indicative because the analysis is based on few observations and does not control for other factors that influence the choice of mode of transport.

better placed to internalize prices hikes vis-à-vis other passenger classes. We also calculate the cross-elasticity of civil aviation traffic to changes in railways prices to be 5.7 percent which indicates that upper class passengers do not easily switch to airlines as a response to hikes in railway prices. Similarly, in freight categories, petroleum products are observed to be very price sensitive. Iron ore on the other hand does not easily respond to price changes.

6.4 Policy Recommendations-Key Takeaways

- Greater public investment in the railways would boost aggregate growth and the competitiveness of Indian manufacturing substantially.
- In part, these large gains derive from the current massive under-investment in the railways. China invests eleven times as much in per-capita terms and underinvestment in the Indian Railways is also indicated by congestion, strained capacity, poor services, and weak financial health.
- In the long run, the railways must be commercially viable and public support for the railways should be restricted to (i) equity support for investment by the corporatized railways entities and (ii) for funding the universal service obligations that it provides. In the interim, there is scope for public support of railways, including through assistance via the general budget.
- However, any public support should be clearly linked to serious reform: of the structure of the railways; of their adoption of commercial practices; of rationalizing tariff policies; and through an overhaul of technology.

What to Make in India? Manufacturing or Services?[1]

07 CHAPTER

"Since the industrial revolution, no country has become a major economy without becoming an industrial power."

Lee Kuan Yew, delivering the Jawaharlal Memorial Lecture in New Delhi, 2005

7.1 Introduction

Echoing the Sage of Singapore, Prime Minister Narendra Modi has elevated the revival of Indian manufacturing to a key policy objective of the new government, identifying this sector as the engine of long-run growth. "Make in India" is now a flagship initiative not to mention a catchy campaign. But the question arises "What should India make?"

Early development thinking, exemplified most famously (though not exclusively) in the two-sector model of Lewis (1954) was fixated on the idea of sectoral transformation: moving resources from the agricultural/traditional sector to the manufacturing/ non-traditional sector. There was never any doubt about the hierarchy (the latter was unquestionably superior) and hence no doubt about the desirability of the structural transformation.

Although development thinking over the last two decades has moved away from discussions about sectoral transformation and towards a more explicit growth perspective, the importance of structural transformation is starting to be rehabilitated – but without abandoning the growth perspective. Rodrik (2013 and 2014) provides the clearest exposition of this marriage of the two perspectives.

Consider the following equation:

$$\hat{y} = \beta(\ln y^*(\theta) - \ln y) + (\pi_M - \pi_T)d\alpha_M + \alpha_M\pi_M\beta_M(\ln y_M^* - \ln y_M)$$

The equation has three parts. First, growth of gdp per capita (denoted by $\hat{y}$) can be viewed in a conventional conditional convergence perspective, with catch-up to the frontier ($y^*(\theta)$) depending on a number of fundamentals (policies, human capital, openness, institutions, etc). But this is a slow process because by definition fundamentals are slow to change. Moreover, this conditional convergence framework is inadequate because it has difficulty explaining growth miracles or accelerations—China being the classic outlier with many of these fundamentals.

Hence this framework needs to be supplemented with explicit structural transformation elements. These are captured in the second and third terms of the equation. The second term captures structural change from low productivity traditional sectors (T) to high productivity modern sectors (M), where π_i denotes productivity in sector *i* and α_M denotes the share of employment in the modern sector. This is the classic dualism model, which suggests that economic development is by definition a process of shifting resources from low to high productivity sectors, thereby raising economy-wide levels of productivity.

[1] Since this chapter was written, the CSO has published new estimates of the size of manufacturing and other sectors in India. They suggest and increased in the level of manufacturing's share in GDP, although for the three years for which new estimates have been provided, there is still a decline in this share. Even the level increased owes more to statistical than 'underlying' reasons. We thus expect the results in this chapter to remain broadly valid but cannot be definitive until the analysis is replicated for the new data.

The third term is new and captures the phenomenon of unconditional convergence in the high productivity sector. Essentially, once resources move into this sector, they then experience unconditional or "automatic" catch-up due to rising productivity (represented by the convergence growth rate of the modern sector). This further increases economy-wide levels of productivity.

In other words, there are two gains to shifting resources from the traditional to the new sectors: first, a compositional gain, which is a gain in economy-wide productivity achieved by shifting the weight of the economy from low to high productivity sectors; second, a subsequent dynamic gain as these resources experience rapid productivity growth. The contribution of Rodrik (2013) is to show empirically that the manufacturing sector does indeed exhibit this rapid growth or unconditional convergence toward the frontier: that is, manufacturing in poorer countries and less productive manufacturing activities grow faster over time.

No sooner than having adopted this framework, the question poses itself: *are these compositional and dynamic gains restricted to manufacturing?* In other words, whereas the first phase of thinking about structural transformation was informed by certitude about the hierarchy of sectors, today there is less ground for that certitude because the comparison is not between agriculture and manufacturing but between manufacturing and services (or at least certain service subsectors).

This chapter is a modest initial attempt at shedding some light on the new structural transformation question, and in particular comparing manufacturing and services.

7.2 Desirable Features of Sectors that can Serve as Engines of Structural Transformation

India is taken up as a case study for addressing this question due to the poor performance of manufacturing in India and the relatively strong performance of services – which in some ways mirrors the performance of many Sub-Saharan African countries (Ghani and O'Connell, 2014).

Lee Kuan Yew was clearly on to something when he challenged the Indian model of development. Historically, there have been three modes of escape from under-development: geology, geography, and "jeans" (code for low-skilled manufacturing). In recent years West Asia, Botswana and Chile, and further back in time Australia and Canada, exploited their natural resources endowed by geology to improve their standards of living. Some of the island successes (Barbados, Mauritius, and others in the Caribbean) have exploited their geography by developing tourism to achieve high rates of growth.

In the early stages of their success, East Asian countries (China, Thailand, Indonesia, Malaysia etc) relied on relatively low-skilled manufacturing, typically textiles and clothing, to motor economic growth. Later on they diversified into more sophisticated manufacturing but "jeans" offered the vehicle for prosperity early on. No country has escaped from underdevelopment using relatively skill-intensive activities as the launching pad for sustained growth as India seems to be attempting.

Put differently, India seems to have defied its "natural" comparative advantage, which probably lay in the "jeans" mode of escape because of its abundant unskilled and low-skilled labor. Instead, it found or created—thanks to historical policy choices and technological accidents—such advantage in relatively skilled activities such as information technologies and business process outsourcing (Kochhar et. al., 2007).

The Indian experience, still a work-in-progress, raises the question of whether structural transformation necessarily requires manufacturing to be the engine of growth. But before we compare manufacturing with alternative sectors in terms of their potential for structural transformation, it is worth elaborating on the desirable attributes of such sectors.

In fact, building upon the Rodrik (2013) framework, it is argued that there are five attributes that allow a sector to serve as an engine of

structural transformation and thereby lead an economy to rapid, sustained and inclusive growth:

1. *High level of productivity:* As described above, economic development is about moving from low productivity to high productivity activities.

2. *Unconditional Convergence* (i.e. faster productivity growth in lower productivity areas): This too has been discussed earlier. Recall that convergence ensures that the relevant sector acts as an "escalator" which automatically leads to higher levels of sectoral and economy-wide productivity. In fact one can distinguish between two types of unconditional convergence:

A. Domestic convergence: In large countries such as India, China, Brazil, and Indonesia, one would ideally like to see convergence *within* a country. That is, productivity growth should be faster in richer than poorer parts. Otherwise severe within-country regional inequality may arise.

B. International convergence: whereby less-productive economic units (firms, sectors or entire economies) in all countries catch-up with units at the international frontier (i.e. those in the most productive countries).

3. *Expansion:* To ensure that the dynamic productivity gains from convergence spread through the economy, it is necessary that the sector experiencing convergence absorbs resources. Convergence accompanied by contraction will fail to ensure economy-wide benefits, because the country's resources that are outside the sector in question will not experience higher, convergent productivity growth. Convergence, in the case of the industrial sector, should be accompanied by natural industrialisation and not premature de-industrialisation, if it is to lead to truly inclusive growth.

4. *Alignment with comparative advantage:* To ensure that expansion occurs and the benefits of fast-growing sectors are widely shared across the labor force, there should be a match between the skill requirements of the expanding sector and the skill endowment of the country. For example, in a labour abundant country such as India, the converging sector should be a relatively low-skilled activity so that more individuals can benefit from convergence.[2]

5. *Tradability:* Historically, countries that had growth spurts enjoyed rapid growth in exports, typically manufacturing exports (Johnson, Ostry and Subramanian (2010)). Rapid growth has seldom been based on the domestic market. Part of the reason for this might be that trade serves as a mechanism for technology transfer and learning, which may have spillovers on related industries (Hausmann, Hwang, and Rodrik (2007)). Perhaps a more important part is that trade and exports in particular provide a source of unconstrained demand for the expanding sector. This is particularly important for a country of India's size because of the possibility that its expansion can run up against the limited political and economic ability of trading countries to absorb Indian exports and/or to turn the terms of trade against itself.

The two sectors—manufacturing and services (including services disaggregated by subsector)—are now evaluated, in succession, along these five dimensions in the Indian context.[3]

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[2] There may be concerns that a country's pattern of specialization (in skilled or low-skilled activities) may in turn effect the skill endowment of the country. In particular, Blanchard and Olney (2013) show that increasing exports of low-skill products tends to lower average levels of human capital attainment through a Stolper-Samuelson effect. Nevertheless, in this chapter we take the position that the aforementioned mechanism is likely to be a second-order effect in the development process. Indeed, the experience of East Asia shows that it is possible for countries to start by specializing in low-skill but dynamic activities and subsequently move to more skill intensive production once the growth process has picked up steam.

[3] NB: for information on the data sources used in this chapter, please consult the working paper- Amirapu and Subramanian (2015).

7.3 The Manufacturing Scorecard

7.3.1 Productivity Level

Table 7.1 compares productivity (measured simply as value added per worker) levels in the various Indian sectors – including manufacturing – for two time periods: 1984 and 2010. Several features stand out. First, in India it is highly misleading to speak generally of manufacturing because of the clear difference between *unregistered* manufacturing – which is a very low productivity activity – and *registered* manufacturing – which is an order of magnitude (7.2 times) more productive. It is *registered* manufacturing, not manufacturing in general, which has the potential for structural transformation.

Second, the level of productivity in registered manufacturing is not only high relative to unregistered manufacturing, it is high compared to most other sectors of the economy and it is even high in an absolute sense, at US$ 7800 at market exchange rates and nearly three times as much at PPP exchange rates. If the entire Indian economy were employed in registered manufacturing, India would be as rich as say Korea.

Third, these differentials between registered manufacturing and the rest of the economy were already prevalent (if not to the same extent) in 1984 – fast productivity growth over the period (about 5 percent per year) has only exacerbated the differences.

Thus, on the first criterion of high levels of productivity, registered manufacturing scores spectacularly well.

7.3.2 Domestic convergence

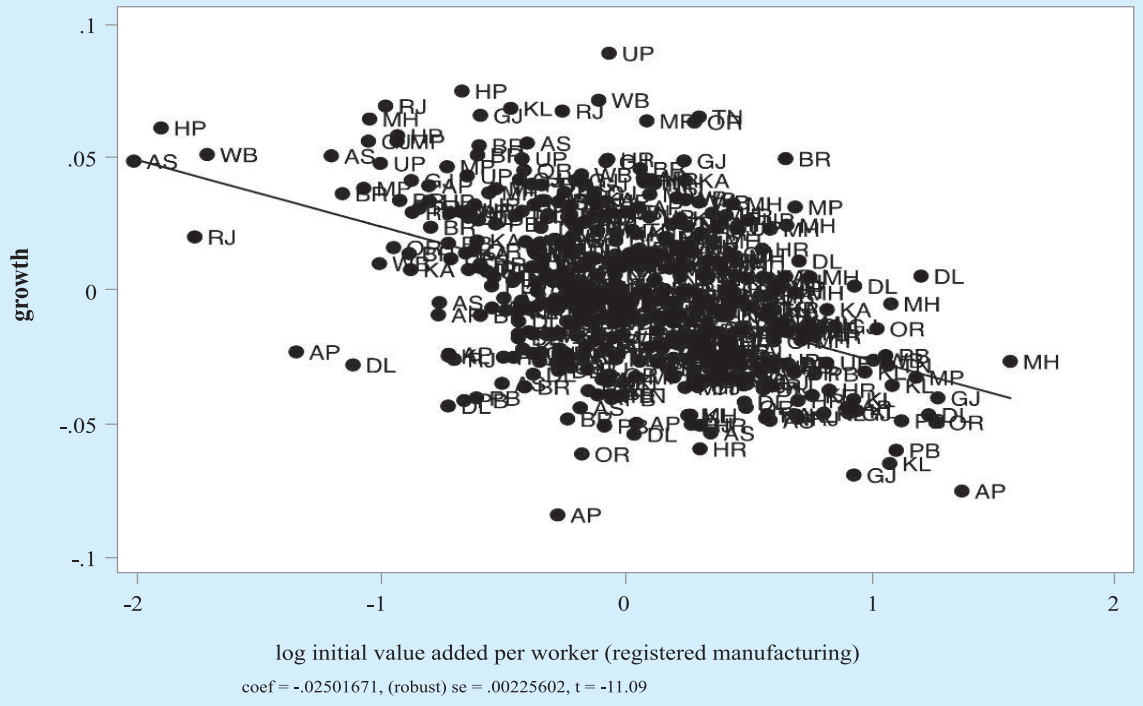
Figure 7.1 provides evidence that registered manufacturing is characterised by unconditional domestic convergence. Here the unit of observation is the State-Industry level, but almost identical results are derived when looking at more aggregated levels (across major states in India)

Table 7.1 : Labor Productivity in the Indian Economy by Sector over Time

	Level (constant 2005 Rs.)		Growth (percent)	
	1984	2010	1984-2010	2000-2010
Services	61,978	213,014	4.9	6.3
Manufacturing	48,817	125,349	3.7	4.2
Registered manufacturing (MOSPI)	117,984	360,442	4.4	5.4
Unregistered manufacturing	28,548	50,312	2.2	1.2
Services Subsectors				
Trade, Hotels, and Restaurants	56,284	144,108	3.7	7.3
Transport, Storage and Communications	68,823	172,058	3.6	4.5
Financial Services and Insurance	198,584	706,297	5.0	-1.6
Real Estate and Business Services, etc	1,012,017	875,073	-0.6	3.2
Public Administration and Defense	41,154	231,109	6.9	7.0
Construction	62,773	95,866	1.6	2.1

Source **: Amirapu and Subarmanian (2015).**

Figure 7.1[4]: Domestic Convergence in Registered Manufacturing - State-Industry level with 3 Digit Industry Fixed Effects, 1981 - 2008.



***Source*: Amirapu and Subarmanian (2015).**

and less aggregated levels (across factories).[5] Broadly a regression coefficient on log of initial productivity of about (-) 2.5 percent suggests that a state that is twice as rich as another has an average growth rate of productivity that is 2.5 percent slower – a considerable amount given that the average growth rate of productivity over the period 1984-2010 was about 4.4 percent.

7.3.3 International Convergence

With respect to registered manufacturing, it seems that states and firms within India are converging to the Indian frontier but that could mean little unless they are also converging to the international manufacturing frontier. Are they?

Rodrik (2013) shows that there is unconditional convergence across countries and sectors in manufacturing. But India is a negative outlier in the relationship in two senses: first, on average, manufacturing sectors in India exhibit labour productivity growth that is 14 percent less than the average country's manufacturing sector. Second, Indian industries converge at a much slower rate than average (0.005 percent)—almost not at all. In contrast, China is a positive outlier, posting faster labour productivity growth than average and converging faster to the global frontier.[6] Registered

[4] Note that the figure is a "partial residual plot": it graphically displays the relationship between two variables while controlling for other variables when appropriate (in this case three-digit industry fixed effects).

[5] Our results are also robust to different (shorter) time periods and different measures of productivity. These results and many others are reported in Amirapu and Subramanian (2015). It also worth noting that unregistered manufacturing does not exhibit unconditional convergence across the states in India.

[6] More formally, when an India dummy and a China dummy are added separately, and each interacted with the convergence coefficient, the coefficient on the India dummy is -.14 (t-statistic of 1.97), and that on the India dummy interacted with the convergence term is .017 (t-statistic of 2.05). The corresponding coefficients for China are .166 (t-statistic of 2.65) and -.011 (t-statistic of 1.4). We are grateful to Dani Rodrik for providing these results.

manufacturing in India has thus not been a strong performer.

7.3.4 Expansion or Pre-mature non-Industrialisation?

It is a stylised fact that the process of development includes stages of industrialisation followed by de-industrialisation: a country first experiences a rising share of resources – especially labour – devoted to the industrial sector, after which the services sector becomes more important, so that the share of employment in the industrial sector declines from its peak. In recent years, however, "de-industrialisation" seems to be taking place prematurely. That is, poor countries seem to be reaching their peak levels of industrialisation at lower levels of industrialisation and income (Rodrik, 2014; Amirapu and Subramanian, 2015).

What about India? The phenomenon of de-industrialisation is particularly salient for India for three reasons. Looming ahead is the demographic bulge, which will disgorge a million youth every month into the economy in search of employment opportunities. Rising labour costs in China create opportunities for low-skilled countries such as India as replacement destinations for investment that is leaving China. And a new government that has assumed power offers the prospect of refashioning India in the image of Gujarat—one of the few manufacturing successes.

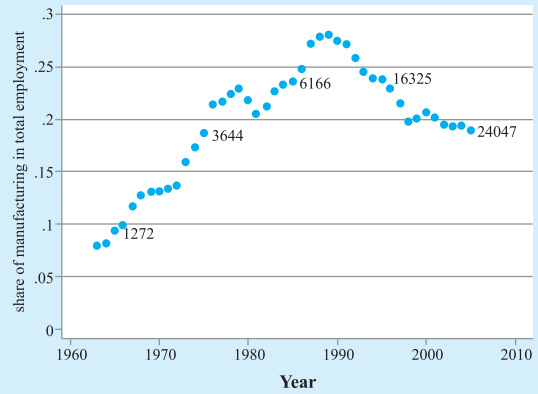
But the sobering fact is that India seems to be de-industrialising too. In fact, to call the Indian phenomenon de-industrialisation is to dignify the Indian experience, which is more aptly referred to as premature non-industrialisation because India never industrialised sufficiently in the first place.

To make the point first consider Figure 7.2, which plots the share of manufacturing in total employment over time for South Korea, a poster child for manufacturing-led growth. South Korea's GDP per capita in 2005 PPP dollars is also shown alongside the series for several years. The figure displays the typical shape: share of employment in manufacturing starts very low at around 5 percent and rises over time to almost 30 percent before starting to decline after a fairly high level of GDP has been reached.

In contrast, Figure 7.3 illustrates the Indian experience. The Figure shows India's share of registered manufacturing in total output and employment over time (on the same axes as the graph for Korea). The general trend is constant with a downward trend over the last few years for which data are available. In other words, the pronounced inverted U shape that characterises the cross-section and Korea is notably absent in India.

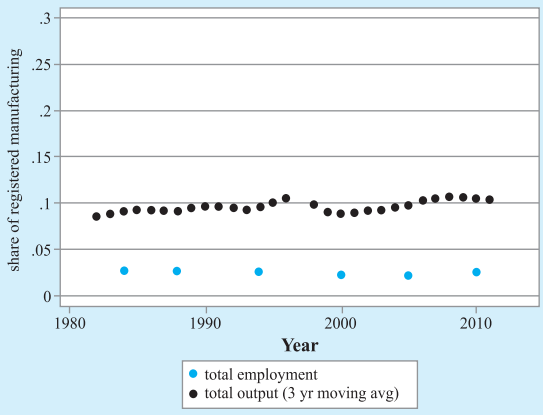
But what has been the counterpart development among Indian states? Tables 7.2A and 7.2B show

Figure 7.2: Share of Manufacturing in Total Employment over Time, 1960-2010: South Korea (GDP per capita in 2005 PPP $ show for select years)



***Source*: Amirapu and Subarmanian (2015).**

Figure 7.3: Share of Registered Manufacturing in Total Output and Employment over Time, 1980-2010: All India



***Source*: Amirapu and Subarmanian (2015).**

the year in which the share of registered manufacturing peaked (in first value added and then employment terms), the peak share of registered manufacturing (in value added or employment), and the per capita GDP associated with peak registered manufacturing levels.

From the tables, a few points are striking. Gujarat has been the only state in which registered manufacturing as a share of GDP surpassed 20 percent and came anywhere close to levels achieved by the major manufacturing successes in East Asia. Even in Maharashtra and Tamil Nadu, manufacturing at its peak accounted for only about 18-19 percent of state GDP. The peak shares in employment terms are even less significant: no major Indian state has achieved more than 6.2 percent of employment from registered manufacturing in the last 30 years, and many major states peaked at less than half that. Even in Gujarat, employment in registered manufacturing has only been about 5 percent of total employment, while annual growth in registered manufacturing employment has been 1.8 percent between 1984 and 2010 (slower than the growth rate of total employment over the period: 2.4 percent).

Second, in nearly all states (with the exception of Himachal Pradesh and Gujarat), registered manufacturing as a share of value added is now declining and, for most states, has been doing so for a long time. The peak share of manufacturing in output for many states was reached in the 1990s (Andhra Pradesh and Tamil Nadu) or even in the

Table 7.2A : Premature Non-Industrialisation among Indian States (by Value Added)

State	Year in which registered manufacturing in value added peaked	Share of registered manufacturing in value added at peak (percent)	NSDP per capita at peak (2005 INR)	GSDP per capita at peak (2005 USD PPP)
Gujarat	2011	22.7	52,291	5,357
Maharashtra	1986	18.9	15,864	1,400
Tamil Nadu	1990	18.1	15,454	1,417
Haryana	2003	17.3	32,869	3,309
Himachal Pradesh	2011	16.4	46,207	4,733
Karnataka	2008	14.7	34,752	3,523
Bihar	1999	13.6	9,215	905
Madhya Pradesh	2008	12.5	18,707	1,897
West Bengal	1982	12.3	9,348	909
Orissa	2009	12.0	22,779	2,353
All India	2008	10.7	30,483	3,091
Punjab	1995	10.5	25,995	2,506
Kerala	1989	10.3	14,418	1,322
Andhra Pradesh	1996	10.0	16,904	1,641
Uttar Pradesh	1996	10.0	11,679	1,134
Assam	1987	10.0	12,904	1,164
Delhi	1994	8.5	39,138	3,742
Rajasthan	2001	8.3	15,816	1,522

***Source*: Amirapu and Subarmanian (2015).**

Table 7.2B : Premature Non-Industrialisation among Indian States (by Employment)

State	Year in which registered manufacturing in value added peaked	Share of registered manufacturing in employment at peak (percent)	NSDP per capita at peak (2005 INR)	GSDP per capita at peak (2005 USD PPP)
Tamil Nadu	2010	6.2	44,033	4,633
Delhi	1988	6.1	31,531	2,989
Haryana	2010	6.1	54,861	5,773
Punjab	2010	5.4	44,611	4,694
Gujarat	1984	5.4	15,167	1,343
Maharashtra	1984	4.8	15,212	1,347
West Bengal	1984	4.7	10,371	919
Himachal Pradesh	2010	3.8	42,998	4,524
Kerala	1994	3.3	18,926	1,809
Karnataka	2010	3.3	36,214	3,811
Andhra Pradesh	2010	2.8	36,228	3,812
All India	1984	2.7	11,800	1,045
Assam	1984	2.5	13,238	1,172
Uttar Pradesh	1988	1.6	9,372	888
Bihar	1988	1.5	4,768	452
Rajasthan	2010	1.4	23,908	2,516
Madhya Pradesh	1994	1.4	13,191	1,261
Orissa	2010	1.4	22,677	2,386

Source **: Amirapu and Subarmanian (2015).**

1980s (Maharashtra). Interestingly, peak *employment* shares seem to be following a slightly different story, with less marked declines observable for most states. Nevertheless, most states have *not* been experiencing secular growth in employment shares over time (the only exceptions are Himachal Pradesh, Tamil Nadu, Haryana and – possibly – Karnataka). Many of the states that do exhibit peak years in 2010 (such as Andhra Pradesh, Rajasthan and Orissa) seem to have employment shares that have been mostly flat, reflecting neither relative growth nor decline.

Third, and this is perhaps the most sobering of facts, manufacturing has even been declining in the poorer states: states that never effectively industrialised (West Bengal and Bihar) have started de-industrialising.

Some comparisons are illuminating. Take India's largest state Uttar Pradesh. It reached its peak share of manufacturing in output at 10 percent of GDP in 1996 at a per capita state domestic product of about $1200 (measured in 2005 purchasing power parity dollars). A country like Indonesia attained a manufacturing peak share of 29 percent at a per capita GDP of $5800. Brazil attained its peak share of 31 percent at a per capita GDP of $7100. So, Uttar Pradesh's maximum level of industrialization was about one-third that in Brazil and Indonesia; and the decline began at 15-20 percent of the income levels of these countries.

Thus far, we have shown that, for all but a few states, Indian manufacturing is certainly not growing and is probably shrinking. One possible

consequence of manufacturing failing to satisfy requirements 2b and 3 is that, in contrast to China, there is no evidence of convergence between states in India in overall per capita GDP. For Chinese provinces, the poorer the initial level of per capita GDP, the faster the subsequent growth, so that poorer provinces start catching up with richer ones. In India, there is no convergence, because poorer states are not likely to grow faster than richer ones on average (Amirapu and Subramanian 2015). Regional disparities have thus persisted within India.

Had manufacturing attracted resources while exhibiting domestic convergence in productivity, the sector would have expanded in poorer states increasing overall levels of income in these states and contributing to a narrowing of the income distribution across India. Instead it seems that manufacturing has failed to be such an escalator of progress.

Several explanations are possible for why manufacturing has not been this escalator in India. They fall under four broad categories: distortions in labour markets; distortions in capital markets; distortions in land markets; and inappropriate specialisation away from India's natural comparative advantage and toward skill intensive activities. Amirapu and Subramanian (2015) provides some evidence in support of the last explanation.

7.3.5 Alignment with Comparative Advantage

As argued earlier, in order for a sector to offer transformational possibilities, it must not only be characterised by high levels and growth rates of productivity, it must also absorb resources from the rest of the economy. But in order to do so, the sector's use of inputs must be aligned with the country's comparative advantage. That will allow the abundant factor of production (usually unskilled

Table 7.3: Average Skill Level by Subsector in the Indian Economy (NSSO 2004-05)

Sector/Subsector	Share of Employees with at least Primary Education	Share of Employees with at least Secondary Education
Agriculture, forestry and fisheries	0.445	0.139
Mining	0.501	0.221
All manufacturing	0.628	0.248
Registered manufacturing (workers in factories with >10 workers)	0.768	0.432
All Services	0.778	0.478
Transportation and communications	0.715	0.330
Wholesale and retail trade	0.721	0.346
Financial services and insurance	0.976	0.836
Real estate and business services	0.935	0.775
Public administration and defense	0.897	0.665
Education	0.963	0.888
Health and social work	0.924	0.767
Electricity, gas and water	0.856	0.558
Construction	0.518	0.144

Source **: Amirapu and Subarmanian (2015).**

labour) to benefit from productivity growth and convergence, and in so doing make growth not only rapid and sustainable but also inclusive. In other words, the dynamic sector must at least initially be relatively unskilled labour intensive. Is this true of India manufacturing? Kochhar et. al. (2006) found that Indian manufacturing was unusually skill labour intensive. Another simple metric for assessing the alignment of dynamism with comparative advantage is the relative skill intensity of manufacturing relative to other sectors. Table 7.3 presents some numbers. From the 2004/5 NSSO Employment and Unemployment Survey, the share of employees with at least primary and secondary education for major sectors (and subsectors) of the Indian economy is computed.

It turns out that registered manufacturing is a sector that *is* relatively skilled labor intensive. As table 7.3 shows, the share of workers with at least secondary education is substantially higher in registered manufacturing than in agriculture, mining or unregistered manufacturing and also greater than in several of the service subsectors. In some ways, this should not be surprising. High labour productivity in this sector (Table 7.1) is at least in part a consequence of higher skills in the work force. What it does suggest, however, is that registered manufacturing does not really satisfy requirement number four. The skill intensity of the sector is not quite aligned with India's comparative advantage.

7.4 The Services Scorecard

The scorecard analysis can be repeated for the services sector in India. But before that is done, it is important to recognise that services in the aggregate is not a useful category of analysis because it is an amalgam of different and disparate species of economic activity, from government services and construction that are non-tradable to finance and business services that largely are tradable; from certain activities that are labour intensive and others such as telecommunications that are highly capital and skill labor intensive. Any meaningful analysis of services must distinguish between different service subsectors—although the degree of disaggregation will of course be determined by data availability.

We work with the six different subsectors shown in Table 7.4 and repeat the analysis undertaken above for registered manufacturing.

7.4.1 Productivity Level

Table 7.4 provides comparative data on the level of productivity for these service subsectors as well

Table 7.4: Growth in Employment Shares of Economy Subsectors, 1984-2010

	Initial Level of Productivity	Employment Shares		Annual Growth (percent)
	1984	1984	2010	1984-2010
Registered Manufacturing	117,984	0.027	0.026	-0.2
Aggregate Services	61,978	0.201	0.219	0.3
Trade, Hotels, and Restaurants	56,284	0.074	0.093	0.9
Transport, Storage and Communications	68,823	0.028	0.038	1.2
Financial Services and Insurance	198,584	0.006	0.007	0.7
Real Estate and Business Services, etc	1,012,017	0.002	0.011	7.1
Public Administration and Defense	41,154	0.030	0.018	-1.9
Construction	62,773	0.031	0.080	3.7

Source **: Amirapu and Subarmanian (2015).**

as for manufacturing (both registered and unregistered). The first point to note is the astounding variation within services, reinforcing the case for disaggregation. In 1984 for example, the level of productivity in the real estate and business services sectors was 25 times as much as in public administration (essentially government) and close to 20 times as much as in retail. The productivity levels in two—financial services and business services—out of six service subsectors exceed that of registered manufacturing.

7.4.2 Domestic convergence

The issue of whether there was unconditional convergence within India for service subsectors over the last 3 decades is now examined. Notably, unconditional domestic convergence is found in nearly all the service subsectors, and across many time horizons (not reported here). In fact, the speed of domestic convergence for most service subsectors is found to be similar to that in registered manufacturing (about 2 percent) and, in some cases, substantially higher. For example, real estate and business services seem to converge at double the rate at which registered manufacturing converges.

7.4.3 International Convergence

Rodrik (2013) provides evidence using UNIDO data that industries in the (organized) manufacturing sector consistently exhibit global convergence in labour productivities, although Indian manufacturing industries converge to the global frontier much more slowly than the average, if at all. What about the service subsectors?

Using data on sectoral productivities from the World Bank's World Development Indicators (WDIs), Ghani and O'Connell (2014) argue that services in the aggregate have also exhibited convergence to a similar or even greater degree than manufacturing – at least for recent time periods (approximately 1990 to 2005). This is an interesting finding, but for this analysis in particular services should be disaggregated as we might well expect convergence behaviour to vary by subsector due to significant differences in sectoral characteristics such as tradability.

Table 7.5 : Unconditional Convergence in Service Subsectors across Countries (1990-2005), regressions include productivity growth against log of initial productivity

Log of initial productivity	Trade, Hotels and Restaurants	Transport, Storage and Communication	Finance, Insurance, and Real Estate	Community, Social and Personal Services	Construction
	(1)	(2)	(3)	(4)	(5)
Trade, Hotels and Restaurants	-0.007 (0.005)				
Transport, Storage and Communication		-0.00 (0.008)			
Finance, Insurance, and Real Estate			-0.031*** ((0.007)		
Community, Social and Personal Services				-0.030*** ((0.008)	
Construction					-0.026*** (0.008)
Constant	0.061 (0.053)	0.105 (0.083)	0.325*** ((0.076)	0.315** (0.094)	0.269*** (0.085)
Observations	27	27	27	9	27

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *Source:* Amirapu and Subarmanian (2015).

Table 7.5 reports international convergence results by service subsectors over the period 1990 to 2005 using data from the Groningen Growth and Development Centre (GGDC). Although the set of countries in the analysis is severely limited due to data availability,[7] the results are still interesting. We see that some service subsectors (Finance, Insurance, and Real Estate; Community, Social and Personal Services; and Construction) do seem to exhibit strong international convergence, while others (Trade, Hotels and Restaurants; Transport, Storage and Communication) do not. Surprisingly, the set of sectors exhibiting convergence seems to include even some apparently non-tradable sectors, such as construction.

The conclusion thus far seems to be that many– but not all – service subsectors satisfy the requirements of high productivity growth, domestic convergence, and international convergence.

7.4.4 Expansion of Services?

Evidence that the share of output and employment from manufacturing in India had hardly changed in 30 years has already been presented. In the Tables below analogous evidence for services in India – both in aggregate and for particular service subsectors is presented.

In contrast to registered manufacturing – the share of output from aggregate services rose dramatically over the last 30 years, from about 35 percent to more than 50 percent of GDP. The share of aggregate services in employment, in contrast, increased in a far more modest fashion (see Table 7.6). But there is nevertheless a distinct contrast with registered manufacturing. Aggregate services employment grew faster than that in registered manufacturing and a number of service subsectors—transport, real estate and construction—registered substantially faster employment growth. In other words, services are becoming an ever more important source of wealth, and while they have not delivered rapid employment growth, a number of service sub-sectors have generated more rapid employment growth than manufacturing.

7.4.5 Alignment with comparative advantage?

We argued above that, in a low-skilled labour abundant country like India, a sector must make use of this dominant resource in order to offer the greatest possibilities for expansion and structural transformation. We also saw that registered manufacturing was a fairly skill-intensive sector with high average educational attainment.

The same table also shows that services in aggregate are no less skill-intensive: on average, 78 percent of workers in the service sector have at least a primary education (77 percent in registered manufacturing), and 48 percent have at least a secondary education (43 percent in

Table 7.6 : India—Services vs Manufacturing Scorecard

	Feature	Registered Manufacturing	Trade, Hotels, Restaurants	Transport, Storage and Communi-cations	Financial Services and Insurance	Real Estate Business Services, etc.	Construc-tion
1.	High productivity	Yes	No	Not really	Yes	Yes	No
2A.	Unconditional domestic convergence	Yes	Yes	Yes	Yes	Yes	Yes
2B.	Unconditional international convergence	Yes, but not for India	No	No	Yes	Yes	Yes
3.	Converging sector absorbs resources	No	Somewhat	Somewhat	No	Somewhat	Yes
4.	Skill profile matches underlying endowments	Not really	Somewhat	Somewhat	No	No	Yes
5.	Tradable and/or replicable	Yes	No	Somewhat	Yes	Somewhat	No

Source **: Amirapu and Subarmanian (2015).**

registered manufacturing). Furthermore, a large number of service subsectors – including 1) Banking and Insurance, 2) Real Estate and Business Services, 3) Public Administration, 4) Education, and 5) Health and Social Services – have significantly higher educational attainment (90 percent or more of workers have at least primary education) than registered manufacturing. What this implies is that most service subsectors (precisely the high productivity, high growth subsectors, for the most part), have a limited capacity to make use of India's most abundant resource, unskilled labor. This may explain why the share of employment from services has risen so modestly, even while the share of output from services has grown so spectacularly.

7.5 Summary Scorecard and Conclusions

Table 7.6 below provides a summary scorecard comparing registered manufacturing and selected service subsectors. Before proceeding further, let us make clear a few important points. First, we compare service sectors with only the *registered* (i.e.: formal) manufacturing sector, because unregistered manufacturing is one of the lowest productivity sectors in the Indian economy– apart from agriculture – and so offers little promise for transformation. So, when there is talk on the transformational potential of manufacturing in India the focus must be exclusively on registered manufacturing.

Second, another contribution of this chapter is to offer an alternative way of thinking about transformational sectors beyond the traditional distinction based on manufacturing versus services. We have taken the position of comparing sectors based on their easily observable underlying properties. To be sure, there may be less tangible differences between manufacturing and services that are left out in our analysis.

For example, our present analysis does not consider the extent to which certain sectors (such as registered manufacturing) may be more likely to induce learning spillovers to other sectors of the economy, which may be important. Other missing dimensions include the political one: Dani Rodrik has suggested that manufacturing may play an indirect role in the political development of young nations by providing a forum in which citizens learn to practice compromise in a democratic context through the struggle between labour and capital "on the manufacturing shop floor" (Rodrik, 2013b). Though our analysis leaves out such channels, we believe they are second-order in comparison with the 5 desirable features laid out earlier.

Proceeding to the comparison, there does not seem to be anything distinctive or superior about registered manufacturing when compared with certain other service subsectors. Like manufacturing, several of the service subsectors also exhibit high productivity and convergence – both domestic and international. However, they also share the shortcoming that these sectors are highly skill intensive in their resource requirements, which is out of kilter with the skill profile of the Indian labor force. Their potential to generate widely shared or inclusive growth is thus likely to be limited – and indeed seems to have been so given the lack of expansion observed earlier (and which is recorded in the scorecard).

One sector that markedly stands out from the others in the table below is construction: it appears to exhibit both types of convergence, does not require high education levels and has grown significantly in its resource use over the last three decades. However, the sector is not tradable and in any case is low productivity, so that moving labor resources to the sector does not considerably improve overall welfare.

So, in some ways, the choice for India is not manufacturing versus services but comparative advantage *deifying* (unskilled-intensive) sectors versus comparative advantage *defying* (skill-intensive) sector development. This is both a positive and a policy question.

While India's skill-intensive pattern of development has no doubt been costly, there has been a significant upside. Myron Weiner, among others,

has drawn attention to the disappointing post-Independence performance of the Indian state in delivering education, reflected in very slow improvements in literacy rates, especially amongst women. While the supply of educational services by the state was inadequate, the puzzle arose as to why there was not greater demand for education and hence greater pressure on the state to meet this demand.

One answer to this puzzle is that the private returns to literacy and basic education must have been low. There is now evidence that the increasing opportunities that are spurring economic growth also contribute to raising these returns, leading to a greater demand for educational services—public and private—and hence improvements in educational outcomes (Munshi and Rosenzweig, 2003). This has put pressure on the supply of education. The government's failures to provide good schools are well-known, but growth has changed the picture dramatically, largely because it has increased the returns from education—and hence the demand for it.

Evidence is provided by the work of economists Kartik Muralidharan and Michael Kremer who show that private schools are mushrooming in rural India (many prominently advertising "English Medium") because of teacher absenteeism in public schools. One also hears of companies creating training centers to build skills in the cities (such as the Infosys institute in Mysore) because institutions of higher education are notoriously inadequate. This endogenous increase in human capital could be one of the offsetting benefits of the comparative advantage-defying, skill-intensive growth model.

The policy question is the following. *Insofar as the government retains influence over shaping the pattern of development, should it try to rehabilitate unskilled manufacturing or should it accept that that is difficult to achieve, and create the groundwork for sustaining the skill intensive pattern of growth?* Attempting the former would be a history-defying achievement because there are not many examples of significant reversals of de-industrialisation. A lot would have to change in India—from building the infrastructure and logistics/connectivity that supports unskill-intensive manufacturing to reforming the panoply of laws and regulations—or perhaps addressing corruption in the manner of their enforcement—that may discourage hiring unskilled labor and achieving scale in the formal sector.

Sustaining a skill-intensive pattern on the other hand would require a greater focus on education (and skills development) so that the pattern of development that has been evolving over time does not run into shortages. The cost of this skill intensive model is that one or two generations of those who are currently unskilled will be left behind without the opportunities to advance. But emphasising skills will at least ensure that future generations can take advantage of lost opportunities.

In some ways, the choice confronting India is really about how to make it a Lewisian economy that has unlimited supplies of labor. India can either create the conditions to ensure that its existing unlimited supplies of unskilled labor are utilisable. Or, it can make sure that the currently inelastic supply of skilled labor is made more elastic. Both are major challenges.

What the analysis suggests is that while Make in India, which has occupied all the prominence, is an important goal, the Prime Minister's other goal of "Skilling India" is no less important and perhaps deserves as much attention. Make in India, if successful, would make India a Lewisian economy in relation to unskilled labor. But "Skilling India" has the potential to make India a Lewisian economy with respect to more skilled labor. The future trajectory of Indian economic development could depend on both.

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A National Market for Agricultural Commodities- Some Issues and the Way Forward

08 CHAPTER

8.1 Introduction

Presently, markets in agricultural products are regulated under the Agricultural Produce Market Committee (APMC) Act enacted by State Governments. There are about 2477 principal regulated markets based on geography (the APMCs) and 4843 sub-market yards regulated by the respective APMCs in India. Effectively, India has not one, not 29 but thousands of agricultural markets. This Act notifies agricultural commodities produced in the region such as cereals, pulses, edible oilseed, fruits and vegetables and even chicken, goat, sheep, sugar, fish etc., and provides that first sale in these commodities can be conducted only under the aegis of the APMC through the commission agents licensed by the APMCs set up under the Act. The typical amenities available in or around the APMCs are: auction halls, weigh bridges, godowns, shops for retailers, canteens, roads, lights, drinking water, police station, post-office, bore-wells, warehouse, farmers amenity center, tanks, Water Treatment plant, soil-testing Laboratory, toilet blocks, etc. Various taxes, fees/charges and cess levied on the trades conducted in the Mandis are also notified under the Act.

8.2 APMCs levy multiple fees, of substantial magnitude, that are non-transparent, and hence a source of political power

Tables 8.1-8.3 convey a sense of the magnitudes and multiplicity of fees arising from the operation of the APMCs. They charge a market fee of buyers, and they charge a licensing fee from the commissioning agents who mediate between buyers and farmers. They also charge small licensing fees from a whole range of functionaries (warehousing agents, loading agents etc.). In addition, commissioning agents charge commission fees on transactions between buyers and farmers.

The levies and other market charges imposed by states vary widely. Statutory levies/mandi tax, VAT etc. are a major source of market distortion. Such high level of taxes at the first level of trading have significant cascading effects on the prices as the commodity passes through the supply-chain.

For rice, listed in Table 8.1, these charges can be as high as 14.5 percent in Andhra Pradesh (excluding the state VAT) and close to 10 percent in Odisha and Punjab. For wheat, too, these charges can be quite high (Table 8.2).

Even the model APMC Act (described below) treats the APMC as an arm of the State, and, the market fee, as the tax levied by the State, rather than fee charged for providing services. This is a crucial provision which acts as a major impediment to creating national common market in agricultural commodities. Removal of this provision will pave a way for creating competition and a national common market for agricultural commodities.

Moreover, though the market fee is collected just like a tax, the revenue earned by the APMCs does not go to the State exchequer and hence does not require the approval of State legislature to utilize the funds so collected. Thus APMC operations are hidden from scrutiny.

Table 8.1: Taxes/ Levies/Interest Charges/ Incidentals etc.as % of MSP on procurement of Rice/ Paddy in KMS 2013-14 and price after Tax

		Taxes/ levies/ Interest Charges/ Incidentals etc. (%)	Price after tax over MSP (₹ 1310/ qtl.)
1	Andhra Pradesh*	19.5	1565.45
2	Bihar	6.5	1395.15
3	Chhattisgarh**	9.7	1437.07
4	Gujarat	3.5	1355.85
5	Haryana	11.5	1460.65
6	Jharkhand	3.5	1355.85
7	Karnataka	4	1362.4
8	Madhya Pradesh	4.7	1371.57
9	Maharashtra	3.55	1356.51
10	Odisha***	15.5	1513.05
11	Punjab	14.5	1499.95
12	Rajasthan	3.6	1357.16
13	Uttar Pradesh	9	1427.9
14	Uttarakhand	9	1427.9
15	West Bengal	3	1349.3

* Mkt. Fee=1%, VAT=5%, Driage=1%, RD Cess= 5%, Comm. To society=2.5%, Admin. Charges=2.5%, Custody & Maintenance charges+ Interest Charges=2.5%

** Mandi Fee=2%, Commercial tax=5%, Comm. To society=2.5%, Nirashrit Shulk=0.2%

*** Mkt. Fee=2%, VAT=5%, Driage=1%, Comm. To society=2.5%, Admin. Charges=2.5%, Custody & Maintenance charges+ Interest Charges=2.5%

Source: **FCI, DFPD and States.**

Table 8.2: State-wise Taxes and Levies imposed on sale of wheat by farmers

		Taxes/ Levies/ (as % of MSP) MSP	Price after tax (₹ 1350/qtl.)
1	Andhra Pradesh	5	1418
2	Assam	0	1350
3	Bihar	6	1431
4	Chhattisgarh	2.2	1380
5	Gujarat	0.81	1361
6	Haryana	11.5	1505
8	Jharkhand	3.5	1397
9	Karnataka	0	1350
11	Madhya Pradesh	9.2	1474
12	Maharashtra	0	1350
13	Orissa	5	1418
14	Punjab	14.5	1546
15	Rajasthan	3.6	1399
16	Tamil Nadu	0	1350
17	Uttar Pradesh	8.5	1465
18	Uttarakhand	7.5	1451
19	West Bengal	2.88	1389

* As on 17.01.2014;

Source **: Food Corporation of India (FCI).**

The rate of commission charged by the licensed commission agents is exorbitant, because, unlike direct taxes, which are levied on net income, the commission is charged on the entire value of the produce sold. The license fee charged from various market licensed operators is nominal, but the small number of licences granted creates a premium, which is believed to be paid in cash.

There is a perception that the positions in the market committee (at the state level) and the market board – which supervises the market committee - are occupied by the politically influential. They enjoy a cosy relationship with the licensed commission agents who wield power by exercising monopoly power within the notified area, at times by forming cartels. The resistance to reforming APMCs is perceived to be emanating from these factors.

8.3 Essential Commodities Act, 1955 vs APMC Act

The scope of the Essential Commodities Act (EC Act) is much broader than the APMC Act. It empowers the central and state governments concurrently to control production, supply and distribution of certain commodities, including

Table 8.3 : Details of Five Big APMCs in the Country in Terms of Revenue Realization

Name of APMC	Income (Rs. in crores) for 2013-14	Rate of Market fee	Rate of Commission charge
1 APMC Vashi (Mumbai)	126.00	0.8 % of the value of the produce	-Perishables-(i) Onion – 6.5%(ii) Vegetable- 8%(iii) Fruit-10%Non- Perishables – up to 2.75 % of the value produce
2 APMC Azadpur (Delhi)	90.09	Market fee—— 1 % of the (Fruits and Vegetable Market)	6% of the value of the produce value of the produce
3 Galla Mandi APMC Indore	59.70	Market fee——2 % (Except Orange, Cotton and Banana on which it is 1.0 %) of value of the produce)+Nirashrit Shulk—0.2%	No Commission agent exists
4 APMC, Gultekari (Pune)	47.00	1 % of the value of the produce	-Perishables- 6.0% of the value of the produceNon- Perishables –3.0% of the produce
5. APMC, Yashwantpur	44.00	Market fee ——1.0 % + 0.5 % for revolving fundIn case of dry grapes (kishmish), it is only 0.1 % only	Fruits and Veg.—5.0 % of the value of the produceOthers-2.0% value of the produce

pricing, stock-holding and the period for which the stocks can be kept and to impose duties. The APMC Act on the other hand, controls only the first sale of the agricultural produce. Apart from food-stuffs which are covered under the APMC Act, the commodities covered under the EC Act generally are: drugs, fertilisers, and textiles and coal.

8.4 Model APMC Act

Since these State Acts created fragment markets (2477) for agricultural commodities and curtailed the freedom of farmers to sell their produce other than through the commission agents and other functionaries licensed by the APMCs, the Ministry of Agriculture developed a model APMC Act, 2003 and has been pursuing the state governments for over a decade now to modify their respective Acts along the lines of the Model APMC Act, 2003. The Model APMC Act:- (a) provides for direct sale of farm produce to contract farming sponsors; (b) provides for setting up "Special markets" for "specified agricultural commodities" – mostly perishables; (c) permits private persons, farmers and consumers to establish new markets for agricultural produce in any area; (d) requires a single levy of market fee on the sale of notified agricultural commodities in any market area; (e) replaces licensing with registrations of market functionaries which would allow them to operate in one or more different market areas; (f) provides for the establishment of consumers' and farmers' markets to facilitate direct sale of agricultural produce to consumers; and (g) provides for the creation of marketing infrastructure from the revenue earned by the APMC.

The model APMC Act provides some freedom to the farmers to sell their produce directly to the contract-sponsors or in the market set up by private individuals, consumers or producers. The model APMC Act also increases the competitiveness of the market of agricultural produce by allowing common registration of market intermediaries. Many of the States have partially adopted the provisions of model APMC Acts and amended their APMC Acts. Some of the states have not framed rules to implement the

amended provisions, which indicate hesitancy on the part of state governments to liberalize the statutory compulsion on farmers to sell their produce through APMCs. Some states —— such as Karnataka —— have however adopted changes to create greater competition within state.

8.5 Karnataka model

In Karnataka, 51 of the 155 main market yards and 354 sub-yards have been integrated into a single licensing system. Rashtriya e-market Servies Ltd. (ReMS), a joint venture created by the State government and NCDEX Spot Exchange, offers automated auction and post auction facilities (weighting, invoicing, market fee collection, accounting), assaying facilities in the markets, facilitate warehouse-based sale of produce, facilitate commodity funding, price dissemination by leveraging technology. The wider geographical scope afforded by breaking up fragmented markets has enabled private sector investment in marketing infrastructure.

8.6 Inadequacies of Model APMC Act

The provisions of the Model APMC Act do not go far enough to create a national – or even state-level common market for agricultural commodities. The reason is that the model APMC Act retains the mandatory requirement of the buyers having to pay APMC charges even when the produce is sold directly outside the APMC area, say, to the contract sponsors or in a market set up by private individuals even though no facility provided by the APMC is used. The relevant provision (No.42) in the model APMC Act is:

"**Power to levy market fee "(single point levy)**: Every market shall levy market fee (i) on the sale or purchase of notified agricultural produce, whether brought from within the State or from outside the State into the market area."

Though the model APMC Act bars the APMCs and commission agents from deducting the market fee/commission from the seller, the incidence of these fees/commission falls on the farmers since buyers would discount their bids to the extent of the fees/commission charged by the APMC and the Commission agents.

Though the model APMC Act provides for setting up of markets by private sector, this provision is not adequate to create competition for APMCs even within the State, since the owner of the private market will have to collect the APMC fees/taxes, for and on behalf of the APMC, from the buyers/sellers in addition to the fee that he wants to charge for providing trading platform and other services, such as loading, unloading, grading, weighing etc.

8.7 Alternative ways of creating national market for agricultural commodities

The 2014 budget recognizes the need for setting up a national market and stated that the central government will work closely with the state governments to reorient their respective APMC Acts to provide for the establishment of private market yards/private markets. The budget also announced that the state governments will also be encouraged to develop farmers' markets in towns to enable farmers to sell their produce directly.

More steps may have to be taken and incremental moves may need to be considered to get the states on board. For example, first, it may be possible to get all the states to drop fruits and vegetables from the APMC schedule of regulated commodities; this could be followed by cereals, pulse and oil seeds, and then all remaining commodities.

State governments should also be specifically persuaded to provide policy support for setting up infrastructure, making available land etc. for alternative or special markets in private sector, since the players in the private sector cannot viably compete with the APMCs in which the initial investment was made by the government on land and other infrastructure. In view of the difficulties in attracting domestic capital for setting up marketing infrastructure, particularly, warehousing,

cold storages, reefer vans, laboratories, grading facilities etc. Liberalisation of FDI in retail could create the possibilities for filling in the massive investment and infrastructure deficit which results in supply-chain inefficiencies.

8.8 Using Constitutional provisions to set up a common market

If persuasion fails (and it has been tried for a long time since 2003), it may be necessary to see what the center can do, taking account of the allocation of subjects under the Constitution of India. The Constitution of India does empower the States to enact APMC Acts under some entries in the List II of Seventh Schedule (State List), viz., Entry 14: 'Agriculture …', Entry 26: 'Trade and Commerce within the State ….' And Entry 28: 'Markets and fairs'.

However, the perception that the Constitution will have to be amended if the centre has to play a decisive role in creating a national market remains open. There are provisions/entries in List III of the Seventh Schedule (Concurrent List) in the Constitution which can be used by the Union to enact legislation for setting up a national common market for specified agricultural commodities, viz., Entry 33 which covers trade and commerce and production, supply and distribution of foodstuffs, including edible oilseeds and oils raw cotton, raw jute etc. Entry 42 in the Union List, viz., 'Inter-state Trade and Commerce' also allows a role for the union. Once a law is passed by the Parliament to regulate trading in the specified agricultural commodities, it will override the state APMC laws, paving the way for creating a national common market. But this approach could be seen as heavy-handed on the part of the center and contrary to the new spirit of cooperative federalism.

From Carbon Subsidy to Carbon Tax: India's Green Actions[1]

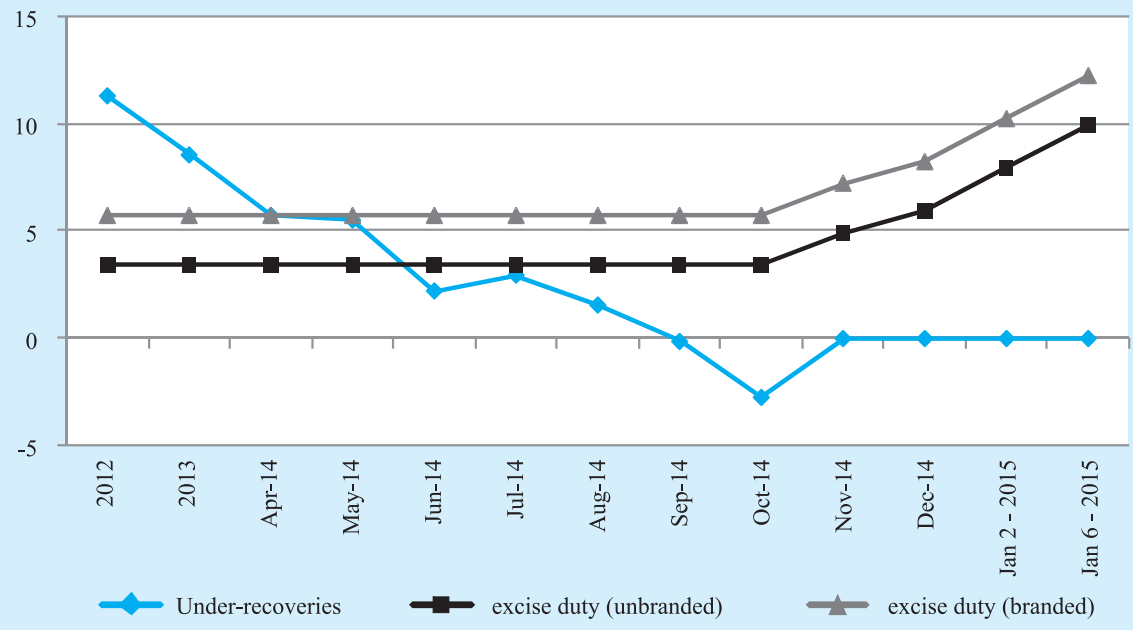
09 CHAPTER

9.1 Introduction

The recent steep decline in international oil prices is seen by many as an opportunity to rationalize the energy prices by getting rid of the distorting subsidies whilst shifting taxes towards carbon use.[2] This will not only be a fiscally prudent measure but also an opportune time to introduce measures such as carbon taxes, which are still the most potent instruments in dealing with the threats of climate change.[3]

While there are a very few countries globally that have reacted or made any efforts in this direction, the recent measures by the Government of India to decontrol diesel prices while at the same time increasing excise duty on petrol and diesel periodically to match the declining global prices

Figure 9.1: Diesel under-recoveries and excise duties, 2012 to 2015 (Rs./ litre)



***Source*: Petroleum Planning & Analysis Cell, MoP&NG.**

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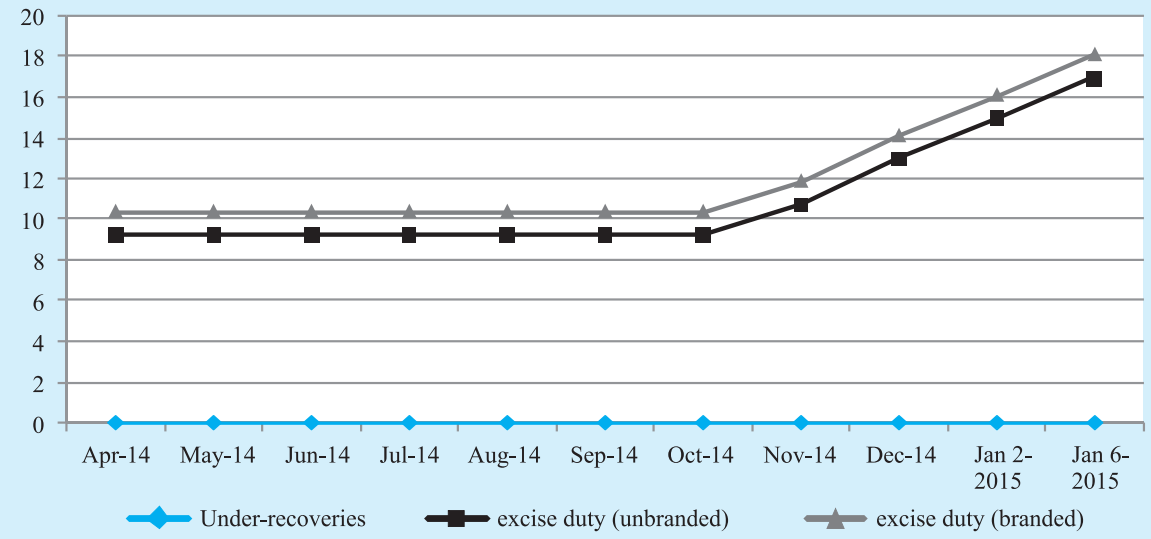
[1] Help of Muthukumara Mani and Fan Zhang, of the Office of the Chief Economist, South Asia Region, World Bank in the preparation of this chapter is gratefully acknowledged.

[2] *"Seize the Day"* The Economist, January 17, 2015.

[3] A carbon tax is a tax on the carbon content of fuels (principally coal, oil, and natural gas) that generate CO2 emissions when burned. The tax would apply at a specific rate per ton of coal, per barrel of oil, or per million cubic feet of gas, with the amounts adjusted to equalize implied taxes on carbon content. The rationale of such a tax is to reduce GHG emissions primarily responsible for climate change.

Figure 9.2: Petrol Under-recoveries and Excise duties, 2014-2015. (Rs./litre)



***Source*: Petroleum Planning & Analysis Cell, MoP&NG.**

reflects a proactive stance in this direction. As Figures 9.1 & 9.2 shows, under-recoveries—a measure of the subsidy arising from lower domestic prices compared to international prices—have been eliminated. And in a series of actions since October 2014, excise duties have been imposed on diesel and petrol. Previously, the coal cess was doubled from ₹ 50 per ton to ₹ 100 per ton, also adding to the set of green actions taken by the government.

9.2 Excise duty on petrol and diesel as an implicit carbon tax

Excise duties on petrol or diesel also act as an implicit carbon tax—by putting an effective price on emissions. For example, more fuel a car burns, and the greater the emissions, the greater the tax paid. There is a price signal to reduce fuel burnt, and hence CO_2 emissions. In addition to serving as a carbon tax, an excise on petrol and diesel may, of course, also price other externalities associated with burning petrol or diesel. This includes congestion costs (from using vehicles), noise and local air pollution (of various forms) which can be deeply damaging for health.[4] Estimated damages from carbon emissions are dwarfed by those from the other unwanted side effects. At the high end of available estimates, climate change impacts are only 7 per cent of the costs associated with congestion and air pollution.[5] One cannot off course understate their role in raising substantial revenues for social redistribution. In many countries the latter reasons have often motivated the taxation of fossil fuels than a carbon tax. In India, the recent change in direction from subsidisation to taxation of fossil fuels is of course related to revenue and macro-economic considerations but they are also consequential in their climate change impact.

[4] Hamilton (2014) suggests that in India, pollution (largely resulting from burning coal and diesel) is perhaps over 6 percent of GDP per annum ((Hamilton, K. 2014. *"Calculating PM2.5 Damages for Top Emitters: A Technical Note."* New Climate Economy background note. http://newclimateeconomy.net).

[5] Proost, Stef, and Kurt Van Dender *"What Long-term Road Transport Future? Trends and Policy Options."* 2011, Review of Environmental Economics and Policy 5(1): 44-65.

One can potentially estimate the carbon tax equivalent of excise duty increases in India and thereby calculate CO_2 emission reduction benefits. This is especially important in the context of global efforts to deal with climate change where India as the third largest emitter of GHG emission is often looked upon to contribute to the efforts by taking on a target.[6]

The carbon tax equivalent of the excise duty and subsidy removal was estimated using standard emission factors from the literature (see Table 9.1).

Utilizing the emission factors in Table 9.1, the carbon tax equivalent of net excise duty (subtracting the amount of under-recoveries from excise duty) for petrol and diesel is presented in Figure 9.3.

The striking feature is that India has moved from a carbon subsidization regime to one of significant carbon taxation regime—from a negative price to a positive price on carbon emissions. And the shift has been large. For example, the effect of the recent actions since October 2014 has increased the carbon tax by nearly US$60 per ton of CO_2 in the case of petrol and nearly US$42 per ton in the case of diesel. In absolute terms, the implicit carbon tax (US$140 for petrol and US$64 for diesel) is substantially above what is now considered a reasonable initial tax on CO_2 emissions of US$25-US$35 per ton (this will not, however, hold for coal cess as described below).[7] The recent actions alone have significantly burnished India's green and climate change credentials.

Table 9.1 : Emission Factors[1]

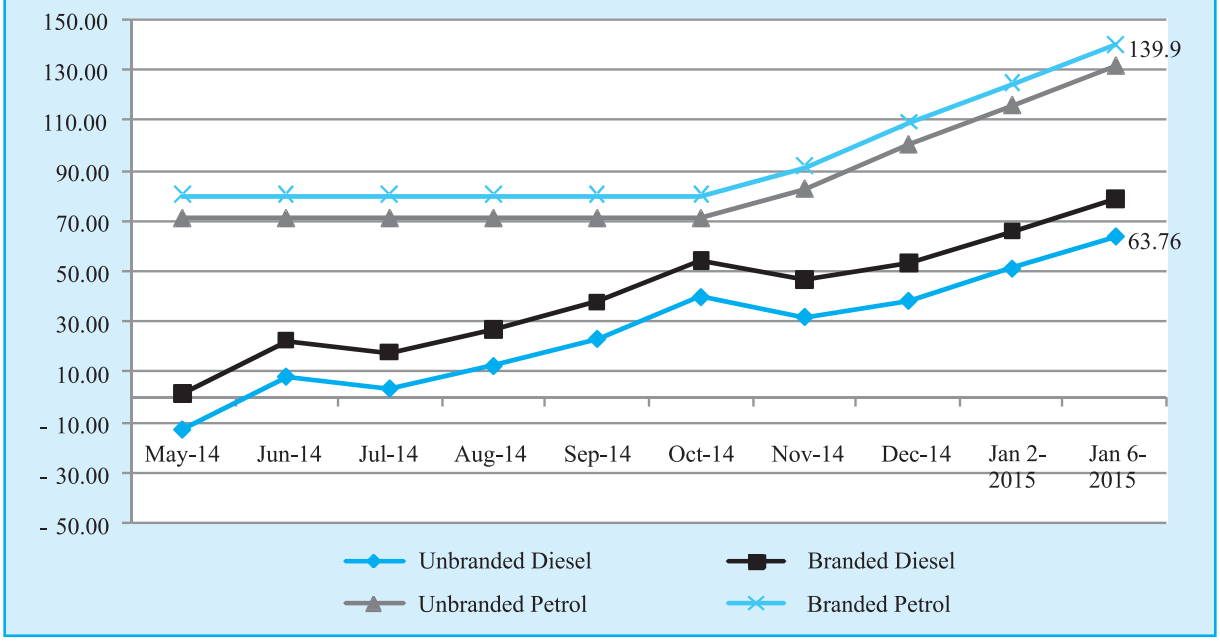
Description	Value	Unit	Source
Carbon emissions factors			
Coal	25.8	tC/TJ	IPCC[2]
Diesel	20.2	tC/TJ	IPCC[2]
Petrol	18.9	tC/TJ	IPCC[2]
Net Caloric Values			
Coal	18.8	TJ/000 t	IEA[3]
Diesel	43.3	TJ/000 t	IPCC[2]
Petrol	44.8	TJ/000 t	IPCC[2]
Oxidation rates			
Solids	100.0	per cent	IPCC[2]
Liquids	100.0	per cent	IPCC[2]
CO2 emissions factors			
Coal	1.782	tCO2 /t	
Diesel	3.210	tCO2 /t	
Petrol	3.105	tCO2 /t	

[1] *Note*: Emission factors of diesel and petro are global averages. Emission factor for coal is adjusted to reflect average heat content of coal in India. 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. 3. International Energy Agency (IEA). 2012 Understanding Energy Challenges in India. 4.4. tC: tons of carbon TJ: terajoule, t: ton, tCO2: tons of CO2.

[6] Recently the US and China, the two largest emitters, signed an agreement on climate change whereby China agreed to peak its emissions by 2030 and the US agreed that it would emit 26 percent to 28 percent less carbon in 2025 than it did in 2005. While these efforts are not unprecedented in terms of their effect on the changing climate, nonetheless the signal for cooperation between two largest emitters has made the world look at India's future climate commitments.

[7] There is still a lot of debate in the literature around this number. For example, Stern (2013) suggests that this is an underestimate given the risks and damages from carbon (Stern, N. 2013. "The Structure of Economic Modelling of the Potential Impacts of Climate Change: Grafting Gross Underestimation of Risk onto Already Narrow Science Models" Journal of Economic Literature 51: 838-859).

Figure 9.3: Implicit Carbon Tax From Increasing Excise duty on Petrol and Diesel, May 2014- January, 2015. (US$/tCO2)



It should be noted that a full assessment of the implicit carbon tax involves estimating the gap between the total taxation of diesel and petrol and the average rate of indirect taxation. The final outcomes could be different from those presented in Figure 9.3, and will be different between states given the current system of differentiated state taxation. To some extent, the CO_2 tax estimates represent a lower bound given that states impose high indirect taxes on petroleum products.

9.3 How Does India compare with other countries?

While India has made substantial progress recently in decontrolling price of petrol and diesel and in calibrating excise duty to compensate for the declining world oil prices, it is worthwhile to ask, where does India stand globally and especially with respect to the other countries.

Figure 9.4 compares India with most non-OECD countries and with US and EU as benchmarks. It suggests that while there has been a considerable price increase between 2012 and 2015, there is still room for further reform of petroleum pricing policies.

9.4 CO_2 Emission Reductions from Petrol and Diesel Taxes and Coal Cess

Calculating the CO_2 emission reduction from the measures taken for petrol and diesel suggests that there will be net reduction of 11 million tons of CO_2 emissions in less than a year, more than the entire CO_2 emissions of Luxembourg in 2012, compared to the baseline (see Figure 9.5) or 0.6 percent India's annual emissions.[8]

9.5 Translating Coal Cess into a Carbon Tax

Recently, the Government of India revised its coal cess from ₹ 50 per ton to ₹ 100 per ton. Translating this into a carbon tax equivalent using the emission factor in Table 9.1 suggests that the carbon tax is around US$ 1 per ton (increase from US$ 0.5 per ton in 2014). While this does enable the

[8] The US-China deal is expected to avert 640 billion tons of CO2 by 2030.

Figure 9.4: Comparing Petrol Prices, 2012. (US$/liter)

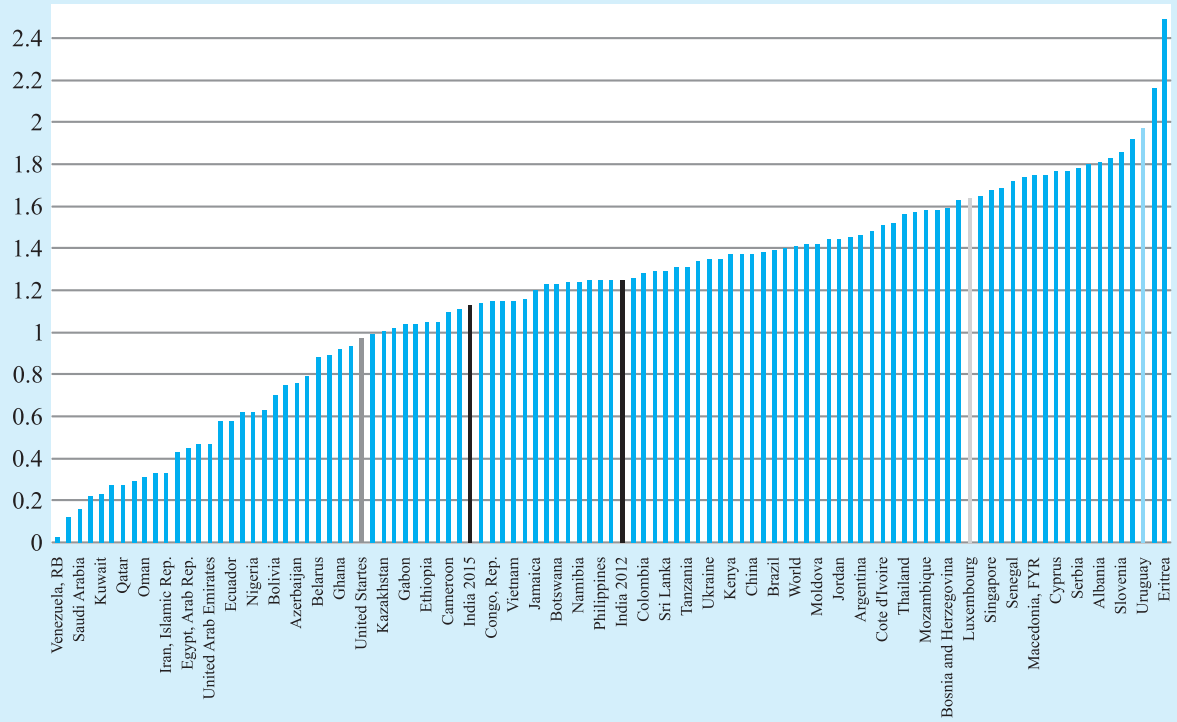
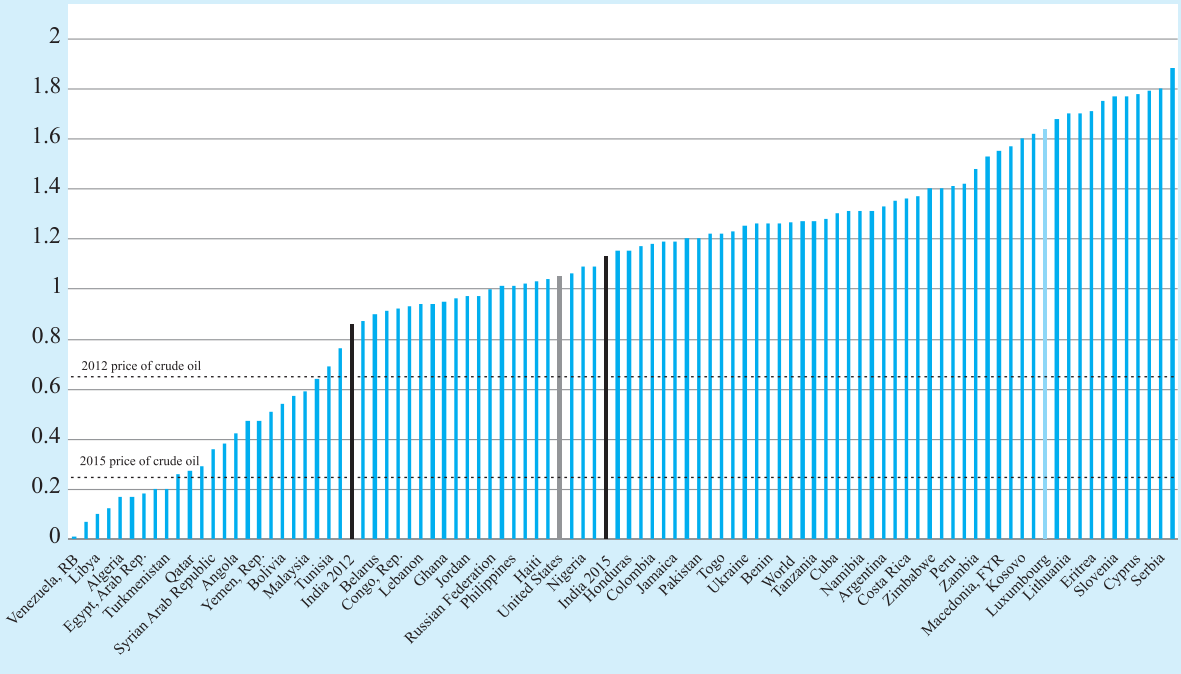
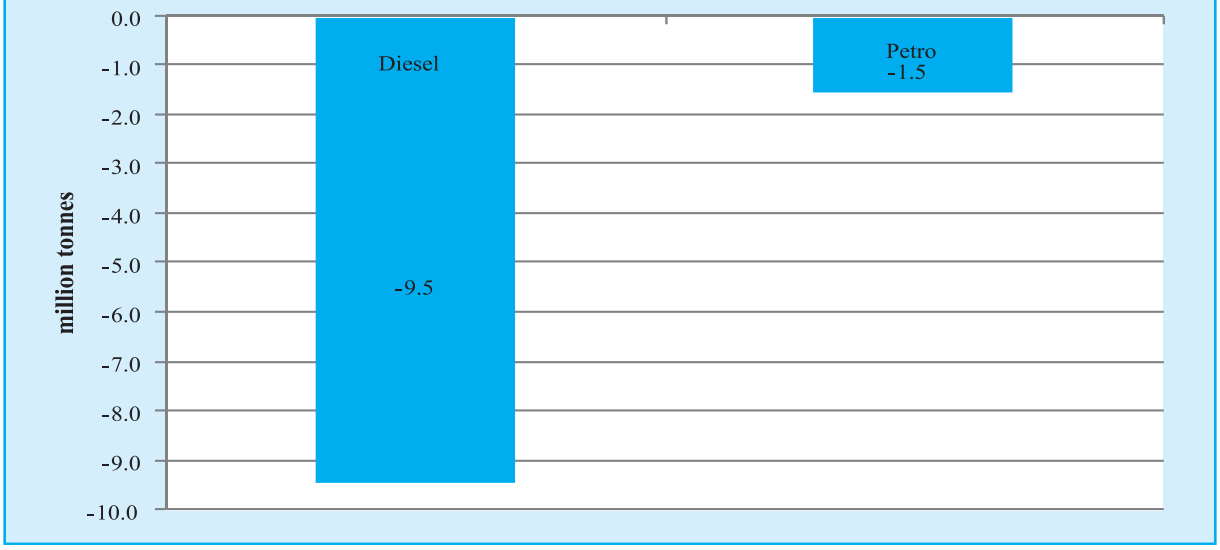


Figure 9.4: Comparing Diesel Prices, 2012. (US$/liter)



***Source*: German Agency for International Cooperation (GIZ). Note: 2012 is the most recent year for which the data are available. Yellow line indicates 2012 price in the United States, an international minimum benchmark for a non-subsidized road transport policy. Green line indicates price in Luxembourg, the lowest in the EU15 which could be considered a lower bound for a social price of transport fuel. Red lines are India prices in 2012 and 2015.**

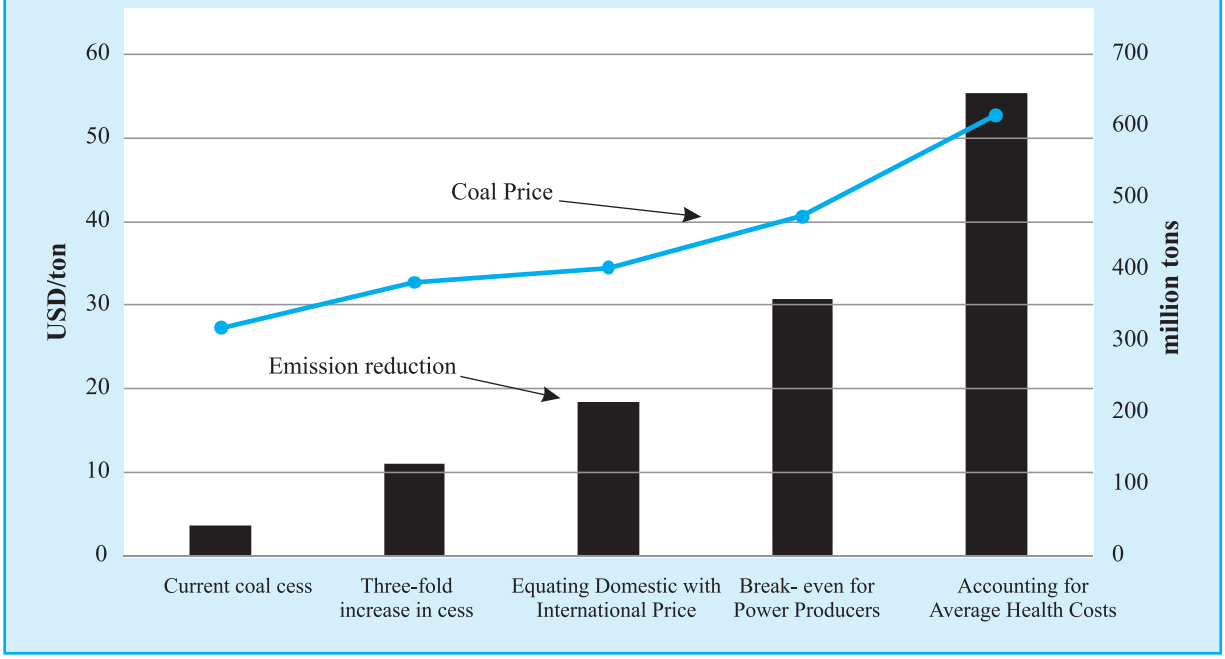
Figure 9.5: CO_2 Emission Reduction from Petrol and Diesel Pricing Measures in 2014



***Source*: World Bank estimates.**

government to mop up significant amount of revenue (₹ 17,000 crore so far), this may not reflect the externalities generated from burning of coal or any suggested global carbon tax. In light of the recent falling global coal prices and contribution of coal to both local and global pollution, there may be room for further rationalisation of coal pricing. Any rationalisation of coal pricing must take account of the implications for power prices and hence access to energy for the poorest in India which is and must remain a fundamental objective of policy.[9]

Figure 9.6: Implications of Alternative Coal Taxation; Coal Price Increase and CO_2 Reduction



***Source*: World Bank estimates.**

[9] This in addition to providing access and empowering people through renewable sources of energy which is also an area of high priority for the Government of India. This will be especially important for serving remote areas with limited access to grid.

Four hypothetical scenarios are the following (Figure 9.6):

a. A three-fold increase in the current cess;

b. An increase in cess that will equalise price of domestic coal with imported coal (adjusting for difference in heat and ash content between domestic and imported coal)[10];

c. An increase in cess necessary to internalise only domestic externalities—mainly the health costs associated with carbon pollution;

d. The maximum possible increase in cess at which the coal-based power producers could still break-even.

Calculations utilizing the emission factors given in Table 9.1 and assuming a (-) 0.5 price elasticity of demand for coal, suggest that a three-fold increase from the current cess would lead to an annual CO_2 emissions reduction of 129 million tons annually or about 7 percent of total annual emissions. To bring domestic prices on par with the international prices would require an increase of cess to US$ 9 per ton or ₹ 498 (a 5-fold increase). Coal price reform of this kind could potentially contribute to annual CO_2 emissions reduction of 214 million tons which is 11 percent of India's annual emissions, or half the entire emissions of Indonesia in 2012 compared to the baseline. This is still within the range of keeping most coal power plants profitable given the current tariff structure.

The health cost of coal for power generation in India is estimated to range from US$ 3.41 per ton to US$ 51.11/ton depending on the value of statistical life.[11] The average number is US$ 27.26 per ton. The health costs of emissions from coal fired power plants include costs associated with premature cardiopulmonary deaths and illnesses from the chronic effects of long-term exposure and the acute effects of short-term exposure. The annual emissions reduction of CO_2 corresponding to incorporating the average health cost to coal price is 644 million tons (33 percent of the total emissions) and the percent of total annual emission reduction corresponding to US$ 3.41 and US$ 51.11 per ton of cess is 4 percent and 61 percent respectively. There will be huge associated health benefits as well.

The maximum that the cess could be increased so that coal-based power producers could still break-even is US$ 15 per ton. This will keep large-scale coal power plants break even and would result in a potential CO_2 emissions reduction of 358 million tons per year, more than the entire CO_2 emissions of France. This is a hypothetical exercise since the reduction in profits of power plants would lead to calls for rationalizing power tariffs which would be highly disruptive.

9.6 Conclusions and Key Messages

- India has cut subsidies and increased taxes on fossil fuels (petrol and diesel) turning a carbon subsidy regime into one of carbon taxation.
- This has significantly increased petrol and diesel price while reducing annual CO_2 emissions.
- But there is still a long way to go with potential large gains still to be reaped from reform of coal pricing and further reform of petroleum pricing policies.
- On the whole, the move to substantial carbon taxation combined with India's ambitious solar power program suggests that India can make substantial contributions to the forthcoming Paris negotiations on climate change.

[10] In January 2015, while the average international price was around US$ 46/ton, the average domestic price was around US$ 25/ton without adjusting for the heat and ash content.

[11] Cropper. M. S. Gamkhar, K. Malik. A. Limonov, and I. Partridge, "The Health Effects of Coal Electricity Generation in India", 2012, RFF Working Paper.

The Fourteenth Finance Commission (FFC) – Implications for Fiscal Federalism in India?[1]

10 CHAPTER

"I feel more and more that we must function more from below than from the top… too much of centralization means decay at the roots and ultimately a withering of branches, leaves and flowers." -Pandit Jawaharlal Nehru

"We want to promote co-operative federalism in the country. At the same time, we want a competitive element among the states. I call this new form of federalism Co-operative and Competitive Federalism"

- Prime Minister Narendra Modi

10.1 Introduction

The Finance Commission is a Constitutional body formulated under Article 280 of the Indian Constitution. It is constituted every five years by the President of India to review the state of finances of the Union and the States and suggest measures for maintaining a stable and sustainable fiscal environment. It also makes recommendations regarding the devolution of taxes between the Center and the States from the divisible pool which includes all central taxes excluding surcharges and cess which the Centre is constitutionally mandated to share with the States.

The Fourteenth Finance Commission(FFC) was appointed on 2nd January, 2013under the chairmanship of Dr. Y. V. Reddy. In addition to the primary objectives mentioned above, the terms of reference for the commission sought suggestions regarding the principles which would govern the quantum and distribution of grants-in-aid (non-plan grants to states), the measures, if needed, to augment State government finances to supplement the resources of local government and to review the state of the finances, deficit and debt conditions at different levels of government.

10.2 Major Recommendations of FFC

The FFC has submitted its recommendations for the period 2015-16 to 2020-21. They are likely to have major implications for center-state relations, for budgeting by, and the fiscal situation of, the center and the states. Some of the major recommendationsare as follows;

- ***The FFC has radically enhanced the share of the states in the central divisible pool from the current 32 percent to 42 per cent which is the biggest ever increase in vertical tax devolution.*** The last two Finance Commissions viz. Twelfth (period 2005-10) and Thirteenth (period 2010-15) had recommended a state share of 30.5 per cent (increase of 1 percent) and 32 per cent (increase of 1.5 percent), respectively in the central divisible pool.
- The FFC has also proposed a ***new horizontal formula (Table 10.1)*** for the distribution of the states' share in divisible pool among the states. There are changes both in the variables included/excluded as well as the weights assigned to them. Relative to the Thirteenth Finance Commission, the FFC has incorporated two new variables: 2011 population and

[1] A more detailed version of this piece will be available online at finmin.nic.in after the Budget is presented.

Box 10.1 : Finance Commission - Concepts and definitions

Tax Devolution

One of the core tasks of a Finance Commission as stipulated in Article 280 (3) (a) of the Constitution is to make recommendations regarding the distribution between the Union and the states of the net proceeds of taxes. This is the most important task of any Finance Commission, as the share of states in the net proceeds of Union taxes is the predominant channel of resource transfer from the Centre to states.

Divisible Pool

The divisible pool is that portion of gross tax revenue which is distributed between the Centre and the States. The divisible pool consists of all taxes, except surcharges and cess levied for specific purpose, net of collection charges.

Prior to the enactment of the Constitution (Eightieth Amendment) Act, 2000, the sharing of the Union tax revenues with the states was in accordance with the provisions of articles 270 and 272, as they stood then. The eightieth amendment of the Constitution altered the pattern of sharing of Union taxes in a fundamental way. Under this amendment, article 272 was dropped and article 270 was substantially changed. The new article 270 provides for sharing of all the taxes and duties referred to in the Union list, except the taxes and duties referred to in articles 268 and 269, respectively, and surcharges on taxes and duties referred to in article 271 and any cess levied for specific purposes.

Grants-in-aid

Horizontal imbalances are addressed by the Finance Commission through the system of tax devolution and grants-in-aid, the former instrument used more predominantly. Under Article 275 of the Constitution, Finance Commissions are mandated to recommend the principles as well as the quantum of grants to those States which are in need of assistance and that different sums may be fixed for different States. Thus one of the pre-requisites for grants is the assessment of the needs of the States.

The First Commission had laid down five broad principles for determining the eligibility of a State for grants. The first was that the Budget of a State was the starting point for examination of a need. The second was the efforts made by States to realize the potential and the third was that the grants should help in equalizing the standards of basic services across States. Fourthly, any special burden or obligations of national concern, though within the State's sphere, should also be taken into account. Fifthly, grants might be given to further any beneficent service of national interest to less advanced States.

Grants recommended by the Finance Commissions are predominantly in the nature of general purpose grants meeting the difference between the assessed expenditure on the non-plan revenue account of each State and the projected revenue including the share of a State in Central taxes. These are often referred to as 'gap filling grants'. Over the years, the scope of grants to States was extended further to cover special problems. Following the seventy-third and seventy-fourth amendments to the Constitution, Finance Commissions were charged with the additional responsibility of recommending measures to augment the Consolidated Fund of a State to supplement the resources of local bodies. This has resulted in further expansion in the scope of Finance Commission grants. The Tenth Commission was the first Commission to have recommended grants for rural and urban local bodies. Thus, over the years, there has been considerable extension in the scope of grants-in-aid.

Fiscal capacity/Income distance

The income distance criterion was first used by Twelfth FC, measured by per capita GSDP as a proxy for the distance between states in tax capacity. When so proxied, the procedure implicitly applies a single average tax-to-GSDP ratio to determine fiscal capacity distance between states. The Thirteenth FC changed the formula slightly and recommended the use of separate averages for measuring tax capacity, one for general category states (GCS) and another for special category states (SCS).

Fiscal discipline

Fiscal discipline as a criterion for tax devolution was used by Eleventh and Twelfth FC to provide an incentive to states managing their finances prudently. The criterion was continued in the Thirteenth FC as well without any change. The index of fiscal discipline is arrived at by comparing improvements in the ratio of own revenue receipts of a state to its total revenue expenditure relative to the corresponding average across all states.

Table 10.1 : Horizontal Devolution Formula in the 13th and 14th Finance Commissions

Variable	Weights accorded	
	13th	14th
Population (1971)	25	17.5
Population (2011)	0	10
Fiscal capacity/Income distance (**See box-1**)	47.5	50
Area	10	15
Forest Cover	0	7.5
Fiscal discipline (**See box-1**)	17.5	0
Total	100	100

Source: **Reports of 13th and 14th Finance Commission**

forest cover; and excluded the fiscal discipline variable (Box-1).

- Several other types of transfers have been proposed including grants to rural and urban local bodies, a performance grant along with grants for disaster relief and revenue deficit. These transfers total to approximately 5.3 lakh crore for the period 2015-20.[2]
- The FFC has not made any recommendation concerning sector specific-grants unlike the Thirteenth Finance Commission.

10.3 Implications of FFC Recommendations for Fiscal Federalism: A Way Ahead

Based on its recommendations and projections, the FFC has assessed and quantified the implications for the revenues of states. In this analysis the revenue implications are reassessed based on more recent data (for 2014/15) and slightly differing assumptions about GDP growth, tax buoyancy[3] and other fiscal parameters.The estimated benefits (both from tax devolution and FFC grants together), based on certain assumptions related to both FY2014-15and FY2015-16,are shown in Table 10.2. The total increase in FFC transfers in FY2015-16 from FY2014-15 is estimated to be about 2 lakh crores (both from tax devolution and FFC grants). Several points are worth noting.

All states stand to gain from FFC transfers in absolute terms. However, to assess the distributional effects, the increases should be scaled by population, Net State Domestic Product (NSDP) at current market price[4], or by states' own tax revenue receipts[5]. These are shown in columns 4-6 of Table 10.2.The biggest gainers in absolute terms under GCS (Box-2) are Uttar

Box 10.2 : Special Category States (SCS) and General Category States (GCS)

The concept of a special category state was first introduced in 1969 when the Fifth Finance Commission sought to provide certain disadvantaged states with preferential treatment in the form of central assistance and tax breaks. Initially three states **Assam, Nagaland** and **Jammu & Kashmir** were granted special status but since then eight more have been included (**Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Sikkim, Tripura** and **Uttarakhand**). All other states barring these are treated as General Category States.The rationale for special status is that these states, because of inherent features, have a low resource base and cannot mobilize resources for development. Some of the features required for special status are: (i) **hilly and difficult terrain**; (ii) **low population density or sizeable share of tribal population**; (iii) **strategic location along borders with neighbouring countries**; (iv) **economic and infrastructural backwardness**; and (v) **non-viable nature of state finances**.

[2] Other than tax devolution (vertical and horizontal) which are specified in percentages, other transfers are specified as absolute numbers. Since we use different revenue numbers, we have assumed that these transfers will broadly grow in line with nominal GDP growth.

[3] Tax buoyancy is an indicator to measure efficiency and responsiveness of revenue mobilization in response to growth in the Gross domestic product or National income. It is measured as a ratio of growth in Tax Revenue to the growth in GDP. If the buoyancy value is greater than one then the growth in tax collection would be higher than the growth in GDP growth.

[4] NSDP at current market prices is for the year 2012-13.

[5] Own Tax Revenue is for the year 2011-12.

Table 10.2 : Additional FFC Transfers (in 2015-16 over 2014-15)

State	Category	Benefits from FFC (in ₹ crore)	Benefits Per capita (₹)	Benefits as % of OTR	Benefits as % of NSDP
1	2	3	4	5	6
Andhra Pradesh (united)	GCS	14620	1728	27.4	2.2
Arunachal Pradesh	SCS	5585	40359	1758.1	51.0
Assam	SCS	7295	2338	95.5	5.8
Bihar	GCS	13279	1276	105.3	4.9
Chhattisgarh	GCS	7227	2829	67.5	5.2
Goa	GCS	1107	7591	44.1	3.0
Gujarat	GCS	4551	753	10.3	0.8
Haryana	GCS	1592	628	7.8	0.5
Himachal Pradesh	SCS	8533	12430	207.7	14.6
Jammu & Kashmir	SCS	13970	11140	294.4	22.4
Jharkhand	GCS	6196	1878	89.1	4.8
Karnataka	GCS	8401	1375	18.1	1.8
Kerala	GCS	9508	2846	37.0	3.1
Madhya Pradesh	GCS	15072	2075	55.9	4.5
Maharashtra	GCS	10682	951	12.2	0.9
Manipur	SCS	2130	8286	578.7	19.5
Meghalaya	SCS	1381	4655	198.0	8.6
Mizoram	SCS	2519	22962	1410.1	33.3
Nagaland	SCS	2694	13616	886.5	18.7
Odisha	GCS	6752	1609	50.2	3.2
Punjab	GCS	3457	1246	18.3	1.4
Rajasthan	GCS	6479	945	25.5	1.6
Sikkim	SCS	1010	16543	343.7	10.7
Tamil Nadu	GCS	5973	828	10.0	0.9
Tripura	SCS	1560	4247	181.8	6.9
Uttar Pradesh	GCS	24608	1232	46.8	3.5
Uttarakhand	SCS	1303	1292	23.2	1.4
West Bengal	GCS	16714	1831	67.0	3.0
Total		204198	1715		

Source **: Ministry of Finance.**

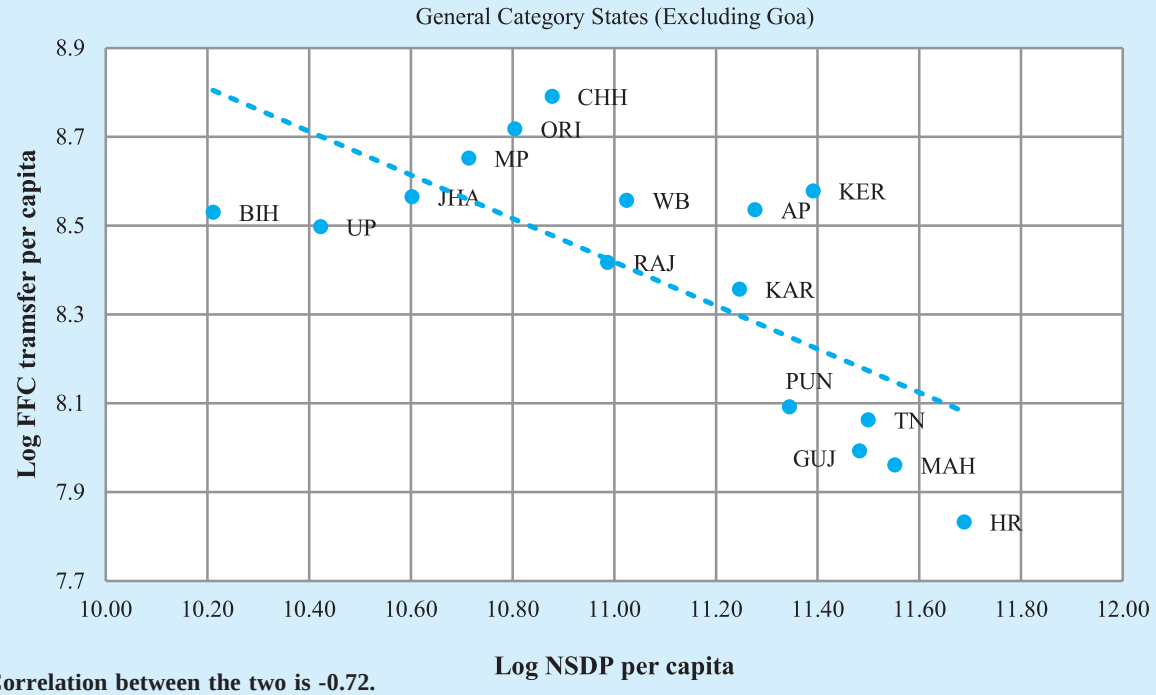
GCS- General Category States; SCS-Special Category States

Pradesh, West Bengal and Madhya Pradesh while for SCS it is Jammu & Kashmir, Himachal Pradesh and Assam. A better measure of impact is benefit per capita. The major gainers in per capita terms turn out to be Kerala, Chhattisgarh and Madhya Pradesh for GCS and Arunachal Pradesh, Mizoram and Sikkim for SCS.

The FFC recommendations are expected ***to add substantial spending capacity*** to states' budgets. The additional spending capacity can better be measure by scaling the benefits either by NSDP at current market price or by states' own tax revenue. In terms of the impact based on NSDP, the benefits of FFC transfers are highest for Chhattisgarh, Bihar and Jharkhand among the GCS and for states like Arunachal Pradesh, Mizoram and Jammu & Kashmir among the SCS. While in terms of states' own tax revenues, the largest gains accrue to GCS of Bihar, Jharkhand and Chhattisgarh and SCS of Arunachal Pradesh, Mizoram and Nagaland.

The FFC transfers have more favorable impact on the states (only among the GCS) which are relatively less developed which is an indication that the FFC transfers are ***progressive*** i.e. states with

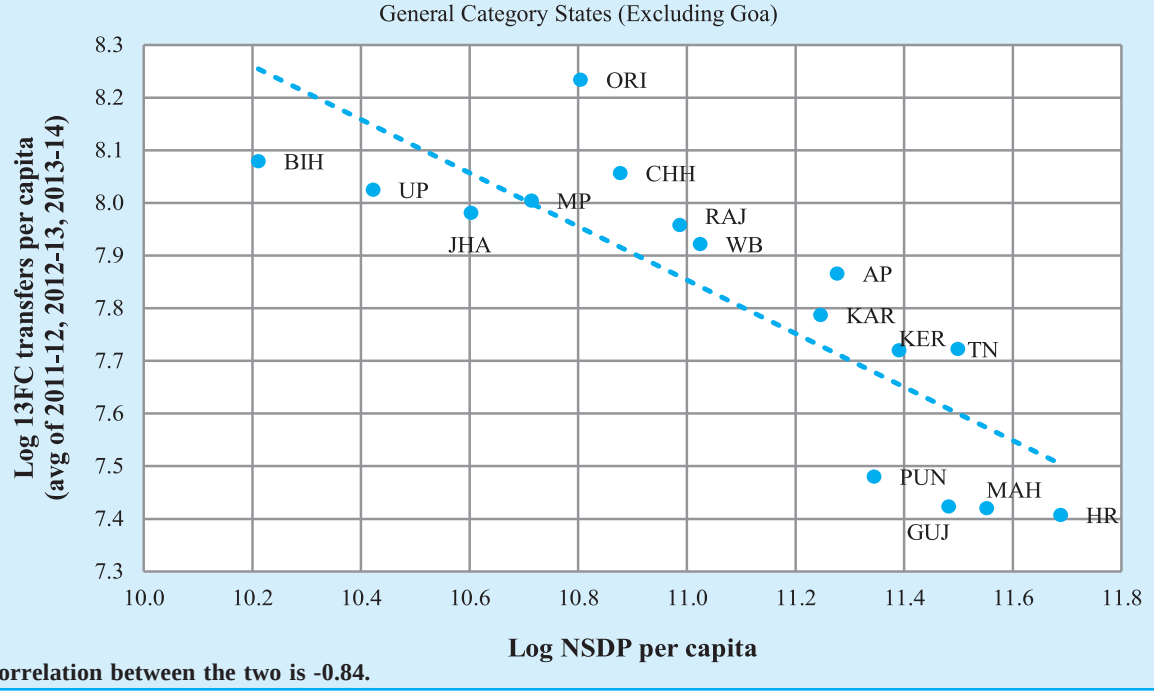
Figure 10.1: FFC transfers per capita and NSDP per capita



Correlation between the two is -0.72.

lower per capita NSDP receive on average much larger transfers per capita (Figure 10.1). The correlation between per capita NSDP and FFC is transfer per capita is -0.72. This indicates that the FFC recommendations do go in the direction of equalizing the income and fiscal disparities between the major states. However, FFC transfers are less progressive compared to the transfers of Thirteenth Finance Commission (TFC). The correlation coefficient between the NSDP per capita and TFC transfers per capita (average of 2011-12, 2012-13 and 2013-14) per capita is-0.84 (Figure 10.2).

Figure 10.2: TFC transfers per capita and NSDP per capita



Correlation between the two is -0.84.

A final interesting finding relates to the decomposition of the resource transfers through tax devolution due to the increase in the divisible pool per se and due to the change in the horizontal devolution formula itself. The significant impact due to increase in the divisible pool is on states like Uttar Pradesh, Bihar, Madhya Pradesh, West Bengal and Andhra Pradesh (United) while states like Arunachal Pradesh, Chhattisgarh, Madhya Pradesh, Karnataka and Jharkhand are the major gainers due to a change in the horizontal devolution formula which now gives greater weight to a state's forest cover (Table 10.3).

10.4 Balancing Fiscal Autonomy and Fiscal Space

The spirit behind the FFC recommendations is to increase the automatic transfers to the states to give them more fiscal autonomy and this is ensured by increasing share of states from 32 to 42 per cent of divisible pool. Assuming the recommendations of FFC were to be implemented as it is, there is concern that fiscal space or fiscal consolidation path of the Centre would be adversely affected. However, to ensure that the Centre's fiscal space is secured, the suggestion is

Table 10.3 : Decomposition of FFC Transfers to States

State	State share in 14th FC	State share in 13th FC	Decomposition of FFC Transfers	
			Due to change in Divisible pool	Due to change in Share
Andhra Pradesh (United)	0.06742	0.06937	107.5	-7.5
Arunachal Pradesh	0.0137	0.00328	24.9	75.1
Assam	0.03311	0.03628	129.0	-29.0
Bihar	0.09665	0.10917	142.8	-42.8
Chhattisgarh	0.0308	0.0247	64.9	35.1
Goa	0.00378	0.00266	53.9	46.1
Gujarat	0.03084	0.03041	96.7	3.3
Haryana	0.01084	0.01048	92.3	7.7
Himachal Pradesh	0.00713	0.00781	128.9	-28.9
Jammu & Kashmir	0.01854	0.01551	69.5	30.5
Jharkhand	0.03139	0.02802	78.2	21.8
Karnataka	0.04713	0.04328	82.7	17.3
Kerala	0.025	0.02341	86.1	13.9
Madhya Pradesh	0.07548	0.0712	87.4	12.6
Maharashtra	0.05521	0.05199	87.1	12.9
Manipur	0.00617	0.00451	56.6	43.4
Meghalaya	0.00642	0.00408	47.7	52.3
Mizoram	0.0046	0.00269	43.7	56.3
Nagaland	0.00498	0.00314	47.3	52.7
Odisha	0.04642	0.04779	107.7	-7.7
Punjab	0.01577	0.01389	76.2	23.8
Rajasthan	0.05495	0.05853	118.4	-18.4
Sikkim	0.00367	0.00239	49.0	51.0
Tamil Nadu	0.04023	0.04969	207.5	-107.5
Tripura	0.00642	0.00511	64.1	35.9
Uttar Pradesh	0.17959	0.19677	129.0	-29.0
Uttarakhand	0.01052	0.0112	118.2	-18.2
West Bengal	0.07324	0.07264	98.0	2.0

Source **: Ministry of Finance and Reports of Finance Commissions.**

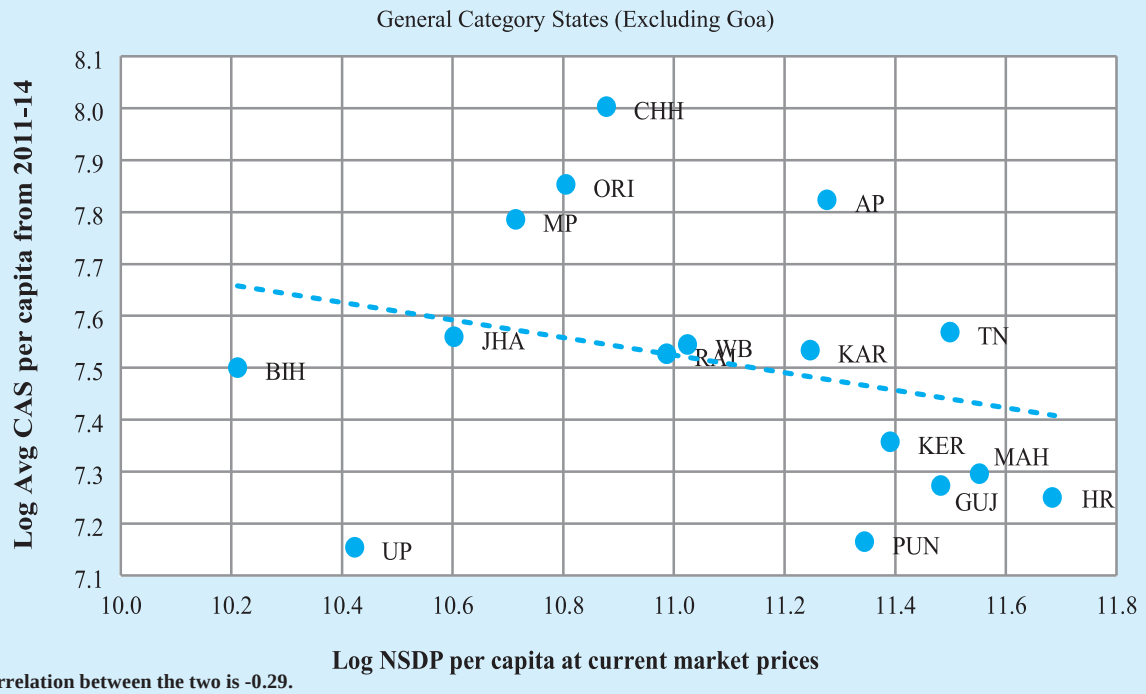
that there will be commensurate reductions in the Central Assistance to States (CAS) known as "plan transfers."

One immediately noteworthy fact is that CAS transfers per capita are only mildly progressive (Figure 10.3): the correlation coefficient with state per capita NSDP is -0.29. This is a consequence of plan transfers moving away from being Gadgil formula-based to being more discretionary in the last few years. Greater central discretion evidently reduced progressivity. A corollary is that implementing the FFC recommendations would increase progressivity because progressive tax transfers would increase and discretionary and less progressive plan transfers would decline.

Balancing the enhanced fiscal autonomy of the states with preserving fiscal space of the Centre entails reduction in CAS transfers. But there are many ways of doing the latter from the totally discretionary to formula-based. Within the latter too there are many options: (i) proportionate cuts across the states in CAS transfers; (ii) ensuring the implementation of legally-backed/mandated schemes[6] and then proportionately cutting the residual; (iii) equal per capita distribution of CAS transfers; (iv) implementing the legally-backed schemes and then distributing the remaining amount in line with the FFC formula for tax devolution; and many more. For simplicity, here we discuss options (i) only. We calculate the net surplus to the states, i.e. the difference between increase in FFC transfers less the reduction in CAS transfers and display the results in Table 10.4.

Table-10.4 is constructed to compare state-wise the increased benefits from FFC and the CAS transfers in 2015-16. The surplus/shortfall[7] shown in column 3 has been obtained by taking the difference between total benefit from FFC and reduction in CAS in 2015-16 over 2014-15. This difference is also shown in columns 4, 5 and 6 in terms of population, NSDP and own tax revenues respectively. Essentially, the

Figure 10.3: Average CAS transfers per capita in 2011-14 & NSDP per capita



Correlation between the two is -0.29.

[6] Legally backed schemes are SSA, MGNREGA, MPLAD, SPA to EAP, PMGSY and others.

[7] The surplus and shortfall are based on certain assumptions regarding the estimation/projection of CAS allocations to states in 2014-15 and 2015-16. The calculation of surplus/shortfall may vary once the actual numbers of CAS allocation for 2014-15 and estimated CAS allocations to states are out.

Table 10.4 : Total Surplus/shortfall after transfer under CAS but preserving the fiscal space for Center

State	CAS over and above legally backed schemes (in ₹ crore)	surplus/short fall after transfer under CAS but preserving the fiscal space for centre			
		Absolute (₹ crore)	Per capita (in ₹)	% of NSDP	% of OTR
Andhra Pradesh(united)	5062	10134	1198	1.5	19.0
Arunachal Pradesh	2555	4572	33038	41.8	1439.2
Assam	5860	4378	1403	3.5	57.3
Bihar	6998	8783	844	3.2	69.6
Chhattisgarh	2673	5258	2058	3.8	49.1
Goa	180	995	6820	2.7	39.6
Gujarat	4179	2454	406	0.4	5.5
Haryana	1509	714	282	0.2	3.5
Himachal Pradesh	3593	6826	9944	11.7	166.2
Jammu & Kashmir	8185	10679	8515	17.1	225.0
Jharkhand	2870	4650	1410	3.6	66.9
Karnataka	4873	5300	867	1.1	11.4
Kerala	2778	7834	2345	2.5	30.5
Madhya Pradesh	7959	10389	1431	3.1	38.5
Maharashtra	5365	7496	667	0.6	8.6
Manipur	2029	1250	4861	11.4	339.5
Meghalaya	1536	661	2229	4.1	94.8
Mizoram	1157	1967	17925	26.0	1100.7
Nagaland	2019	1839	9293	12.7	605.0
Odisha	6826	3497	833	1.7	26.0
Punjab	1820	2478	893	1.0	13.2
Rajasthan	6618	2423	353	0.6	9.5
Sikkim	1415	489	8006	5.2	166.3
Tamil Nadu	2376	2644	366	0.4	4.4
Tripura	2139	458	1246	2.0	53.3
Uttar Pradesh	9110	18716	937	2.7	35.6
Uttarakhand	3014	-48	-48	-0.1	-0.9
West Bengal	8386	11365	1245	2.0	45.6
TOTAL	113081	138198			

Source **: Ministry of Finance.**

numbers in these columns also answer the question of whether the states, if they wanted to, can maintain the same level of spending on the programs financed by the CAS especially the legally-backed schemes, and still have additional resources to finance their own new programs. If they do not want to accept Centrally Sponsored Schemes, all the increase in FFC transfers is new, unencumbered money.

All the GCS gain from FFC transfers net of CAS reduction. The top three gainers in absolute terms under GCSare Uttar Pradesh, West Bengal and Madhya Pradesh while for SCS it is Jammu & Kashmir, Himachal Pradesh and Arunachal Pradesh. The better way of measuring the surplus/ shortfall would be in per capita terms. The major gainers are Goa, Kerala and Chhattisgarh for GCS and Arunachal Pradesh, Mizoram and Himachal Pradesh for SCS.

The surplus/shortfall as per cent of NSDP at current market price are shown in column 5 of table 10.4, the states which add up maximum fiscal resources are Chhattisgarh, Jharkhand and Bihar among the GCS while among the SCS it is Arunachal Pradesh, Mizoram and Jammu & Kashmir. The surplus is going to add significant amount to the states revenue. There are nine states among the GCS which are expected to get more than 25 per cent of their own tax revenue (column 6 of table 10.4)

10.5 Caveats and Conclusion

Some caveats or complications to this exercise must be noted. First, they are sensitive to the assumptions underlying GDP growth, revenue and expenditure estimations/projections for 2014-15 and 2015-16. Secondly, assumptions are also made about CAS amounts in 2014-15 and about reductions in CAS amounts in 2015-16. So, these must be treated as illustrative calculations. For example, another option would simply be to transfer those schemes that are on State list back to the states. Also, estimates have only been presented for the year 2015-16. Thereafter, additional factors such as GST implementation and the next Pay Commission awards will affect projections beyond the coming year.

With these caveats, the main conclusions are that the FFC has made far-reaching changes in tax devolution that will move the country toward greater fiscal federalism, conferring more fiscal autonomy on the states. This will be enhanced by the FFC-induced imperative of having to reduce the scale of other central transfers to the states. In other words, states will now have greater autonomy on the revenue and expenditure fronts. The numbers also suggest that this renewed impulse toward fiscal federalism need not be to the detriment of the center's fiscal capacity. A collateral benefit of moving from CAS to FFC transfers is that overall progressivity will improve.

To be sure, there will be transitional costs entailed by the reduction in CAS transfers. But the scope for dislocation has been minimized because the extra FFC resources will flow precisely to the states that have the largest CAS-financed schemes.

In sum, the far-reaching recommendations of the FFC, along with the creation of the NITI Aayog, will further the Government's vision of cooperative and competitive federalism. The necessary, indeed vital, encompassing of cities and other local bodies within the embrace of cooperative and competitive federalism is the next policy challenge.

CONTENTS

NOTES

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

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

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ABBREVIATIONS

AAY	Antyodaya Anna Yojana
AAY	Antyodaya Anna Yojana
AE	Advance Estimates
ADR	American Depository Receipt.
AFOLU	Agriculture, Forestry and Other Land Use
APMC	Agricultural Produce Marketing Committee.
AR5	Assessment Report 5
ASEAN	Association of South East Asian Nations
AT & C	Aggregate Technical & Commercial
BBP	Beti Bachao Beti Padhao
BCBS	Basel Committee on Banking Supervision.
BCD	Bond-Currency-Derivative.
BDI	Baltic Dry Index
BPLR	Base Prime Lending Rate
BPM	Business Process Management
CACP	Commission for Agricultural Costs & Prices
CASA	Current and Savings Account.
CAGR	Compound Annual Growth Rate
CCFS	Committee on Comprehensive Financial Services for Small Businesses and Low-Income Households.
CCP	Central counter party.
CES	Consumer Expenditure Survey
CLA	Central Loan Assistance
CMIE	Centre for Monitoring Indian Economy
COP	Conference of Parties
CPI-NS	Consumer Price Index-New Series
CRAR	Capital to Risk Weighted Assets Ratio.
CRIS	Centre for Railway Information Systems
CSMS	Core Subsidy Management System
CTT	Commodities Transaction Tax.
CWC	Central Water Commission
CWC	Central Warehousing Corporation
CFPI	Consumer Food Price Index
DDA	Doha Development Agenda
DDUGJY	Deendayal Upadhyaya Gram Jyoti Yojana
DDU-GKY	Deen Dyal Upadhya grameen Kaoshalya Yojana
DGH	Directorate General of Hydrocarbons
DISE	District Information System for Education
DFTP	Duty Free Tariff Preference
DGCIS	Directorate General of Commercial Intelligence and Statistics.
DRM	Domestic Resource Mobilization
DWT	Deadweight Tonnage
DRT	Debts Recovery Tribunal.
DWT	Dead Weight Tonnage
ECGC	Export Credit Guarantee Scheme.
EFTA	European Free Trade Association
EMDEs	Emerging Market and Developing Economies
EMEs	Emerging Market Economies
EOU	Export-Oriented Unit
ETA	Electronic Travel Authorization
FCNR (B)	Foreign Currency Non-Resident Deposit (Banks)
FEE	Foreign Exchange Earnings
FIT	Flexible Inflation Targeting.
FMS	Focus Market Scheme
FOMC	Federal Open Market Committee.
FPI	Foreign Portfolio Investor.
FPS	Focus Product Scheme
FSAT	Financial Sector Appellate Tribunal.
FSLRC	Financial Sector Legislative Reforms Commission.
GBS	Gross budgetary support
GRDI	Global Retail Development Index
GSPR	Global R&D Service Providers
G2B	Government to Business
GDR	Global Depository Receipt.
GEF	Global Environment Facility
GERD	Gross Expenditure on Research and Development
GNPA	Gross non-performing assets.
GRDI	Global Retail Development Index
G-Sec	Government securities.
GT	Gross Tonnage
GTR-	Gross tax revenue
HITS	Headend in The Sky
HKMD	Hong Kong Ministerial Declaration
HRIDAY	Heritage City Development and Augmentation Yojana
IEM	Industrial Entrepreneur Memorandum
ICD	Inland Container Depots
ICPs	Integrated Check Posts
ITAs	*International Tourist Arrivals*
ITeS	Information Technology Enabled Services
ITRs	*International Tourism Receipts*
IFC	Indian Financial Code.
IIP	International Investment Position
IPP	Institutional Placement Programme.
IISER	Indian Institute of Science Education & Research
INDC	Intended Nationally Determined Contributions
IPDS	Integrated Power Development Scheme
IPP	Institutional Placement Programme.
IT-ITeS	Information Technology Information Technology Enabled Services
ITA	Information Technology Agreement
JMC	Joint Ministerial Commission
LAF	Liquidity Adjustment Facility.
LCOs	Local Cable Operators
LULUCF	Land use, Land-use Change and Forestry
MANAS	Maulana Azad National Academy for Skills
MAT	Minimum Alternative Tax
MIS	Management Information System.
MMSCMD	Million Metric Standard Cubic Metre per Day
MSF	Marginal Standing Facility.
MSOs	Multi System Operators
MPS	Minimum Public Shareholding.
MSF	Marginal Standing Facility.
MSMED Act	Micro,Small and Medium Enterprises Development Act
MT	Metric Tonne.
MTFPS	Medium Term Fiscal Policy statement
NASSCOM	National Association of Software and Service Companies
NALSA	National Legal Services Authority
NAM	National AYUSH Mission
NAPCC	National Action Plan on Climate Change
NBFI	Non banking financial institution.
NBS	Nutrient Based Subsidy.
NBFC-ND-SI	Systemically Important Non-Deposit taking Non-Banking Financial Company
NCEF	National Clean Energy Fund
NCEUS	National Commission on Enterprises in the Unorganised Sector
NCVT	National Council for Vocational Training
NDA	Net Domestic Assets.
NDR	National Data Repository
NDTL	Net Demand and Time Liability.
NEER	Nominal Effective Exchange Rate
NeGP	National e-Governance Plan.
NELP	New Exploration Licensing Policy
NDTL	Net Demand and Time Liability.
NFM	Non-food manufactured
NFA	Net Foreign Assets.

NFSM	National Food Security Mission
NHPC	National Hydro-Electric Power Corporation
NIAEs	Newly Industrialized Asian Economies
NIDC	National Industrial Development Corporation Limited
NMCC	National Manufacturing Competitive Council
NMDFC	National Minorities Development and Finance Corporation
NOFN	National Optical Fibre Network
NPAG	Nutrition Programme for Adolescent Girls
NPCBB	National Project for Cattle and Buffalo Breeding
NPIT	National Policy on Information Technology
NWR	Negotiable Warehouse Receipt
ODF	Open Defecation Free
OMO	Open Market Operation.
OWG	Open Working Group
PAT	Perform Achieve Trade
PCT	Patent Cooperation Treaty
PDMA	Public Debt Management Agency.
PDSN	Public Distribution System Network
PE	Private Equity.
PEG	Private Entrepreneurs Guarantee
PISA	Programme for International Student Assessment.
PLF	Plant Load Factor
PMI	Purchasing Managers Index.
PNGRB	Petroleum & Natural Gas Regulatory Board
QE	Quantitative easing.
QFI	Qualified Foreign Investor.
QIP	Qualified institutional placement
R-APDRP	Restructured Accelerated Power Development and Reforms Programme
RCEP	Regional Comprehensive Economic Partnership
REC	Renewable Energy Certificates
REER	Real Effective Exchange Rate
REITs	Real Estate Investment Trusts
RFPI	Registered Foreign Portfolio Investor.
RoE	Return on Equity.
SAAR	Seasonally Adjusted Annualized Rate
SAC	Space Applications Centre
SAPCC	State Action Plan on Climate Change
SARFESI	Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest.
SBM	Swachh Bharat Mission
SSCs	Sector Skill Councils
CRR	Securities Contracts (Regulation) rules.
SAGY	Sansad Adarsh Gram Yojna
SDGs	Sustainable Development Goals
SMA	Special Mention Accounts.
SPI	Services Price Index
SRS	Sample Registration System
STT	Securities Transaction Tax.
STU	State Transmission Utility
SWC	State Warehousing Corporations
SWMA	Special Ways and Means Advances.
TAFTA	Transatlantic Free Trade Area/Agreement
TCF	Trillion Cubic Feet
TEE	Town of Exports Excellence
TEUs	Twenty Foot Equivalent Units
TiVA	Trade in Value Added
TMM	Trade Monitoring Mechanism
TNC	Trade Negotiating Committee
TPF	*Trade Policy Forum*
TSA	Tourism Satellite Account
UNFCCC	United Nations Framework Convention on Climate Change
UNSC	United Nations Statistical Commission
UNWTO	United Nations World Tourism Organization
USTTAD	Upgrading the Skills and Training Arts/Crafts for Development
VKGUY	Vishesh Krishi and Gram Udyog Yojana
WALR	Weighted average lending rate.
WEO	World Economic Outlook.
WHT	Withholding Tax.
WIOD	World Input-Output Database
WMA	Ways and Means Advances.
WTTC	World Travel and Tourism Council

Economic Survey 2014-15

Volume II

Government of India
Ministry of Finance
Department of Economic Affairs
Economic Division
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State of the Economy-An Overview

01
CHAPTER

One of the redeeming features, while comparing economic performance across different countries for the year 2014-15, has been the emergence of India among the few large economies with propitious economic outlook, amidst the mood of pessimism and uncertainties that engulf a number of advanced and emerging economies. Brighter prospects in India owe mainly to the fact that the economy stands largely relieved of the vulnerabilities associated with an economic slowdown, persistent inflation, elevated fiscal deficit, slackening domestic demand, external account imbalances, and oscillating value of the rupee in 2011-12 and 2012-13. From the macroeconomic perspective, the worst is clearly behind us. The latest indicators, emerging from the recently revised estimates of national income brought out by the Central Statistics Office, point to the fact that the revival of growth had started in 2013-14 and attained further vigour in 2014-15. Factors like the steep decline in oil prices, plentiful flow of funds from the rest of the world, and potential impact of the reform initiatives of the new government at the centre along with its commitment to calibrated fiscal management and consolidation bode well for the growth prospects and the overall macroeconomic situation. Encouraged by the greater macro-economic stability and the reformist intent and actions of the government, coupled with improved business sentiments in the country, institutions like the IMF and the World Bank have presented an optimistic growth outlook for India for the year 2015 and beyond. The possible headwinds to such promising prospects, however, emanate from factors like inadequate support from the global economy saddled with subdued demand conditions, particularly in Europe and Japan, recent slowdown in China, and, on the domestic front, from possible spill-overs of below normal agricultural growth and challenges relating to the massive requirements of skill creation and infrastructural upgradation. The encouraging results from the Advance Estimates for 2014-15 suggest that though the global sluggishness has partly fed into the lacklustre growth in foreign trade; yet this downward pressure has been compensated by strong domestic demand, keeping the growth momentum going.

Recent Growth Record

1.2 Before analysing the recent macroeconomic trends, it may be mentioned that the Central Statistics Office (CSO) has recently revised the national accounts aggregates by shifting to the new base of 2011-12 from the earlier base of 2004-05 (see Box 1.1 for details). Given the provisional

Table 0.1 : Key Indicators

Data categories	Unit	2011-12	2012-13	2013-14	2014-15
1. GDP and Related Indicators					
GDP (constant market prices)	₹ Crore	8832012[NS]	9280803[NS]	9921106[NS]	10656925[AE]
Growth Rate	%	—	5.1	6.9	7.4
GVA at Basic prices (2011-12 prices)	₹ Crore	8195546[NS]	8599224[NS]	9169787[NS]	9857672[AE]
Growth Rate	%	—	4.9	6.6	7.5
Saving Rate	% of GDP	33.9	31.8	30.6	na
Capital Formation (rate)	% of GDP	38.2	36.6	32.3	na
Per Capita Net National Income (At current market prices)	₹	64316[NS]	71593[NS]	80388[NS]	88533[AE]
2. Production					
Food grains	Million tonnes	259.3	257.1	265.6	257.1[a]
Index of Industrial Production[b] (growth)	%	2.9	1.1	-0.1	2.1[f]
Electricity Generation (growth)	%	8.1	4.0	6.0	9.9[f]
3. Prices					
Inflation (WPI) (average)	%	8.9	7.4	6.0	3.4[f]
Inflation CPI (IW) (average)	%	8.4	10.4	9.7	6.2[f]
4. External Sector					
Export growth (US$)	%	21.8	-1.8	4.7	4.0[f]
Import growth (US$)	%	32.3	0.3	-8.3	3.6[f]
Current Account Balance (CAB)/GDP	%	-4.2	-4.7	-1.7	-1.9 (H1)
Foreign Exchange Reserves[g]	US$ billion	294.4	292.0	304.2	328.7
Average Exchange Rate[c]	₹ /US$	47.92	54.41	60.50	60.78[f]
5. Money and Credit					
Broad Money (M3) (annual)	% change	13.5	13.6	13.2	11.5[h]
Scheduled Commercial Bank Credit	% change	17.0	14.1	13.9	10.7[h]
6. Fiscal Indicators (Centre)					
Gross Fiscal Deficit	% of GDP	5.7	4.8	4.5[d]	4.1[e]
Revenue Deficit	% of GDP	4.4	3.6	3.2[d]	2.9[e]
Primary Deficit	% of GDP	2.7	1.8	1.2[d]	0.8[e]

Note: na : Not Available, NS : New Series Estimates. AE : Advance Estimate.
H1: April-September 2014.

[a] 2nd Advance Estimates.

[b] Base (2004-05=100).

[c] Indicative rates announced by Foreign Exchange Dealers Association of India (FEDAI) and from May 2012 onwards are RBI's reference rates.

[d] Fiscal indicates for 2013-14 are based on the provisional actual.

[e] Budget Estimates

[f] April-December 2014.

[g] Figures for 2011-12 to 2013-14 relate to end of financial year and the figure for 2014-15 is at end January 2015.

[h] As on January 9, 2015.

Box 1.1 : Revision of the Base Year of National Accounts from 2004-05 to 2011-12

The current base year revision follows the revision undertaken in January 2010. The following are the major changes incorporated in the just-concluded base-year revision:

(i) Headline growth rate will now be measured by GDP at constant market prices, which will henceforth be referred to as 'GDP', as is the practice internationally. Earlier, growth was measured in terms of growth rate in GDP at factor cost at constant prices.

(ii) Sector-wise estimates of gross value added (GVA) will now be given at basic prices instead of factor cost. The relationship between GVA at factor cost, GVA, at basic prices, and GDP (at market prices) is given below:

GVA at basic prices = CE + OS/MI + CFC + production taxes less production subsidies

GVA at factor cost = GVA at basic prices - production taxes less production subsidies

GDP = $\sum$ GVA at basic prices + product taxes - product subsidies

(where, CE : compensation of employees; OS: operating surplus; MI: mixed income; and, CFC: consumption of fixed capital. Production taxes or production subsidies are paid or received with relation to production and are independent of the volume of actual production. Some examples of production taxes are land revenues, stamps and registration fees and tax on profession. Some production subsidies are subsidies to Railways, input subsidies to farmers, subsidies to village and small industries, administrative subsidies to corporations or cooperatives, etc. Product taxes or subsidies are paid or received on per unit of product. Some examples of product taxes are excise tax, sales tax, service tax and import and export duties. Product subsidies include food, petroleum and fertilizer subsidies, interest subsidies given to farmers, households, etc. through banks, and subsidies for providing insurance to households at lower rates).

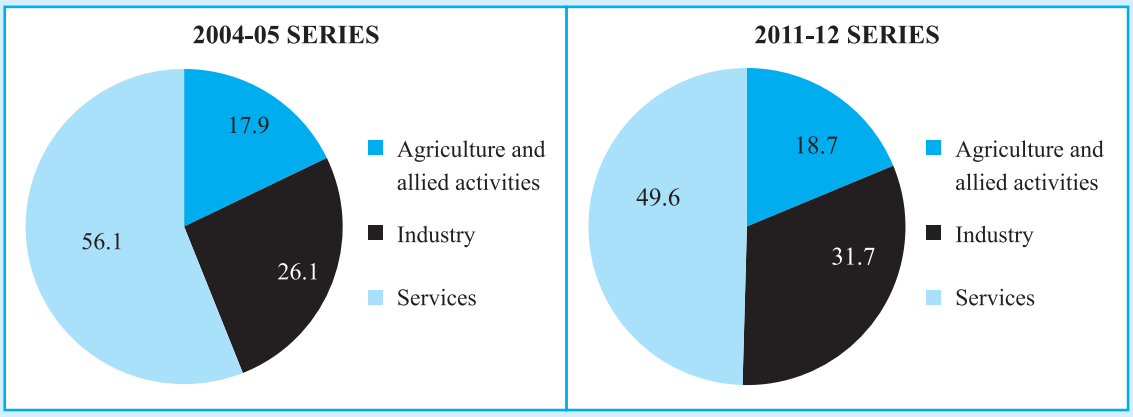
(iii) Comprehensive coverage of the corporate sector both in manufacturing and services by incorporation of annual accounts of companies as filed with the Ministry of Corporate Affairs (MCA) under their e-governance initiative, MCA21. Use of MCA21 database for manufacturing companies has helped account for activities other than manufacturing undertaken by these companies.

(iv) Comprehensive coverage of the financial sector by inclusion of information from the accounts of stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, and the regulatory bodies including the Securities and Exchange Board of India (SEBI), Pension Fund Regulatory and Development Authority (PFRDA) and Insurance Regulatory and Development Authority (IRDA).

(v) Improved coverage of activities of local bodies and autonomous institutions, covering around 60 per cent of the grants/transfers provided to these institutions.

Owing to these changes, estimates of GVA both at aggregate and sectoral levels have undergone changes. The sector-wise shares in aggregate GVA have undergone significant revision especially in the case of manufacturing and services (Figure 1). Changes have also been observed in the growth rates in GVAs of individual sectors and contribution of each sector to overall GVA due to use of sales tax and service tax data for estimation in the years 2012-13 and 2013-14. Caution needs to be exercised while comparing estimates and growth rates from the earlier series to the new series.

Figure 1: Percentage Share of Sectors in GVA at factor cost at current prices-Average of 2011-12 to 2013-14



and preliminary nature of the available information that may take time to stabilize and the fact that information for growth-related parameters is available only for three years on the revised base, it becomes difficult to objectively analyse the broad macroeconomic trends on a longer term horizon. The new set of information also cannot be compared with the information and analysis based on the 2004-05 series.

1.3 The economic scenario presented by the new series (with 2011-12 as base year) reveals that there was perceptible improvement in some of the macro-aggregates of the economy in 2013-14, which got strengthened in 2014-15. Economic growth, measured by growth in gross domestic product (GDP) at constant market prices, estimated at 5.1 per cent and 6.9 per cent respectively during 2012-13 and 2013-14, was higher than the corresponding figures of 4.7 per cent and 5.0 per cent released under the 2004-05 series in May 2014. That this high growth occurred in a year when the both the savings and investment to GDP ratios were lower than the average of a number of years and when the level of imports (that are generally positively associated with GDP) actually declined by 8.4 per cent in real terms, is somewhat puzzling. One of the reasons why the real GDP growth rate for 2013-14 appears to be strong is the lower GDP level in 2011-12 and 2012-13 along with lower GDP deflators than were thought hitherto.

Table 1.1 : Comparison of Old Series and New Series

Item	Year	Difference between new series and old series in percentage points
Growth in GVA at factor cost	2012-13	0.4
	2013-14	1.9
Growth in deflator	2012-13	0.5
	2013-14	-0.3
Level of GVA at factor cost at current prices	2011-12	-2.2
	2012-13	-1.3
	2013-14	0.2

Source: **CSO.**

1.4 The table 1.1 captures these effects separately based on the new and old series of the GVA at factor cost. The level of GVA was lower in 2011-12 and 2012-13 in the new series vis-à-vis the old series, with the degree of change tapering off in successive years. [This cannot be verified for the Advance Estimates (AE) for 2014-15, for which only the data from new series is available]. A greater decline in the level of GDP in 2011-12 and 2012-13, has given an upward push to the growth rate in the 2013-14. On the other hand, the upward revision of inflation in 2012-13, measured by the GDP deflator, gave a downward push to growth, but not to the extent of nullifying the positive effect of relative revisions in absolute levels. In 2013-14, the downward revision in the deflator pushed up real growth in the new series.

Table 1.2 : Growth in GVA at Constant (2011-12) Basic Prices (per cent)

	2012-13	2013-14	2014-15
Agriculture, forestry & fishing	**1.2**	**3.7**	**1.1**
Industry	**2.3**	**4.5**	**5.9**
Mining & quarrying	-0.2	5.4	2.3
Manufacturing	6.2	5.3	6.8
Electricity, gas, water supply,& other utility services	4.0	4.8	9.6
Construction	-4.3	2.5	4.5
Services	**8.0**	**9.1**	**10.6**
Trade, hotels & restaurants, transport &communication	9.6	11.1	8.4
Financing, insurance, real estate & business services	8.8	7.9	13.7
Community, social,& personal services	4.7	7.9	9.0
GVA at basic prices	**4.9**	**6.6**	**7.5**
GDP (at market prices)	**5.1**	**6.9**	**7.4**

Source: **Based on the CSO's Press Notes dated 30 January 2015 and 9 February 2015.**

1.5 The estimates at disaggregated level (Table 1.2) indicate that agriculture and allied sectors—including crops, livestock, forestry and logging, and fishing—picked up growth in 2013-14. This was not unexpected as 2013-14 happened to be an exceptionally good year from the point of view of rainfall.

1.6 The manufacturing sector registered a growth of 6.2 per cent and 5.3 per cent respectively in 2012-13 and 2013-14 (6.1 per cent and 5.3 per cent in terms of GVA at factor cost). As per the pre-revised series, this growth was 1.1 per cent and - 0.7 per cent. This surprising change in growth rate can be ascribed to normal data revisions that take place as per revision schedules, the effect of base change as well as more comprehensive coverage of the corporate sector with the incorporation of MCA21 database of the Ministry of Corporate Affairs. For instance, on the basis of earlier methodology and the 2004-05 series, growth rate of the manufacturing sector for 2011-12 was 3.9 per cent as per estimates released in February 2012, which was later revised to 2.7 per cent in January 2013 and 7.4 per cent in January 2014. This implies that some revision in manufacturing growth could have taken place in 2012-13 and 2013-14, even without the base revision. The upward revision in manufacturing growth in the new series also owes to inclusion of trade carried out by manufacturing companies in the manufacturing sector itself, which was earlier part of the services sector.

1.7 At the disaggregated level of the new series, the growth in manufacturing sector was chiefly on account of robust growth in textiles, apparels, and leather products, averaging 17.7 per cent during 2012-13 and 2013-14, and the machinery and equipment sector averaging 9.3 per cent. Food products are yet to pick up momentum.

1.8 The services sector triggered the growth momentum in 2013-14. Services like trade and repair services, rail transport, communication and broadcasting services and miscellaneous services achieved double-digits/close to double-digits growth during the year. However, sectors like water transport and storage services lagged behind.

1.9 The AE of national income for the current year indicate that the positive growth trends that unravelled in 2013-14 appear to have strengthened in 2014-15 in the industrial and services sectors, with the result that the growth in GVA at basic prices improved by 0.9 percentage points and the GDP by 0.5 percentage points in 2014-15. While electricity, gas, and water supply and other utility services are projected to achieve robust growth, manufacturing has gained momentum. Construction has done better while mining and quarrying activities still exhibit a tentative pattern. With appropriate policy changes, coal sector has broken shackles and grew by 9.1 per cent during April-December 2014. However, crude oil, natural gas and refinery products continued the slump, damaging the overall mining story. It is difficult to reconcile the results for the industrial sector, particularly manufacturing, from the new series of the national accounts with the indications from the Index of Industrial Production (IIP). The IIP is based on a limited sample of producing units, while the new series of national accounts employs varied data sources including Annual Survey of Industries, MCA21 and IIP.

1.10 All major service-sector activities are estimated to have done well in the current year too. Financing, insurance, real estate, and business services, one of the most dynamic sector in the economy in recent years, is reckoned to have driven growth in the current year.

1.11 The base revision has also shown that the contribution of the agriculture sector to overall GVA at factor cost is somewhat higher than was hitherto being shown on the basis of the earlier (2004-05) series. In addition, despite higher growth in services, there has been a realignment of sectoral shares in favour of the industrial sector mainly on account of the correction for underestimation of manufacturing GVA in the old series and overestimation of the trade sector GVA in services (Table 1.3).

Table 1.3 : Share in GVA at Factor Cost at Current Prices

Sector	2004-05 series			2011-12 series			
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14	2014-15
Agriculture and allied activities	17.9	17.5	18.2	18.9	18.7	18.6	17.6
Industry	27.2	26.2	24.8	32.9	31.7	30.5	29.7
Services	54.9	56.3	57.0	48.2	49.6	50.9	52.7

Source **: CSO's Press Releases of 30 January 2015 and 9 February 2015 on New Series Estimates of National Income.**

1.12 Overall, the average share of the industrial sector was revised upwards by 5.6 percentage points from 26.1 per cent in the old series to 31.7 per cent under the new series, for the three- year block, 2011-12 to 2013-14. Corresponding to this, there was a downward revision in the average share of services by 6.5 percentage points from 56.1 per cent to 49.6 per cent. Agriculture and allied sectors also had a share gain of 0.9 percentage point during the period. Despite reasonable growth in the industrial sector, its GVA share declined in 2014-15 because of the robust growth in the services sector. It is observed that the contribution of the services sector to total GVA growth (at basic prices) increased from 68.2 per cent in 2013-14 to 72.4 per cent in 2014-15, while the corresponding figures for agriculture and allied sectors and the industrial sector changed from 9.8 per cent to 2.6 per cent and from 22.1 per cent to 25.1 per cent respectively.

Quarter-wise Trends

1.13 Quarter-wise numbers of growth are useful in tracing the under lying momentum. Comparing the AE of growth for the full year 2014-15 and the estimates for the first three quarters, it is observed that an implied growth rate of 7.8 per cent is estimated in GVA at constant basic prices for Q4 2014-15 (Table 1.4).

1.14 The quarter-wise figures of growth suggest that the momentum has been kept up in all quarters of 2014-15.The mild decline in growth in Q3 could be on account of the dampening impact of agriculture and allied sectors and the moderation in the industrial sector.

1.15 Some variations in the quarterly contribution to the country's GDP have been observed in the 2004-05 series as well as in the revised (2011-12) series of national accounts. In the revised series is noticed that the first half of the financial year accounts for about 47 per cent of the total GDP at current prices, whereas the second half accounts for 53 per cent. A similar pattern of variations was noticed in the GDP at current market prices for 2004-05 series, in which the first half accounted for around 46 per cent of total GDP, while the balance 54 per cent was accounted for by the second half.

Value of Output and Value Added

1.16 The difference between gross value of output (GVO) and gross value added (GVA) is intermediate consumption. Contrasts in the sectoral shares in GVA and GVO presented in Table 1.5

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

Sector	2013-14				2014-15		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Agriculture, forestry, and fishing	2.7	3.6	3.8	4.4	3.5	2.0	-0.4
Industry	4.8	4.0	5.0	4.3	6.1	6.0	3.9
Services	10.2	10.6	9.1	6.4	8.6	10.1	13.5
GVA at basic prices	7.2	7.5	6.6	5.3	7.0	7.8	7.5

Source **: CSO's Press Release dated 9 February 2015.**

Table 1.5 : Relationship between GVA and GVO (at constant prices)

Item	Ratio of Sectoral GVA to Sectoral GVO			Ratio of sectoral GVO to total GVO *	Ratio of sectoral GVA to total GVA *	Growth in GVO (per cent)	
	2011-12	2012-13	2013-14			2012-13	2013-14
1	2	3	4	5	6	7	8
Agriculture & allied	77.1	77.2	77.3	10.4	17.8	1.0	3.6
Industry	25.4	26.4	26.5	55.9	32.4	-1.6	3.9
Manufacturing	20.5	22.2	22.4	37.7	18.2	-1.8	4.3
Services	65.7	66.6	67.6	33.7	49.9	6.5	7.4
Total	43.8	45.4	46.0	100.0	100.0	1.3	5.1

***Notes* : Calculations based on CSO data; * average for 2011-12 to 2013-14.**

(columns 5 and 6) echo the differences in the value addition ratios presented in Columns 2 to 4 of the table.

1.17 The ratio of GVA to GVO shows that value addition is the highest in agriculture and lowest in manufacturing. The differences between the GVO shares and GVA shares are stark among all the sectors, particularly manufacturing. The low ratio of GVA to GVO in manufacturing signifies, on the one hand, that the sector creates substantial demand for the output of other sectors and, on the other, that Indian manufacturing needs to move up the value chain to improve its contribution to overall GVA.

1.18 From the data presented in Tables 1.2 and 1.5, it turns out that in the case of manufacturing, the GVO (at constant prices) declined by 1.8 per cent in 2012-13, while the real GVA grew by 6.2 per cent. Simultaneously, the ratio of GVA to GVO increased significantly (Table 1.5). Furthermore, the ratio of consumption of fixed capital to GVA at constant prices in manufacturing declined from 17.5 per cent in 2011-12 to 17.1 per cent in 2012-13. Hence, despite an output contraction, the factor incomes increased significantly in manufacturing leading to a 6.2 per cent growth in the sector's GVA in 2013-14. Similarly, in the services sector, the growth in GVA in 2012-13 was 1.5 percentage points higher than the growth in GVO.

1.19 From Tables 1.1 and 1.5, it can further be observed that the outcome of the growth in GVA outstripping the growth in GVO in manufacturing and services continued in 2013-14. In manufacturing, GVO growth turned positive (4.3 per cent) in 2013-14, but it was outpaced by the growth in GVA. These emerging trends in manufacturing and services, indicating improving value addition and hence, in a way, greater efficiency in production, are encouraging.

Aggregate Demand

1.20 The Indian economy underwent serious demand and supply constraints in recent years. With the firming up of growth in 2013-14, the final consumption expenditure in the economy (expressed at constant prices) also got strengthened (Table 1.6).

1.21 There was a downward pressure on aggregate demand due to the steep decline in the rate of capital formation (Table 1.6), constraining domestic absorption (consumption plus investment) to grow by only 2.8 per cent in 2013-14. Despite this, a growth close to 7 per cent was achieved in 2013-14 on the back of the robust 7.3 per cent growth in exports of goods and services and 8.4 per cent downslide in imports.

1.22 The decline in the rate of gross fixed capital formation (GFCF) during 2013-14 was much less pronounced than in the overall investment rate

Table1.6 : Growth in GDP at Constant (2011-12) Market Prices (per cent)

	2012-13	2013-14	2014-15(A)
Total final consumption expenditure	4.9	6.5	7.6
Private final consumption expenditure	5.5	6.2	7.1
Government final consumption expenditure	1.7	8.2	10.0
Gross capital formation*	2.6	-4.0	NA
Gross fixed capital formation	-0.3	3.0	4.1
Changes in stock	-6.2	-21.4	3.9
Valuables	3.3	-48.7	28.2
Exports	6.7	7.3	0.9
Imports	6.0	-8.4	-0.5
Growth in GDP at constant market prices	5.1	6.9	7.4

Source **: CSO.**
Notes **: A : Advance Estimates; * Gross Capital Formation adjusted for errors and omissions.**
NA : Not available

(gross capital formation-GCF), because the other two components of GCF, viz. changes in stock and valuables, declined significantly (Tables 1.6 and 1.7). The correction in the stock of inventories is an ongoing process that is determined by the demand and supply conditions and is not, in a big way, related to the capital base of the economy. Likewise, valuables, i.e. the accumulation of gold, silver, and other precious metals, do not add much to the productive base either. Hence the decline in these items in 2013-14, though in accounting sense leads to a moderation in investment, need not be read much into. However, the almost five percentage point reduction in the rate of fixed investment (Table 1.7) from 2011-12 to 2014-15 would need to be reversed for growth to be sustained and augmented. Contrary to the long-term trends in consumption, the average propensity to consume increased visibly (Table 1.7) during the last three years, mainly on account of higher growth in government consumption expenditure. This is expected to partially provide the required demand impetus to growth.

1.23 The demand side of the GDP presented mixed signals in 2014-15. First, the increasing trends in consumption have gradually firmed up, with both private and government consumption growing in strength (Tables 1. 6 and 1.7). Second, the fixed capital formation in the economy has picked up growth but lost share in aggregate demand. Third, there is hardly any support to growth from exports. The deceleration in imports owes substantially to the sharp decline in international oil prices in the current year that compressed the oil import bill. Hence one cautious conclusion could be that the ongoing growth revival is predominantly domestic consumption-driven.

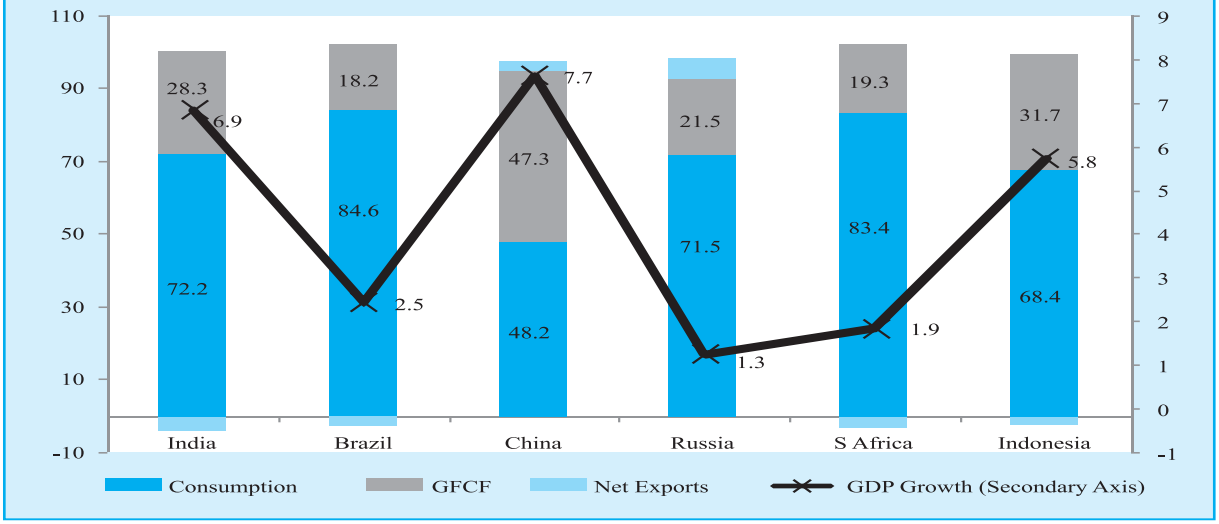
Table 1.7 : Rates of Expenditure Components to GDP at Current Prices

	2011-12	2012-13	2013-14	2014-15
1. Final consumption expenditure	68.8	69.7	71.0	72.1
2. Gross capital formation	38.2	36.6	32.3	NA
Gross fixed capital formation	33.6	31.4	29.7	28.6
Changes in stock	2.4	2.1	1.6	1.5
Valuables	2.9	2.8	1.3	1.3
3. Net export of goods and services	-6.4	-6.7	-2.9	-2.4

Source **: CSO.**

Note: **Shares will not add up due to statistical discrepancies, NA=Not available.**

Figure 1.1: Demand side Components as percent of GDP in BRICS countries and Indonesia in 2013



Source **: World Bank data base, except for India's growth rate which is fromthe CSO.**

Note **: For India, figures are for the financial year 2013-14.**

1.24 Comparison of the growth rates and ratios of GFCF to GDP among countries from Figure 1.1 conveys that India operates at the lowest incremental capital output ratios (ICOR-based on GFCF) among the BRICS countries (and Indonesia). Given an average fixed investment rate of 30.5 per cent for 2012-13 and 2013-14, and given the average GDP growth of 6 per cent for these years, the ICOR works out to 5.1. With growth improving to 7.4 per cent in 2014-15 and with the ratio of GFCF declining slightly (despite acceleration in the rate of growth of GFCF), the ICOR for India may have declined further.

1.25 From the past trends in the saving rate (gross domestic savings as percentage of GDP) available from the pre-revised series, it is observed that it reached its historical peak in 2007-08 (36.8 per cent) and then remained volatile, with a general downward movement. While private corporate savings steadily declined, household savings witnessed realignment in favour of accumulation of physical assets at the cost of financial savings. Indications of compositional changes in savings can be seen from the data for three years based on the new series.

1.26 While the old series of savings is not strictly comparable with the new series (2011-12 base) for many reasons, including on account of the inclusion of 'valuables' as part of savings, the three years' data from the new series suggests that households' acquisition of physical assets is on the decline (Table 1.8). Disaggregated data further shows that despite the annual addition to financial assets of households growing from 31.2 per cent of gross savings in 2011-12 to 36.8 per cent in 2013-14, the rate of financial savings of households did not pick up (Table 1.8) because their financial liabilities increased simultaneously from 9.7 per cent of gross savings to 13.2 per cent. Data from the Reserve Bank of India (RBI) shows that, on one side, additional bank deposits of households increased by 27.8 per cent during 2011-12 to 2013-14, while, on the other side, bank advances to households increased by 25.9 per cent.

Table 1.8 : Gross Savings as Percentage of GDP at Market Prices

	2011-12	2012-13	2013-14
Gross savings	33.9	31.8	30.6
Public	1.4	1.7	1.6
Private corporate	9.7	10.0	10.9
Household	22.8	20.2	18.2
Physical*	15.5	13.2	11.0
Financial	7.3	7.0	7.2

Source **: CSO.**

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

1.27 The retained profits of the private corporate sector adjusted for non-operating surplus/ deficit, defined as their savings under the national accounts, increased during 2011-12 to 2013-14 (Table 1.8).This is in contrast to the trends revealed by the old series which had shown that private corporate saving was only 7.3 per cent of the GDP in 2011-12 and it declined to 7.1 per cent in 2012-13.The reliance on the MCA21 database with a much larger coverage of companies than the RBI's sample studies on finances of non-financial corporations (which was the data source for the old series) may have led to the afore-shown revision in the ratios and their trends. As per the new series, the ratio of the savings of private non-financial corporations to GDP increased from 8.5 per cent in 2011-12 to 9.5 per cent in 2013-14, while the change in the saving rate of private financial corporations was only marginal.

1.28 There was no significant change in the inter se composition of public-sector savings from 2011-12 to 2013-14, except that the dissaving of the general government got reduced, which is consistent with the reduction in the combined revenue deficit of the central and state governments during the period. The combined revenue deficits of the centre and states declined from 4.1 per cent in 2011-12 to 3.7 per cent (RE) in 2012-13 and further to 2.9 per cent (BE) in 2013-14 (Source : Reserve Bank of India).

Table 1.9 : Ratio of Investment to GDP (at current market prices-per cent)

	2011-12	2012-13	2013-14
Gross capital formation	38.2	36.6	32.3
Public sector	7.6	7.2	8.0
Private sector	28.4	26.3	23.3
Corporate sector	13.3	13.5	12.6
Household sector	15.1	12.9	10.7
Gross savings	33.9	31.8	30.6
Saving investment gap	-4.3	-4.8	-1.6
Net capital inflow	4.3	4.8	1.6

***Source* : CSO.**
***Note*: Totals may not tally due to adjustment for errors and omissions.**

1.29 Juxtaposing savings with investment (Tables 1.8 and 1.9), it becomes clear that it was the large saving-investment gap of the consolidated public sector, complemented by a less pronounced gap in the private corporate sector, which could not be fully defrayed by the savings of households, that constituted the aggregate saving-investment gap. The gap between domestic savings and domestic investment is definitionally equal to the current account balance (net capital inflows in Table 1.9). In view of the above, it is clear that household financial savings need to be raised to keep the saving-investment gap at acceptable levels.

1.30 The composition of capital formation is important in determining its productivity. This will be determined largely by the complementarities required between machinery and built-in structures. Table 1.10 conveys that the addition to intellectual property products, which is separately shown as part of capital formation in the new series, is gradually picking up. It further shows that construction forms the major part of addition to fixed capital. The erection of dwelling units adds to income and employment significantly during the period of construction and generates large forward and backward linkages through creation of demand in the input sectors and real estate services. (The input output tables 2007-the latest available-indicate that among various sectors, construction has the highest linkages in the economy.)

1.31 However, construction of dwelling units cannot be perceived to make a direct permanent addition to the productive capacity of the economy. Data does not permit examination of such

Table 1.10 : Components as Percentage of Total GFCF

	2011-12	2012-13	2013-14
Dwellings, other buildings & structures	59.3	58.2	58.6
Machinery & equipment	35.6	36.7	35.6
Cultivated biological resources	0.2	0.2	0.2
Intellectual property products	4.8	4.9	5.6

***Source* : CSO.**

Table 1.11 : Household GFCF as Percentage of GDP

	2011-12	2012-13	2013-14
Household GFCF	15.0	12.6	10.6
Of which, dwellings, other building and structures	12.7	10.6	8.9

Source **: CSO.**

construction separately from other construction like roads, rail network, irrigation structures, etc.

1.32 The erection of dwelling units, other buildings and structures by households accounted for about 34 per cent of the total GFCF in the economy and 84 per cent of households' own GFCF during 2011-12 to 2013-14. Table 1.11 shows that the share of household construction as a ratio of GDP declined by 3.8 percentage points between 2011-12 and 2013-14. Simultaneously, the ratio of total GFCF to GDP came down by 3.9 percentage points (Table1.6), implying that the reduction in the rate of fixed capital formation during the period was almost fully accounted for by the deceleration in household construction. This may be one of the reasons why a higher growth could be reaped, despite a reduction in fixed capital formation in 2012-13 and 2013-14. Table 1.12 shows that all major sectors have been affected by the reduction in rate of capital formation.

Table 1.12 : Sector-wise Distribution of Investment

Sector	GCF to GDP ratio (%)		
	2011-12	2012-13	2013-14
Agriculture & allied	3.1	2.6	2.5
Industry	13.5	12.9	11.7
Manufacturing	7.1	6.9	6.0
Other industrial sectors	6.4	6.0	5.8
Services	19.5	18.0	17.1

Source **: CSO.**

Note **: This does not include valuables and the adjustment factor from flow of funds and hence will not match with GCF.**

FACTOR SHARES IN GVA

1.33 In line with the income approach to GDP, the GVA at basic prices in a year can be expressed as the sum of the compensation of employees (CE), operating surplus (OS) / mixed income of the self-employed (MI), consumption of fixed capital (CFC) and taxes net of subsidies on production (Table 1.13). CE is the composite value of wages and salaries paid in the sector, including the social

Table 1.13 : The Income Components of GVA and Income and Employment Shares

Sector	CE to GVA	OS & MI to GVA	CFC to GVA	GVA share of the sector	Employment share
	Average 2011-13				2011
Agriculture & allied	**15.3**	**81.6**	**6.6**	**18.1**	**48.9**
Industry	**35.7**	**49.1**	**14.6**	**31.9**	**24.3**
Mining & quarrying	23.9	62.5	12.8	3.0	0.5
Manufacturing	23.6	58.4	17.0	17.8	12.6
Electricity, gas, & water supply	31.7	36.5	34.1	2.3	0.5
Construction	65.2	29.1	5.1	8.8	10.6
Service sector	**38.9**	**50.0**	**10.4**	**50.0**	**26.9**
Trade, hotels, & restaurants	23.5	69.9	5.2	11.4	11.0
Transport, storage, & communication	37.9	49.8	15.0	6.6	4.8
Financial, real estate, & business services	26.1	61.4	10.8	19.4	2.3
Community, social, & personal services	72.7	14.9	12.3	12.7	8.7
Total	**33.6**	**55.5**	**11.1**	**100.0**	**100**

Source **: CSO.**

contributions made by the employer, representing the income share of employees in the GVA. In the organized sector, OS is the difference between net value added and compensation of employees. As a result of the existence of unincorporated enterprises and household industries in the unorganized sector, which either do not maintain accounts or are wholly managed by self-employed workers, net value added (NVA) cannot be separated as income of labour and entrepreneurship. This necessitated the introduction of an item called mixed income of self-employed to complete the account.

1.34 In the agricultural sector, CE represents only the share of wages to hired labour and hence the total returns to farmers working on their own fields/fields hired by them, becomes part of MI. Hence it is difficult to relate the employment share in agriculture to CE in agriculture. The presence of a large unorganized segment in manufacturing and certain services also makes it difficult to establish correspondence between their employment shares and the CE to GVA ratios. It may be noted that the employment share of the construction sector is higher than its GVA share, and the same gets reflected in the sector's CE to GVA ratio. Apart from agriculture, construction is the only sector whose employment share is higher than GVA share. As per the AE for 2014-15, the growth in construction is gradually picking up, which should auger well for employment generation.

1.35 Among service-sector activities, two sectors with comparatively lower presence of the unorganized segment include financial, real estate, and business services and community, social, and personal services. Consistent with the contrast in their GVA and employment shares, the ratio of CE to GVA is also vastly different in these sectors. Community, social, and personal services have a majority government presence.

Per capita income

1.36 During 2012-13 to 2013-14, the average growth in per capita income, i.e. 4.3 per cent as per the new series (Table 1.14), is much higher than the corresponding growth of 2.4 per cent presented by the old series.

1.37 Having analysed the trends in growth, savings, and investment, certain other key macro-parameters relating to the fiscal situation, balance of payments (BoP), prices, and monetary management, are discussed in the following paragraphs.

Public Finance

1.38 In 2013-14, proactive policy decisions of the government with firm commitment to the policy of fiscal rectitude improved the year-end performance of the fiscal deficit target set for year. The first nine months of 2014-15 have witnessed some major policy reforms in the subsidy regime; the modified direct benefit transfer scheme has been launched; the new domestic gas pricing policy has been approved; and diesel prices have been deregulated. An Expenditure Management Commission has been constituted to look into various aspects of expenditure reforms to achieve the goal of fiscal consolidation. It will review the allocative and operational efficiencies of government expenditure to achieve maximum output.

1.39 As per provisional accounts, the fiscal deficit for 2013-14 worked out at 4.5 per cent of GDP as opposed to the Budget Estimate (BE) of

Table 1.14 : Per Capita Net National Income

	(₹)				Growth (in per cent)		
	2011-12	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
At current prices	64316	71593	80388	88533	11.3	12.3	10.1
At constant (2011-12) prices	64316	66344	69959	74193	3.2	5.4	6.1

Source **: CSO.**

4.8 per cent. Fiscal deficit and revenue deficit were budgeted at ₹ 5, 31,177 crore (4.1 per cent of GDP) and ₹ 3, 78,348 crore (2.9 percent of GDP) respectively in 2014-15.

1.40 The BE for 2014-15 aimed at achieving tax to GDP and non-debt receipt to GDP ratios of 10.6 per cent and 9.8 per cent respectively as against a 13.9 per cent total expenditure to GDP ratio. The envisaged growth for gross tax revenue was 17.7 per cent over the Revised Estimates (RE) for 2013-14 and 19.8 per cent over the Provisional Actuals (PA) 2013-14. Total expenditure was estimated to increase by 12.9 per cent and 14.8 per cent in BE 2014-15 over RE 2013-14 and PA 2013-14 respectively.

1.41 As per the data on union government finances for April-December 2014 released by the Controller General of Accounts (CGA), the gross tax revenue increased by 7 per cent in comparison to the corresponding period of the previous year and is at 58.3 per cent of BE in April-December 2014. The non-tax revenue during April-December 2014 registered an increase of 27.3 per cent over the corresponding period of the previous year due to increase in interest receipts and dividends and profits. In non-debt capital receipts, there is significant shortfall as of December 2014, mainly on account of shortfall in disinvestment receipts, as only ₹ 1952 crore of the budgeted amount of ₹ 58,425 crore has been realized. A number of disinvestment proposals are on the anvil and are expected to bring in revenue in the remaining period of fiscal year 2014-15.

1.42 On the expenditure side of Union Government accounts, the notable trends during April-December 2014 include a shortfall in growth in Plan and non-Plan expenditure vis-à-vis the corresponding period of the previous year**.** Major subsidies during April-December 2014 have increased by 12.5 per cent compared to April-December 2013 due to increase in food subsidy (₹ 21,807 crore) and fertilizer subsidy (₹ 6620 crore). A significant positive outcome in 2014-15 so far is a decline in petroleum subsidy by ₹ 4908 crore compared to the corresponding period in 2013-14 due to fuel pricing reforms and fall in the global prices of petroleum products.

1.43 Fiscal deficit at 100.2 per cent of BE in 2014-15 (April-December) is much higher than the five-year -average of 77.7 per cent. The revenue deficit for April-December 2014 is estimated at 106.2 per cent of BE and is significantly higher than the five-year -average of 81.4 per cent.

Prices and Monetary Management

1.44 Headline inflation measured in terms of the Wholesale Price Index (WPI) (base year 2004-05=100) which remained persistently high at around 6-9 per cent during 2011-13 moderated to an average of 3.4 per cent in 2014-15(April-December) on the back of lower food and fuel prices. During the first quarter of 2014-15, WPI headline inflation was at 5.8 per cent mainly because food and fuel prices continued to be high. In the second and third quarters of 2014-15, WPI inflation declined to 3.9 per cent and 0.5 per cent respectively. WPI headline inflation declined by 0.4 per cent in January 2015 as compared to January 2014. WPI food inflation (weight: 24.3 per cent), which remained high at 9.4 per cent during 2013-14, moderated to 4.8 per cent during April-December 2014 following sharp correction in vegetables prices since December 2013 (except March 2014) and moderation in prices of cereals, eggs, meat and fish. As fuel has larger weight in the WPI, the decline in fuel prices led to a sharper reduction in the WPI as compared to the Consumer Price Index (CPI). Inflation in manufactured products has remained within a narrow range since 2013-14.

1.45 Retail inflation as measured by the CPI (combined) (base year 2010=100) had remained stubbornly sticky around 9-10 per cent during 2012-13 and 2013-14. Like the WPI inflation, CPI inflation has also moderated significantly since the second quarter of 2014-15, with moderation in inflation observed in all the three major sub-groups, viz. food and beverages, and tobacco; fuel and light; and others. The CPI (combined) inflation

Table 1.15 : Quarter-wise Inflation in CPI (base 2010=100) Broad Groups (in per cent)

	Weights	2013-14				2014-15		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3 (P)
General	**100.0**	**9.5**	**9.7**	**10.4**	**8.4**	**8.1**	**7.4**	**5.0**
I. Food and beverages & tobacco	49.7	11.0	11.1	12.9	9.2	8.9	8.6	4.8
II. Fuel and Light	9.5	8.4	7.9	7.0	6.3	5.2	4.0	3.4
III. Others	40.8	7.9	8.2	8.0	7.9	7.6	6.7	5.5
Food (CFPI)	42.7	11.1	11.4	13.6	9.3	9.1	8.8	4.5
Core inflation (Non-food non-fuel)	42.9	8.0	8.2	8.1	8.0	7.7	6.8	5.7

***Source*: CSO. P : Provisional.**

declined to a low of 5 per cent in Q3 of 2014-15 (Table 1.15). As per the revised CPI (new series) with the base year 2012, headline CPI inflation stood at 5.1 per cent in January 2015.

1.46 The decline in inflation during the year turned out to be much faster than was anticipated in the initial months of the year. Global factors, namely persistent decline in crude prices, soft global prices of tradables, particularly edible oils and even coal, helped moderate headline inflation. The tight monetary policy was helpful in keeping the demand pressures contained, creating a buffer against any external shock, and keeping volatility in the value of the rupee under check. During the last one year, the rupee remained relatively stable vis-à-vis the major currencies, which too had sobering influence on inflation. Moderation in wage rate growth reduced demand pressures on protein-based items. Base effect also contributed to the decline in headline inflation.

Monetary Developments

1.47 The RBI kept policy rates unchanged during the year till January 2015. With the easing of inflationary conditions, the RBI has signalled softening of the monetary policy stance by cutting policy repo rates by 25 basis points to 7.75 percent in January 2015. Subsequently, the RBI also reduced the statutory liquidity ratio (SLR) by 50 basis points from 22.0 per cent of net demand and time liabilities (NDTL) to 21.5 per cent. The RBI adopted the new CPI (combined) as the measure of the nominal anchor - for policy communication from April 2014.

1.48 With a view to ensuring flexibility, transparency, and predictability in liquidity management operations, the Reserve Bank revised its liquidity management framework in September 2014. Liquidity conditions have remained broadly balanced during 2014-15 so far, except transient tight conditions. The revised liquidity management framework helped the weighted average cut-off rates in the fourteen-day term repo auctions as well as in the overnight variable rate repo auctions to remain close to the repo rate.

External Sector

1.49 After a turbulent initial phase in 2013-14, the outcome for the year as a whole was robust owing to the policies that were put in place to correct the extraordinary situation. A continuance of the robust external sector outcome through the current financial year facilitated the lifting of restrictions on gold and, in tandem with lower international prices of crude petroleum, helped usher in reform in diesel pricing. The lack of full pass-through of global crude petroleum prices to domestic diesel prices was a major factor in the elevated levels of twin deficits. Going forward, the robustness of the external outcome is on a sustainable reform anchor.

International Trade

1.50 Over the last ten years, India's merchandise trade (on customs basis) increased manifold from US$ 195.1 billion in 2004-05 to US$ 764.6 billion in 2013-14 helping India's share in global exports and imports improve from 0.8 per cent and 1.0 per cent respectively in 2004 to 1.7 per cent and 2.5 per cent in 2013. Its ranking amongst the leading exporters and importers improved from 30 and 23 in 2004 to 19 and 12 respectively in 2013.

1.51 After growing by 4.7 per cent in 2013-14, India's merchandise exports growth moderated to 2.4 per cent to reach US$ 265 billion in 2014-15 (April-January). During 2013-14, India's merchandise imports contracted by 8.3 per cent to US$ 450.2 billion. In 2014-15 (April-January), imports grew by 2.2 per cent to US$ 383.4 billion as compared to US$ 375.3 billion in 2013-14 (April-January). The value of petroleum, oil, and lubricants (POL) imports, which accounted for 36.6 per cent of India's total imports in 2013-14, declined by 7.9 per cent in 2014-15 (April-January) as a result of decline in the price of international crude petroleum products. The growth in imports of POL was 5.9 per cent and 0.4 per cent respectively in 2012-13 and 2013-14. Given the less than adequate pass-through, the level of POL imports continued to be elevated till the first quarter of the current financial year. There was moderation in international crude oil prices (Brent) from US$109.8 per barrel in the first quarter of 2014-15 to US$ 76.0 per barrel in the third quarter which resulted in the value of POL imports declining by 7.9 per cent in 2014-15 (April-January).

1.52 The share of gold and silver imports in India's total imports was 11.4 per cent in 2012-13 and 7.4 per cent in 2013-14. Gold and silver imports that declined by 9.6 per cent and 40.4 per cent respectively in 2012-13 and 2013-14 grew by 8.0 per cent in 2014-15 (April-January). Capital goods imports declined continuously from 2011. Non-POL and non-gold and silver imports, which largely reflect the imports needed for industrial activity, grew by 7.8 per cent in 2014-15 (April-January), after registering a decline of 0.7 per cent and 6.9 per cent respectively in 2012-13 and 2013-14.

1.53 Manufactured goods constituted the bulk of exports—over 63 per cent in recent years—followed by crude and petroleum products (including coal) with 20 per cent share and agriculture and allied products with 13.7 per cent share. After crossing US $ 300 billion in 2011-12, there has been significant deceleration in growth rates of exports which is somewhat a global phenomenon as global trade volumes have not picked up significantly since the 2011 Eurozone crisis. Growth in exports of petroleum and agriculture and allied products which were in positive territory for the last four years turned negative in 2014-15 (April-January). Gems and jewellery exports which exhibited a declining trend in 2012-13 and 2013-14, continued to decline in 2014-15 (April-January). Similarly, the decline in electronic goods exports since 2012-13 continued in 2014-15. During 2014-15 (April-January), some sectors like transport equipment; machinery and instruments; manufactures of metals; and ready-made garments registered positive growth in exports. Marine products and leather and leather manufactures recorded relatively higher growth in 2012-13, 2013-14, and 2014-15 (April-January).

1.54 There has been significant market diversification in India's trade in recent years—a process that has helped cope with the sluggish global demand, which owes to a great extent to the weakness in the Eurozone. Region-wise, India's export shares to Europe and America have declined over the years from 23.6 per cent and 20.1 per cent respectively in 2004-05 to 18.6 per cent and 17.2 per cent respectively in 2013-14. Conversely, shares of India's exports to Asia and Africa have increased from 47.9 per cent and 6.7 per cent respectively in 2004-05 to 49.4 per cent and 9.9 per cent respectively in 2013-14.

1.55 In 2014-15 (April-January), trade deficit increased marginally by 1.6 per cent to US$ 118.4 billion as against US$ 116.5 billion in 2013-14

(April-January). Lower growth of exports (2.4 per cent) and imports (2.2 per cent) in 2014-15 (April-January) has resulted in a marginal increase of US $ 1.9 billion in the trade deficit.

BoP

1.56 The widening of the current account deficit (CAD) in 2011-12 and 2012-13 owed to elevated levels of imports and its financing had implications in terms of larger outgo as investment income in the invisibles account. As a proportion of the level of CAD, such outgo rose from 28.2 per cent in 2007-08 to 72.6 per cent in 2013-14. One of the important considerations for reduction in CAD was that even with its full financing, the levels of CAD have a cascading impact through investment income outgo.

1.57 In the first half of 2014-15, India's external-sector position was benign and comfortable. Two important developments were: (i) lower trade deficit along with moderate growth in invisibles that resulted in lower CAD and (ii) surge in capital inflows, enabled by higher portfolio investment, foreign direct investment (FDI), and external commercial borrowings (ECB).

1.58 Capital inflows were in excess of the financing requirement of the CAD and resulted in accretion in foreign exchange reserves. The CAD was placed at US $ 17.9 billion in 2014-15 (April-September) as against US $ 26.9 billion in the same period of 2013-14. As a proportion of GDP, the CAD declined from 3.1 per cent in the first half of 2013-14 to 1.9 per cent in the first half of 2014-15. Net financial flow was at US$ 36.0 billion in the first half of 2014-15 compared to US$ 16.3 billion in the first half of 2013-14. Net foreign investment surged from US$ 7.8 billion in 2013-14 (April-September) to US$ 38.4 billion in 2014-15 (April-September). Net ECB also improved from US$ 2.5billion in 2013-14 (April-September) to US$ 3.4 billion in 2014-15 (April-September). Net banking capital witnessed a decline from US$ 11.5 billion to US $(-) 0.5 billion during the same period. With net capital flows remaining higher than the CAD, there was net accretion of US$ 18.1 billion to India's foreign exchange reserves (on BoP basis) in H1 of 2014-15 as against a drawdown of US$ 10.7 billion in H1 of 2013-14.

1.59 Among the major economies with a CAD, India is the second largest foreign exchange reserve holder after Brazil**.** India's foreign exchange reserves at US$ 330.2 billion as on 6 February 2015 mainly comprised foreign currency assets amounting to US$ 305.0 billion, accounting for about 92.5 per cent of the total. With increase in reserves in the first half of 2014-15, all reserve-based traditional external sector vulnerability indicators have improved. For instance, the ratio of short-term external debt to reserves declined from 29.3 per cent at end-March 2014 to 27.5 per cent as at end-September 2014 and the reserve cover for imports also increased from 7.8 months at end-March 2014 to 8.1 months as at end-September 2014.

1.60 The rupee-US dollar exchange rate has remained broadly stable during the year thanks to the huge inflow of FDI and foreign institutional investment (FII) in the equity and bond markets. Due to the weak economic outlook in Europe and Japan, the rupee has appreciated against the euro and yen since September 2014 in tandem with cross-currency movements of the euro and yen vis-à-vis the US dollar. On point-to-point basis the rupee has depreciated by 3.3 per cent from the level of ₹ 60.10 per US dollar on 28 March 2014 to ₹ 61.76 per US dollar on 13 February 2015. The rupee touched a low of ₹ 63.75 per US dollar on 30 December 2014 and a peak of ₹ 58.43 per US dollar on 19 May 2014.

External Debt

1.61 India's external debt stock increased by US$ 13.7 billion (3.1 per cent) to US$ 455.9 billion at end-September 2014 over the end-March 2014level. The rise in external debt was on account of higher long-term debt particularly commercial borrowings and non-resident Indian (NRI) deposits. The maturity profile of India's external debt indicates the dominance of long-term borrowings. At end-September 2014, long-term debt accounted for 81.1 per cent of the total

external debt as against 79.8 per cent at end-March 2014. India's external debt has remained within manageable limits as indicated by the external debt to GDP ratio of 23.5 per cent and debt service ratio of 5.9 per cent in 2013-14. The prudent external debt management policy of the Government of India has helped maintain a comfortable external debt position.

Outlook for 2015-16

1.62 The macroeconomic situation in India has improved significantly during the current year. The release of the new series of national accounts revealed that the economy has been performing much better than what was being depicted earlier. The steady acceleration in services and manufacturing growth in the face of subdued global demand conditions point to the strengthening of domestic demand. Most of the buoyancy in domestic demand can be traced to consumption. Investment activity, which is slowly picking up, needs to be grounded on a stronger footing. The savings-investment dynamics will be crucial for the growth to strengthen further in the coming years, in addition to reversal of the subdued export performance being currently witnessed. The key will be the response of savings to improved price and financial market stability, and of investment, particularly in the crucial infrastructure sector, to reform efforts of the Government that are underway.

1.63 On the supply side, there are concerns about tentative growth patterns in construction and mining activities that need to be addressed to. This is particularly important in view of the strong inter-sectoral linkages that these sectors have. The farm sector suffered from a relatively poor monsoon, but there are no indications of its spillover to be next year. The improving rate of value addition in the economy, represented by the ratio of value added to output, and the falling incremental capital output ratio indicate better resource use in production.

1.64 On the global front, the United States radiates confidence and strength, while some other structurally important economies like China, Russia, Euro area and Japan face uncertain prospects, thereby affecting global growth and investment outlook. The sharp decline in oil prices has provided an incentive for overall global growth and stability. At the same time, it has diminished fortunes of oil exporting countries that can influence economic activity adversely.

1.65 In the light of the Government's commitment to reforms, along with the improvements in the price and external sector scenarios including the possibility of international oil prices remaining generally benign, the outlook for domestic macroeconomic parameters is generally optimistic, notwithstanding the uncertainties that could also arise from an increase in the interest rates in the United States and situation prevailing in Greece within Euro-zone. Given the above, and assuming normal monsoons better prospects in the world economy that could provide impetus to higher exports for Indian products and services, a growth of around 8.5 per cent is in the realm of possibility in 2015-16.

Sectoral Developments

Agriculture

1.66 During the Tenth Plan, the contribution of agriculture and allied sectors to the GDP (at 2004-05 prices) of the country was 19 per cent and it declined to 15.2 per cent during the Eleventh Plan. This is in accordance with the typical past pattern of structural transformation of the economies in transition. Agriculture and allied sectors registered a growth of 2.5 per cent in the Ninth Plan, 2.4 per cent in Tenth Plan, and 4.1 per cent in the Eleventh Plan.

1.67 For the year 2013-14, total foodgrain production has been estimated at 265.6 million tonnes, which is higher by 8.5 million tonnes than the previous year's production and 22.1 million tonnes than the average production of foodgrains during the last five years. As per the second AE released by the Ministry of Agriculture on 18 February 2015, total production of foodgrains during 2014-15 is estimated at 257.1 million tonnes.

Table 1.16 : Agriculture Sector: Key Indicators (per cent at current prices)

Item	2011-12	2012-13	2013-14
Share of agriculture & allied sectors in total GVA	18.4	18.0	18.0
Crops	12.0	11.7	11.8
Livestock	4.0	4.0	3.9
Forestry and logging	1.6	1.5	1.4
Fishing	0.8	0.8	0.9
Share of agriculture & allied Sectors in total GCF	8.6	7.7	7.9
Crops	7.4	6.5	6.6
Livestock	0.8	0.7	0.7
Forestry and logging	0.1	0.1	0.1
Fishing	0.4	0.4	0.5
GCF in agriculture & allied sectors as per cent to GVA of the sector (at current prices)	18.3	15.5	14.8

Source **: CSO.**

1.68 The following are some of the challenges and policy recommendations for Indian agriculture:

- Agriculture and food sectors need huge investment in research, education, extension, irrigation, fertilizers, and laboratories to test soil, water, and commodities, and warehousing and cold storage. Rationalization of subsidies and better targeting of subsidies would generate part of the resources for public investment.
- There are wide differences in yields between states. Even the best of states have much lower yield in different crops when compared to the best in the world. This provides ample opportunity to increase production by bridging the yield gap to the extent feasible within the climatic zone.
- Providing irrigation can improve yield substantially, as vast cropped area is still unirrigated. For a shift in production function, investment in basic research would be necessary.
- Recommendations of the Shanta Kumar Committee provide useful suggestions for the future road-map of food policy. Every effort should be made to bring states on board for creating a national common market for agricultural commodities.
- Distortions emerging from various policies, including exempting user charges for electricity and water should be removed.
- For providing efficient advance price discovery to farmers and enabling them to hedge price risk, the Forward Markets Commission should be strengthened and empowered to regulate the market more effectively.

Industrial, Corporate, and Infrastructure Performance

1.69 As per recently released national accounts data, with 2011-12 as the base year, industrial growth was much better in 2012-13 and 2013-14 at 2.4 per cent and 4.5 per cent respectively than earlier estimated, with 2004-05 as the base year. The declining trend was attributed to moderation in domestic demand, inflationary pressures, increase in input costs, and slowdown in the world economy. Further, the 1.4 per cent growth in GCF in industry in 2013-14 implies that recovery in industrial growth had commenced last year.

1.70 The industrial growth picture as per the IIP suggests that industrial production which had slowed down since 2011-12, reversed the trend in 2014-15. In terms of use-based classification

of the IIP, basic goods and capital goods witnessed marked improvement in growth during April-December 2014-15. While the growth in intermediate goods remained sluggish, consumer goods contracted in April-December 2014-15, particularly due to contraction in the consumer durables sector.

1.71 Growth in infrastructure, based on an index of eight core industries, has improved slightly to 4.4 per cent during April-December 2014-15 as compared to 4.1 per cent in the same period in 2013-14. The performance of coal, electricity, and cement has shown marked improvement, steel and refinery products have grown marginally by 1.6 per cent and 0.2 per cent, while crude oil, gas, and fertilizers have seen negative growth. In the transport sector, growth in the first nine months of 2014-15 has improved in railway freight (5.1 per cent), domestic air passenger traffic (7.1 per cent), international passenger traffic (10.3 per cent), international cargo (8.3 per cent), domestic cargo (19.3 per cent), and cargo throughput at major and non-major ports (6.8 per cent)as compared to the same period in the 2013-14.

1.72 The performance of listed manufacturing companies in the private sector in terms of growth of sales and net profit appeared to turn around in Q1 2014-15. However, the performance in Q2 2014-15 dampened expectations of sustained improvement. There is no discernible improvement in capacity utilization in the first two quarters of 2014-15, as per the RBI's twenty-seventh round of the Order Books, Inventories, and Capacity Utilization Survey.

1.73 Of the total 246 central infrastructure projects costing Rs 1000 crore and above, 124 are delayed with respect to the latest schedule and 24 have reported additional delays vis-à-vis the date of completion reported in the previous month (Flash Report for October 2014, Ministry of Statistics and Programme Implementation).

1.74 All the other major industrial sectors except mining have witnessed slowdown in the growth of credit in 2014-15 as compared to 2013-14. The growth of credit flow to the manufacturing sector at 13.3 per cent in 2014-15 is lower than the growth of 25.4 per cent in 2013-14. Chemicals, food processing, and textiles have seen a sharp decline in growth of credit in 2014-15.

1.75 During April-November 2014-15, total FDI inflows (including equity inflows, reinvested earnings, and other capital) were US$ 27.4 billion, while FDI equity inflows were US$ 18.9 billion. Cumulative FDI inflows from April 2000 to November 2014 were US$ 350.9 billion. Services, construction, telecommunications, computer software and hardware, drugs and pharmaceuticals, automobile industry, chemicals, and power have attracted a disproportionately high share of total inflows.

Services Sector

1.76 India's services sector remains the major driver of economic growth contributing 72.4 per cent of GDP growth in 2014-15. Services-sector growth has increased from 8.0 per cent in 2012-13 to 9.1 per cent in 2013-14 and further to 10.6 per cent in 2014-15. This is mainly due to growth acceleration in financial, real estate, and professional services to 13.7 per cent from 7.9 per cent and public administration, defence, and other services to 9.0 per cent from 7.9 per cent in the previous year. Growth in trade, hotels, transport, communication, and related services was 8.4 per cent in 2014-15 compared to 11.1 per cent in 2013-14. Data available for the beginning months of 2015 indicates pick-up in the services sector with expansion in business activity as indicated by services PMI data. This growth momentum is expected to continue in 2015-16.

1.77 The services sector is also the dominant sector in most of the states of India with a more than 40 per cent share in the gross state domestic product (GSDP) in 2013-14 for almost all states. This sector has made substantial contribution to FDI inflows, exports, and employment. During the last twelve years, with a compound annual growth average (CAGR) of 8.7 per cent, India had the second fastest growing services sector, just below China's 10.7 per cent. In commercial services

exports, India had the highest CAGR of 20 per cent during this period. India's share in global exports of commercial services increased to 3.2 per cent in 2013 from 1.2 per cent in 2000. Its ranking among the leading exporters in 2013 was sixth. In the first half of 2014-15, services exports grew by 3.7 per cent to US$ 75.9 billion and import of services grew by 5.0 per cent to US$ 39.9 billion, resulting in net services growth of only 2.4 per cent. The services value-added content in exports has also been rising. India is very active in the services negotiations in the World Trade Organization (WTO) and has recently provided more liberal offers to least developed countries.

1.78 Among the sub-sectors, computer and related services with a share of 3.3 per cent in India's GDP grew by 14.4 per cent in 2013-14. The contribution of tourism to total income and employment of the country during 2012-13 was 6.9 per cent and 12.5 per cent respectively. In 2014, foreign tourist arrivals and foreign exchange earnings increased by 7.1 per cent and 6.6 per cent respectively.

Banking and Insurance

1.79 Asset quality of banks showed some signs of stress during the year. The gross non-performing advances (NPAs) of scheduled commercial banks (SCB) as a percentage of the total gross advances increased to 4.5 per cent in September 2014 from 4.1 per cent in March 2014. Stressed advances increased to 10.7 per cent of the total advances from 10.0 per cent between March and September 2014. RBI has taken a number of steps to resolve the NPA issue.

1.80 The growth of aggregate deposits of SCBs decelerated during 2014-15 till December mainly due to base effect, i.e. high accretion to NRI deposits last year during September-November and lower deposit mobilization during this year. The growth in non-food credit also decelerated.

1.81 To achieve the objective of financial inclusion, the Pradhan Mantri Jan-Dhan Yojana (PMJDY) was launched on 28 August 2014. The Yojana envisages universal access to banking facilities with at least one basic banking account for every household. The scheme is expected to provide a big push to the Direct Transfer Benefit scheme.

1.82 The year 2014-15 saw other reform initiatives in the banking and insurance sector, which include allowing banks to raise capital from the market to meet capital adequacy norms by diluting the government's stake up to 52 per cent and notifying of an ordinance to enhance the foreign equity cap in the insurance sector.

1.83 Equity markets continued to do well during the year. The benchmark indices BSE Sensex and Nifty showed a general upward trend in the current year. A number of steps such as improvement in corporate governance norms and establishment of foreign portfolio investor (FPI) regulation framework were taken by the Securities and Exchange Board of India (SEBI) to improve functioning of both primary and secondary markets.

Social Infrastructure, Employment, and Human Development

1.84 India is projected to be the youngest nation in the world by 2020. While this provides great opportunities, it also poses challenges before the nation. India's total fertility rate (TFR) has been steadily declining and is currently at 2.3 although state-wise disparities exist. As per Sample Registration System (SRS) data for 2013, there has been a gradual decline in the share of population in the age group 0-14 from 41.2 to 38.1 per cent during 1971 to 1981 and from 36.3 to 28.4 percent during 1991 to 2013, whereas the economically active population (15-59 years) has increased from 53.4 to 56.3 per cent during 1971 to 1981 and from 57.7 to 63.3 per cent during 1991 to 2013. Of concern is the secular decline in the child sex ratio (CSR). A new scheme, Beti Bachao Beti Padhao, for promoting survival, protection, and education of the girl child was launched in January 2015. It aims to address the declining CSR through a mass campaign targeted at changing social mindset and creating greater awareness.

1.85 In 2020 the average age of India's population at around 29 years is expected to be among the lowest in the world. Consequently, while the global economy is expected to witness a shortage of young population of around 56 million by 2020, India will be the only country with a youth surplus of 47 million. These young people need to be healthy, suitably educated, and appropriately skilled to contribute optimally to the economy

1.86 **Educational Challenges:** While only 73 per cent literacy has been achieved (Census 2011), there is marked improvement in female literacy. Male literacy at 80.9 per cent is still higher than female literacy at 64.6 per cent but the latter increased by 10.9 percentage points compared to the 5.6 percentage points for the former. Total enrolment in primary schools has declined in 2013-14 while upper primary enrolment has grown. This is in line with the demographic changes in the age structure. However, the overall standard of the education system is well below global standards. The single most significant finding of the Annual Status of Education Report (ASER) is that learning levels across the country, whether in public or private schools, have not improved. Clearly, the policy prescription lies in shifting attention away from inputs to outcomes and focus on building quality education and skill development infrastructure. The Padhe Bharat Badhe Bharat initiative to create a base for reading, writing, and math fluency is a good step in this direction.

1.87 **Skilling the Youth:** As per the Labour Bureau Report 2014, the current size of India's formally skilled workforce is small, approximately 2 per cent; this number compares poorly with smaller countries like South Korea and Japan which report figures of 96 and 80 per cent respectively. At all-India level, around 6.8 per cent of persons aged 15 years and above are reported to have received/are receiving vocational training. As per the National Skill Development Corporation (NSDC), for the period between 2013 and 2022 there is an incremental requirement of 120 million skilled persons in the non-farm sector. A dedicated Department of Skill Development and Entrepreneurship has been createdfor focused attention to skill development. Besides, skilling of rural youth has now been refocused and reprioritized towards building the capacity of poor rural youth. New programmes have also been started for bringing minorities into mainstream development.

1.88 **Sluggish employment growth:** A cause for concern is deceleration in the CAGR of employment during 2004-05 to 2011-12 to 0.5 per cent from 2.8 per cent during 1999-2000 to 2004-05 as against CAGRs of 2.9 per cent and 0.4 per cent in the labour force respectively for the same two periods. During 1999-2000 to 2004-05, employment on usual status (US) basis increased by 59.9 million persons from 398.0 million to 457.9 million as against the increase in labour force by 62.0 million persons from 407.0 million to 469.0 million. After a period of slow progress during 2004-05 to 2009-10, employment generation picked up during 2009-10 to 2011-12, adding 13.9 million persons to the workforce, but not keeping pace with the increase in labour force (14.9 million persons). A major impediment to the pace of quality employment generation in India is the small share of manufacturing in total employment. However data from the sixty-eighth National Sample Survey (NSS) round indicates a revival in employment growth in manufacturing from 11 per cent in 2009-10 to 12.6 per cent in 2011-12. Promoting growth of micro, small, and medium enterprises (MSME) is critical from this perspective.

1.89 **Labour Reforms:** Multiplicity of labour laws and difficulty in their compliance has been an impediment to industrial development. In a major initiative for bringing compliance in the system and ensuring ease of doing business, a set of labour reform measures has been put forth by the government.

1.90 **Towards a Healthy India:** The Swachh Bharat Mission (Gramin) launched in October 2014, aims at attaining an Open Defecation Free India by 2 October 2019. Besides, Mission Indradhanush launched in December 2014 will cover all children by 2020 who are either unvaccinated or are partially vaccinated against

seven vaccine-preventable diseases. The erstwhile Department of AYUSH (Ayurveda,Yoga and Naturopathy, Unani, Siddhi, and Homoeopathy) has now been elevated to a full-fledged Ministry.

1.91 **Poverty:** The latest estimates of poverty are available for the year 2011-12. These estimates have been made following the Tendulkar Committee methodology using household consumption expenditure survey data. For 2011-12, the percentage of persons living below the poverty line is estimated as 25.7 percent in rural areas, 13.7 percent in urban areas, and 21.9 percent for the country as a whole

1.92 **Human Development: International Comparison:** The 2014 Human Development Report (HDR) presents the Human Development Index (HDI)—values and ranks—for 187 countries. India's HDI value for 2013 is 0.586, ranking it 135 out of 187 countries and territories, the lowest among the BRICS countries with Russia at 57, Brazil at 79, China at 91, and South Africa at118, and slightly ahead of Bangladesh and Pakistan. India also ranks low with respect to the Gender Development Index (GDI). The GDI value for India is 0.828 and it is ranked 132 among 148 nations. In comparison, Bangladesh and China are ranked higher.

1.93 **Fostering Inclusive Growth:** The PMJDY launched in August 2014 and the RuPay Card, which is a payment solution, are important new measures for financial inclusion. Besides, the government has restructured a number of ongoing programmes based on field experience to make them need based. To facilitate coordinated functioning of various social infrastructure and human development programmes, the Sansad Adarsh Gram Yojna (SAGY) has been launched which will be implemented through convergence of existing programmes. Another scheme launched is the Vanbandhu Kalyan Yojna that will be implemented in one block of each of the ten states having schedule V areas. Given the multiple schemes implemented to foster inclusive growth, the role of Panchayati Raj institutions is critical and there is need to strengthen the panchayats and urban local governments. RBI data on social services shows that there was a consistent rise in absolute social-sector expenditure by the general government (centre+state) even in the time of the 2008-09 global crisis and 2011-12 Euro area crisis.

1.94 A unique feature of India is the lag in demographic transition between different states. Due to the substantial fertility decline in the south during the last two decades, the south is ahead in the demographic transition compared to the north. For instance, the projected average age of population in 2020 of 29 years has already been surpassed in some states like Kerala (33 years), Goa (32.3), Tamil Nadu (31.3), Himachal Pradesh (30.4), Punjab (29.9), Andhra Pradesh (29.3) and West Bengal (29.1).

Climate Change and Sustainable Development

1.95 The year 2015 is likely to be a momentous year with the world set to witness new agreements on climate change and sustainable development. This will determine the course for international development and environmental policy agenda for the global community for the next fifteen years. The negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) are expected to result in a global agreement by December 2015, applicable to all countries to take action on climate change from 2020. Simultaneously, the governments are due to agree to a new post-2015 development agenda including a set of sustainable development goals (SDGs), replacing the Millennium Development Goals, which are coming to an end in 2015.

1.96 The latest scientific findings (IPCC AR5) have estimated that to remain below 2°C, the world can emit only about 2900 giga-tonne (Gt) of CO_2 from all sources from the industrial revolution till 2100. Till 2011, the world has already emitted 1900 Gt of CO_2 and consumed around two-third of this budget. This means that out of the budget of 2900 Gt, only 1000 Gt remains to be used between now and 2100. The key issue therefore for designing emission reduction commitment is how we should allocate this

remaining sparse carbon budget between countries in a manner which is both fair and achievable.

1.97 There are substantial variations in total and per capita emissions of different countries. In terms of absolute CO_2 emissions in 2013, China, the USA, and EU hold the first three positions respectively with India a distant fourth. However, in terms of per capita CO_2 emissions in 2013, countries like India, Brazil, and South Africa fall in the bottom 100 among 196 countries.

1.98 As a responsible country India has on its own chalked out policies on sustainable development and climate change. India was one of the early adopters of a National Action Plan on Climate Change (NAPCC). It is now revisiting National Missions under the NAPCC in the light of new scientific information and technological advances with a view to undertaking additional interventions in areas like greenhouse gas (GHG) mitigation in power generation, other renewable energy technology programmes, and disaster management and exploring possibilities of new missions on wind energy, health, and waste to energy. Efforts are also under way by the government to build India's institutional capacity for mobilizing climate change finance. A National Adaptation Fund with an initial corpus of ₹ 100 crore has been set up to support adaptation actions to combat the challenges of climate change in sectors like agriculture, water, and forestry. Other recent key initiatives include scaling up of the Solar Mission fivefold from 20,000 megawatts to 100,000 megawatts requiring an additional investment of US$ 100 billion, development of 100 Smart Cities with integrated policies for sustainable development, and preparations for developing a National Air Quality Index and a National Air Quality Scheme.

1.99 The challenge for India is manifold. India is at the threshold of an urban flare-up. As population increases, demand for every key service will increase five-to sevenfold. These trends combined with the current challenges of poverty eradication, food and energy security, urban waste management, and water scarcity will put further pressure on our limited resources which will add to greater energy needs and cause a parallel increase in emission if decoupling does not take place. At the same time, hidden in this challenge are great opportunities. Unlike many countries, India has a young population and therefore can reap the fruits of demographic dividend. With more than half of the India of 2030 yet to be built, we have an opportunity to avoid excessive dependence on fossil fuel-based energy systems and carbon lock-ins that many industrialized countries face today. A conscious policy framework which takes into account both developmental needs and environmental considerations could help turn the challenges into opportunities.

1.100 The sum up, as we put our acts together towards a post-2015 global agreement on climate change, it is absolutely critical to ensure that the new agreement is comprehensive, balanced, equitable, and pragmatic. It should address the genuine requirements of developing countries like India by providing them equitable carbon and development space to achieve sustainable development and eradicate poverty. To achieve this, adherence to the principles and provisions of the UNFCCC is the key. Importantly, global climate action rests heavily on the means of implementation, especially on finance and technology, which needs to be addressed adequately in the agreement. As India's Prime Minister Shri Narendra Modi said in the UN General Assembly in September 2014, "We should be honest in shouldering our responsibilities in meeting the challenges. The world community has agreed on a beautiful balance of collective action—common but differentiated responsibilities. That should form the basis of continued action."

02 CHAPTER

Public Finance

Outlining the roadmap for fiscal consolidation, the Budget for 2014-15 envisaged a fiscal deficit target at 4.1 per cent of GDP and sought to reduce it further to 3 per cent of GDP by 2016-17. Achieving this target is daunting in the backdrop of only a moderate increase in indirect taxes and a large subsidy bill despite significant decline in the subsidies burden in 2014-15, mainly due to lower prices of crude oil in the international market in the second half of 2014-15. Considering the fact that the desired fiscal targets in the previous two years were achieved by counterbalancing the shortfall of tax revenue by a higher or equivalent cut in expenditure, the challenge in the current year was to achieve the deficit targets without resorting to a cut in public expenditure. Therefore, while the fiscal deficit in the Budget 2014-15 was retained at the interim budget level, additional resources were provided in sync with the objective of the government to meet its social and welfare commitments and to remain focused on the development agenda. It is noteworthy that the government remains committed to fiscal consolidation. However, should the revenues not pick up sufficiently, there is need to persist with some compression in expenditure, so as to meet the deficit target.

2.2 The Budget for 2014-15 sought to contain the fiscal deficit at ₹ 5,31,177 crore (4.1 per cent of gross domestic product—GDP[1]) against ₹ 5,08,148 crore (4.5 per cent of GDP) in 2013-14 (Provisional Actuals —PA). Revenue deficit (RD) was placed at ₹ 3,78,348 crore (2.9 per cent of GDP) in 2014-15 (Budget Estimates—BE) against ₹ 3,60,311 crore (3.2 per cent of GDP) in 2013-14 (PA). The effective RD, a refined version of RD that captures the shortfall in current receipts over current expenditure and is equal to the difference between the RD and grants given for creation of capital assets, was also expected to come down (Table 2.1).

Table 2.1 : Trends in Deficit of Central Government (as per cent of GDP)

	FD	RD	GCC	ERD	PD
2010-11	4.8	3.2	1.1	2.1	1.8
2011-12	5.7	4.4	1.5	2.9	2.7
2012-13	4.8	3.6	1.1	2.5	1.8
2013-14 PA	4.5	3.2	1.1	2.0	1.2
2014-15 BE	4.1	2.9	1.3	1.6	0.8

Source **: Budget Documents.**

Notes **: FD= Fiscal Deficit, RD= Revenue Deficit, GCC=Grants for Creation of Capital Assets ERD= Effective Revenue Deficit, PD=Primary Deficit, BE= Budget Estimates, PA= Provisional Actuals**

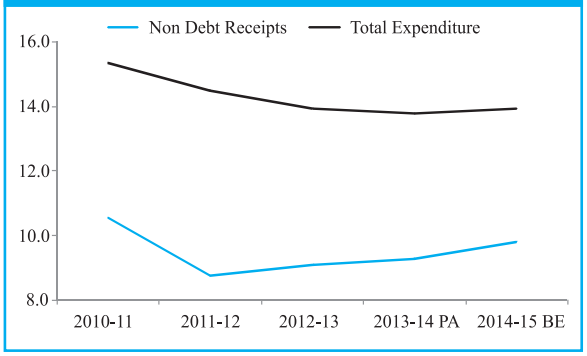
The ratios to GDP at current market prices are based on the Central Statistics Office's (CSO) National Accounts 2004-05 Series.

[1] For calculating ratios with respect to GDP at current market price, we have used National Accounts series of 2004-05 prices released by CSO.

Fiscal Policy for 2014-15

2.3 At the time of presentation of the Budget for 2014-15, as per the then available information, the macroeconomic outlook was mixed. Growth had been sub-par for two years 2012-13 and 2013-14 and inflation was moderating gradually, reflecting the compression in aggregate demand and a robust external sector outcome. The Budget for 2014-15 had indicated that while containing the fiscal deficit at 4.1 per cent of GDP was a daunting challenge given the then macroeconomic conjecture, it outlined the importance of adherence to fiscal consolidation and it accepted the challenge. The fiscal consolidation plan as enunciated in BE 2014-15 entailed an increase in the tax to GDP and non-debt receipts to GDP ratios to 10.6 per cent and 9.8 per cent respectively and a continuance of the low level of total expenditure to GDP ratio at 13.9 per cent (Table 2.2 and Figure 2.1). The envisaged growth in gross tax revenue (GTR) was 17.7 per cent over Revised Estimates (RE) 2013-14 and 19.8 per cent over PA 2013-14. Total expenditure was estimated to increase by 12.9 per cent and 14.8 per cent in BE 2014-15 over RE 2013-14 and PA 2013-14 respectively. The expectation of better performance of gross tax revenue vis-à-vis total expenditure, resulted in a projection of decline in fiscal deficit to 4.1 per cent of GDP in BE 2014-15.

Figure 2.1: Trends in Non-Debt Receipts and Total Expenditure (as percent of GDP)



Source **: Budget Document and CSO.**

Trends in Revenue

Non-debt Receipts

2.4 Typically, certain assumptions have to be made about the overall macroeconomic outcome, growth in revenues, and at the levels of expenditure that could yield the desired fiscal target. The Budget for 2014-15 envisaged a growth of 18.6 per cent over RE 2013-14 in non-debt receipts which include tax revenue net to centre, non-tax revenue, and non-debt capital receipts (mainly recovery of loans and disinvestment receipts). Revenue receipts

Table 2.2 : Trends in Receipts and Expenditure of Central Government as a Ratio of GDP

	2010-11	2011-12	2012-13	2013-14 PA	2014-15 BE
1. Revenue receipts	10.1	8.3	8.7	8.9	9.2
Gross tax revenue	10.2	9.9	10.2	10.0	10.6
2. Capital receipts	5.2	6.1	5.3	4.8	4.7
3. Non-debt receipts	10.6	8.8	9.1	9.3	9.8
4. Total receipts	15.4	14.5	13.9	13.8	13.9
5. Total expenditure	15.4	14.5	13.9	13.8	13.9
(a) Revenue expenditure	13.4	12.7	12.3	12.1	12.2
(b) Capital expenditure	2.0	1.8	1.6	1.7	1.8
(A) Non-Plan expenditure	10.5	9.9	9.9	9.8	9.5
(B) Plan expenditure	4.9	4.6	4.1	4.0	4.5

Source **: Budget Document and CSO.**

Note **: GDP at current market prices is at 2004-05 base.**

PA= Provisional Actuals, BE=Budget Estimates.

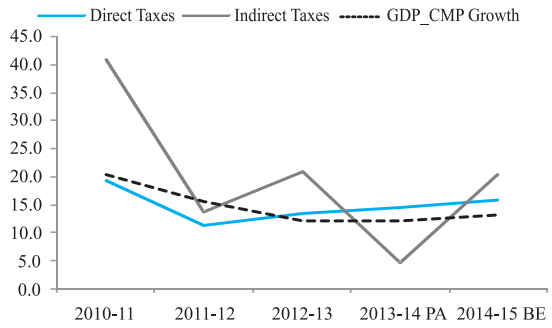
were estimated at ₹ 11.90 lakh crore in BE 2014-15, of which the net tax revenue to the centre was ₹ 9.77 lakh crore and non-tax revenue was ₹ 2.12 lakh crore. The total non-debt receipts inclusive of non-debt capital receipts of ₹ 0.74 lakh crore were estimated at ₹ 12.64 lakh crore.

Tax Revenue

2.5 In the immediate post-Fiscal Reforms and Budget Management Act 2003 (FRBMA) period (2004-05 to 2007-08) significant fiscal consolidation was achieved largely due to growth in tax revenues. Post-2008 crisis, growth in overall gross tax revenue (GTR) as well as its major components (with the exception of personal income tax) was not buoyant enough to facilitate encore performance in terms of revenue-led fiscal consolidation. The Budget for 2014-15 envisaged a growth of 15.8 per cent and 20.3 per cent in direct taxes and indirect taxes respectively over RE 2013-14. The growth in direct and indirect taxes along with the growth of GDP-CMP (GDP at current market prices) is plotted in Figure 2.2 A, indicating that the growth in indirect taxes has not been in tandem with the growth in GDP_CMP. The Budget for 2014-15 estimated GDP growth of 13.4 per cent and growth in GTR at 19.8 per cent over PA 2013-14 which implies a tax buoyancy of 1.5. This seems to be an overestimation, given the trends in GDP growth and growth in GTR (for details see the Mid Year Economic Analysis 2014-15).

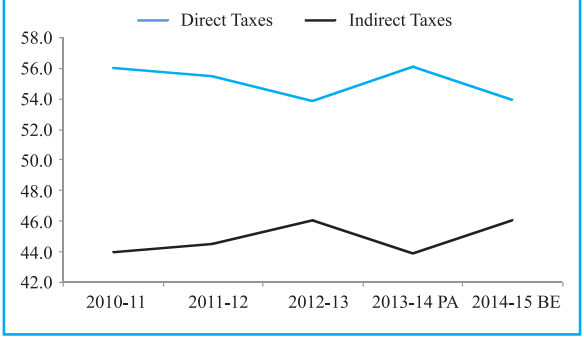
2.6 The composition of GTR has been plotted in Figure 2.2 B, indicating that from 2010-11 to 2012-13 the share of indirect taxes had been increasing mainly on account of the growing share of service taxes (average annual growth of 31.6 during 2010-13). As a proportion of GDP, direct and indirect taxes estimated at 5.7 per cent and 4.8 per cent respectively in 2014-15 (BE), were slightly higher than the 5.6 per cent and 4.6 per cent respectively in 2013-14 (RE). The total direct and indirect taxes for 2014-15 were estimated at ₹ 7.3 lakh crore and ₹ 6.2 lakh crore respectively (Table 2.3).

Figure 2.2A: Growth of Direct and Indirect Taxes and GDP_CMP Growth.



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

Figure 2.2B: Share of Direct and Indirect Taxes in GTR



Source **: Budget documents & CGA.**

Table 2.3 : Sources of Tax Revenue (in ₹ lakh crore)

	GTR	CT	IT	CD	UNE	ST
2010-11	7.93	2.99	1.39	1.36	1.38	0.71
2011-12	8.89	3.23	1.64	1.49	1.45	0.98
2012-13	10.36	3.56	1.97	1.65	1.76	1.33
2013-14 PA	11.39	3.95	2.38	1.72	1.69	1.55
2014-15 BE	13.65	4.51	2.78	2.02	2.06	2.16

Source **: Budget documents & CGA.**

Notes **: GTR= Gross Tax Revenue, CT= Corporation Tax, IT= Income Tax, CD= Custom Duty, UNE= Union Excise Duty, ST= Service Tax.**

2.7 While the rates of growth of tax revenues envisaged by BE 2014-15 might look optimistic given the outcome in the first nine months of the current fiscal, it might be instructive to note that growth in excise duties and service tax was 21.4 per cent and 36.0 per cent respectively in 2012-13. As such, given the low base effect (of low growth), these assumptions were not that optimistic. These were premised on the expected better macroeconomic outcome and endeavour at broadening the tax base and providing an equitable tax regime that has been the underlying theme of the tax policy of the government. Several measures were initiated for both direct and indirect taxes which are enumerated in Box 2.1. Even within the limited fiscal space, several important and path-breaking initiatives for reviving the economy and promoting investment in the manufacturing sector were taken, and measures for rationalizing tax provisions so as to reduce litigation were introduced through the Finance (No.2) Act 2014.

Box 2.1 : Measures Introduced in Budget 2014-15

DIRECT TAXES

- Budget 2014-15 raised the basic exemption limit of personal income tax in case of every individual (below the age of 60 years), or Hindu undivided family (HUF) or association of persons or body of individuals, whether incorpo-rated or not, or every artificial juridical person from ₹ 2 lakh to ₹ 2.5 lakh. The basic exemption limit in the case of an individual resident in India, who is of the age of 60 years or more but less than 80 years was raised from ₹ 2.5 lakh to ₹ 3 lakh.
- Investment allowance at the rate of 15 per cent of the cost of new plant and machinery extended up to 31.03.2017 and threshold of investment reduced to ₹25 crore.
- Ten-year tax holiday extended to undertakings which begin generation, distribution, and transmission of power by 31.03.2017.
- Income to foreign portfolio investors arising from transactions in securities to be treated as capital gains.
- Concessional tax rate of 15 per cent on foreign dividends without any sunset date to be continued.
- The eligible date of borrowing in foreign currency extended from 30.06.2015 to 30.06.2017 for a concessional tax rate of 5 per cent on interest payments. Tax incentive extended to all types of long-term bonds instead of only long-term infrastructure bonds.
- Introduction of a 'roll back' provision in the Advanced Pricing Agreement (APA) scheme so that an APA entered into for future transactions is also applicable to international transactions undertaken in the previous four years in specified circumstances.
- Introduction of range concept for determination of arm's length price in transfer pricing regulations.
- Use of multiple-year data allowed for comparability analysis under transfer pricing regulations.
- Resident taxpayers enabled to obtain an advance ruling in respect of their income tax liability above a defined threshold.
- The scope of the Income-tax Settlement Commission enlarged.

INDIRECT TAXES

A. CUSTOMS

Agriculture/agro processing/plantation sector: full exemption from customs duty granted to de-oiled soya extract, groundnut oil cake/oil cake meal, etc. up to 31.12.2014.

Basic customs duty (BCD) reduced in the chemicals and petrochemicals sector.

Energy sector: The duty structure on non-agglomerated coal of various types rationalized at 2.5% BCD and 2% countervailing duties (CVD).

Textiles and Exports: The duty free entitlement for import of trimmings and embellishments used by the readymade textile garment sector for manufacture of garments for export increased from 3% to 5%.

(Contd...)

Box 2.1 : Measures Introduced in Budget 2014-15 *(Contd...)*

Metals: The BCD on certain stainless steel flat products increased from 5% to 7.5%. Export duty on bauxite increased from 10% to 20%.

Precious Metals: BCD on half-cut or broken diamonds increased from NIL to 2.5% and on cut and polished diamonds and coloured gemstones increased from 2% to 2.5%.

Electronics/Hardware: BCD on LCD and LED TV panels of below 19 inches and on colour picture tubes for manufacture of cathode ray TVs reduced from 10% to NIL. Education cess and Secondary and Higher Education (SHE) cess levied on imported electronic products.

Renewable Energy: BCD reduced for equipment used in wind-operated electricity generators and. solar energy production projects.

Health: Full exemption from customs and excise duty provided for HIV/AIDS drugs and diagnostic kits imported under the National AIDS Control Programme funded by the Global Fund to Fight AIDS, TB and Malaria.

B. EXCISE

Agriculture/agro processing/plantation sector: Excise duty on machinery for the preparation of meat, poultry, etc. reduced from 10% to 6%.

Metals: Excise duty on winding wires of copper increased from 10% to 12%.

Textiles: Excise duty at the rate of 2% (without central value added tax—CENVAT) or 6% (with CENVAT) imposed on polyester staple fibre and polyester filament yarn manufactured from plastic waste or scrap or plastic waste.

Health: Excise duty on cigarettes increased by 72% for cigarettes of length not exceeding 65 mm and by 11% to 21% for cigarettes of other lengths. Similar increases made on cigars, cheroots, and cigarillos. Basic excise duty s increased from 12% to 16% on pan masala, from 50% to 55% on unmanufactured tobacco, and from 60% to 70% on jarda-scented tobacco, gutkha, and chewing tobacco.

Full exemption from excise duty provided to DDT manufactured by Hindustan Insecticides Limited for supply to the National Vector Borne Diseases Control Programme (NVBDCP) of the Ministry of Health and Family Welfare.

Electronics/hardware: Excise duty on recorded smart cards increased from 2% without CENVAT and 6% with CENVAT to a uniform rate of 12%.

Renewable energy: Full exemption from excise duty provided for machinery required for setting up of solar energy production projects and compressed biogas plant (Bio-CNG).

Energy sector: Central excise duty on branded petrol reduced from ₹7.50 per litre to ₹ 2.35 per litre, so as to reduce the price differential between branded and unbranded petrol. Rate of clean energy cess levied on coal, lignite, and peat increased from ₹50 per tonne to ₹ 100 per tonne.

C. SERVICE TAX

Negative list of services and service tax exemptions were reviewed for broadening the tax base and also as a preparation for introduction of the goods and services tax (GST). Services like online and mobile advertising and services provided by radio taxis or radio cabs have been brought under the tax net whereas for services like clinical research on human participants and services provided by air-conditioned contract carriages tax exemption has been withdrawn.

Measures Taken Post-Budget 2014-15

CUSTOMS: Basic Customs Duty on raw and refined / white sugar was increased from 15% to 25%.

EXCISE: The basic excise duty on petrol and diesel (both branded and unbranded) was increased as under:

- Unbranded petrol from ₹1.20 per litre to ₹4.95 per litre;
- Branded petrol from ₹2.35 per litre to ₹6.10 per litre;
- Unbranded diesel from ₹1.46 per litre to ₹3.96 per litre; and
- Branded diesel from ₹3.75 per litre to ₹6.25 per litre.

***Source* : Department of Revenue, Ministry of Finance.**

2.8 In order to raise revenue and to improve the ease of doing business, a non-adversarial and non-intrusive tax regime is being promoted through modernization of the business processes of tax administration. Extensive use is being made of information technology for e-enablement of tax payer services and filing of income tax returns, various forms, audit reports, etc. Statements of tax deduction at source have been made compatible with electronic filing and computerized processing. The Centralized Processing Centre for income tax returns at Bengaluru and Centralized Processing Centre –TDS (tax deduction at source) at Vaishali, Ghaziabad have also been made fully functional. These measures would enable the tax administration to function in a more efficient and automated environment and reduce the compliance burden on taxpayers.

2.9 Another important development in 2014-15 was the introduction of the Constitution (122nd Amendment) Bill in the Lok Sabha on 19 December 2014, which provides for levy of a goods and services tax (GST) on all goods or services except those specified. The broad framework of the GST is presented in Box 2.2.

Collection Rates

2.10 Customs duty is collected on imports of goods but there are number of exemptions to the application of the statutory rate. Therefore, increase in the value of imports does not necessarily imply similar change in customs duty collection. The collection rate is an indicator of overall incidence of customs duty and is computed as the ratio of total customs revenue collection to the value of imports in the fiscal year. The trend in these ratios for important commodity groups as well as for all commodities taken together over the years is depicted in Table 2.4. A major reason for the decline in collection rates has been a reduction in duties on many items which have significant import value, including petroleum, oil, and lubricants (POL), some of which continued until the recent hike, and of course the impact of various exemptions.

Tax expenditure

2.11 There is a significant divergence between the statutory rates of taxes as notified in the various schedules and the actual or effective rate of

Table 2.4 : Collection Rates for Selected Import Groups

S.No.	Commodity group	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
1	Food products	4.2	2.5	3.1	2.9	3.2	5.3
2	POL	2.7	1.9	5.6	2.8	1.5	1.6
3	Chemicals	16.4	13.9	16.9	14.0	16.3	16.3
4	Man-made fibre	17.0	22.0	29.6	21.9	31.3	29.5
5	Paper and newsprint	8.4	7.7	7.9	7.0	7.3	7.3
6	Natural fibre	5.6	4.3	4.6	3.3	4.5	5.6
7	Metals	16.8	17.4	22.0	19.7	22.7	22.9
8	Capital goods	12.5	11.3	12.9	11.5	11.7	11.9
9	Others	4.0	3.8	3.9	3.7	4.7	5.4
10	Non POL	8.7	7.6	8.5	7.4	8.2	8.8
	Total	6.9	5.9	7.7	6.0	6.0	6.1

***Source*: Department of Revenue, Ministry of Finance.**

***Notes*: SN1 includes cereals, pulses, tea, milk and cream, fruits, vegetables, animal fats, and sugar.**
SN3 includes chemical elements, compounds, pharmaceuticals, dyeing and coloring materials, plastic, and rubber.
SN5 includes pulp and waste paper newsprint, paperboards and manufactures, and printed books.
SN6 includes raw wool and silk.
SN7 includes iron and steel and non-ferrous metals.
SN8 includes non-electronic machinery and project imports, electrical machinery.

Box 2. 2 : Goods & Services Tax (GST)

The introduction of the GST would be a significant step in the field of indirect tax reforms in India. By subsuming a large number of central and state taxes into a single tax, it would mitigate cascading or double taxation in a major way and pave the way for a common national market. From the consumer's point of view, the biggest advantage would be in terms of a reduction in the overall tax burden on goods, which is currently estimated at 25 per cent-30 per cent. Introduction of the GST is also expected to make Indian products competitive in domestic and international markets. Studies show that this would instantly spur economic growth. Because of its transparent character, it is expected that the GST would be easier to administer.

The broad features of the proposed GST model are as follows:

(i) GST would be applicable on supply of goods or services as against the present concept of tax on the manufacture or on sale of goods or on provision of services.

(ii) GST would be a destination-based tax as against the present concept of origin-based tax.

(iii) It would be a dual GST with the centre and the states simultaneously levying it on a common base. The GST to be levied by the centre would be called central GST (CGST) and that to be levied by the states would be called state GST (SGST).

(iv) An integrated GST (IGST) would be levied on inter-state supply (including stock transfers) of goods or services. This would be collected by the centre so that the credit chain is not disrupted.

(v) Import of goods or services would be treated as inter-state supplies and would be subject to IGST in addition to the applicable customs duties.

(vi) A non-vatable additional tax, not exceeding 1 per cent on inter-state supply of goods would be levied by the centre and retained by the originating state at least for a period of two years.

(vii) CGST, SGST, and IGST would be levied at rates to be recommended by the Goods and Services Tax Council (GSTC) which will be chaired by the Union Finance Minister and will have Finance Ministers of states as its members.

(viii) GST would apply to all goods and services except alcohol for human consumption.

(ix) GST on petroleum products would be applicable from a date to be recommended by the GST Council.

(x) Tobacco and tobacco products would be subject to the GST. In addition, the centre could continue to levy central excise duty.

(xi) A common threshold exemption would apply to both CGST and SGST. Taxpayers with a turnover below it would be exempt from GST. A compounding option (i.e.to pay tax at a flat rate on turnover without credits) would be available to small taxpayers below a certain threshold. However, a taxable person falling within the limit of threshold or compounding could opt to pay tax at the normal rate in order to be part of the input tax credit chain.

(xii) The list of exempted goods and services would be kept to a minimum and it would be harmonized for the centre and states as far as possible.

(xiii) Exports would be zero-rated.

(xiv) Credit of CGST paid on inputs may be used only for paying CGST on the output and the credit of SGST paid on inputs may be used only for paying SGST. In other words, the two streams of input tax credit (ITC) cannot be cross utilized, except in specified circumstances of inter-state supplies, for payment of IGST.

Over the past four decades, the value added tax (VAT) has been an important instrument of indirect taxation, with 130 countries having adopted it, resulting in one-fifth of the world's tax revenue. Tax reform in many of the developing countries has focused on moving to VAT. Federal countries like Canada, New Zealand, and Australia have successfully adopted the GST into their structure. Implementation of a comprehensive GST in India is expected, ceteris paribus, to lead to efficient allocation of factors of production thus bringing about gains in GDP and exports. This would translate into enhanced economic welfare and higher returns to the factors of production, viz. land, labour, and capital. However, in the near term, as GST replaces a number of state-level and central taxes, revenue gains may not be significant.

Source **: Department of Revenue and and NCAER Working Paper No. 103 titled 'Moving to Goods and Services Tax in India-Impact on India's growth and International Trade', 2009.**

taxation, which is essentially a simple ratio of tax revenue collected to the total taxable income (tax base). The tax expenditure or tax foregone estimates are intended to indicate the revenue foregone. Typically, there is an overstatement of the revenue foregone as most emerging markets have high rates on their statutory schedule of taxes and effectively tax collections at much lower rates systematically for a number of years For instance, the peak rate of customs duty on non-agricultural goods has been 10 per cent for a number of years now as against schedule rates that are manifold higher. In the Receipts Budget for 2014-15, tax forgone on account of exemptions under corporate income tax for 2012-13 was estimated at ₹ 68,720 crore and for 2013-14 was projected at ₹ 76116 crore (after taking into account additional liability collected through the minimum alternate tax—MAT). Though termed as revenue foregone, it does not imply that this quantum of revenue has been waived by the government. Rather, in some cases, this could be seen as targeted incentives for the promotion of certain sectors that may not otherwise, in the absence of such incentives, have come up. Further, the positive externalities by the way of ancillary economic gains due to the progress of any sector are also not factored in the determination of revenue foregone of any sector. However, in spite of these benefits accruing, there is a case for rationalizing some of the entries under this head.

2.12 Table 2.5 shows trends in revenue foregone from 2010-11 to 2013-14. The tax foregone estimates are for FY 2012-13, the most recent year for which data is available. However, an attempt has also been made to estimate the revenue to be foregone during FY 2013-14 on the basis of the revenue foregone figures of FY 2012-13. The aggregate revenue foregone from central taxes (both direct and indirect) is ₹ 5.66 lakh crore for 2012-13 and is projected to be ₹ 5.73 lakh crore for 2013-14.

Non-Tax Revenue

2.13 Non-tax revenue mainly consists of interest and dividend receipts and the receipts from services provided by the central government. After remaining at around 1.4 per cent of GDP in 2011-12 and 2012-13, non-tax revenue was at 1.8 per cent of GDP in 2013-14 (PA) and the Budget 2014-15 sought to maintain it around 1.7 per cent of GDP. The non-tax revenues were estimated to contribute about 17.9 per cent and 16.8 per cent of revenue receipts and non-debt receipts of the central government respectively in BE 2014-15. The lower estimates of non-tax revenue growth in 2014-15 (BE) over 2013-14(PA) were mainly on account of higher base in 2013-14 due to higher dividends and profits and interest receipts.

Non-debt Capital Receipts

2.14 Recoveries of loans and disinvestment are the two main constituents of non-debt capital receipts. As against ₹ 40,057 crore in PA

Table 2.5 : Trends in Revenue Forgone/Tax Expenditure

Tax Head	2010-11	2011-12	2012-13	2013-14P	2012-13	2013-14P
	₹ crore				% of GTR	
Corporate tax	57912	61765	68720	76116	6.6	6.7
Personal income-tax	36826	39375	33536	40414	3.2	3.5
Excise duty	192227	195590	209940	195679	20.3	17.2
Customs duty	172740	236852	254039	260714	24.5	22.9
Total	459705	533583	566235	572923	54.6	50.3
Gross Tax Revenue	793072	889177	1036235	1138832		

Source **: Receipts Budget of various years.**

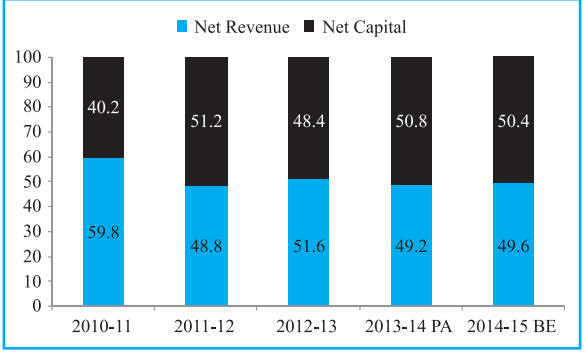
Note **: P=Projected.**

2013-14, the Budget 2014-15 placed non-debt capital receipts at ₹ 73,952 crore, comprising ₹ 10,527 crore of recovery of loans and ₹ 63,425 crore of other receipts (mainly disinvestment). The recovery of loans has been declining and has become a minor source of non-debt capital receipts mainly because of the Twelfth Finance Commission's recommendation against loan intermediation from the centre to states. Over the years, disinvestment receipts have assumed greater importance under this head. The Budget for 2014-15 estimated that ₹ 58,425 crore would accrue during the fiscal year, of which ₹ 43,425 crore would be through disinvestment in central public-sector enterprises (CPSE) and ₹ 15,000 crore through disinvestment of government stake in non-government companies. In the current financial year, the government has disinvested its equity in SAIL, Coal India and others and realized about ₹ 24000 crore so far.

TRENDS IN EXPENDITURE

2.15 The two pillars of fiscal reforms, as mentioned earlier, are revenue augmentation and expenditure rationalization. Efficient and effective expenditure management is a key component of the Fiscal Responsibility and Budget Management Act. Budget 2014-15 estimated total expenditure at ₹ 17.95 lakh crore which was 12.9 per cent higher than the 2013-14 (RE) and 14.8 per cent higher than 2013-14 (PA). Within this, the expected growth in capital expenditure was 18.8 per cent and growth in revenue expenditure was 12.0 per cent over RE 2013-14. At disaggregated level, the BE 2014-15 estimated Plan and non-Plan expenditure at ₹ 5.75 lakh crore and ₹ 12.20 lakh crore respectively, which amounted 4.5 per cent and 9.5 per cent of budgeted GDP (Table 2.2), reflecting a growth of 20.9 per cent and 9.4 per cent respectively over RE 2013-14.

Figure 2.3: Decomposition of Plan Expenditure



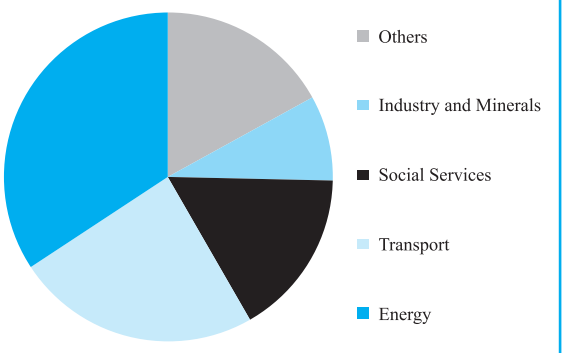
Source **: Budget documents & CGA.**

Note **: Net Revenue Expenditure are net of grant given for creation of capital assets. The same head is added in Capital Expenditure and termed as net capital Expenditure.**

Plan Expenditure

2.16 In 2014-15, the centrally sponsored schemes were restructured into 66 programmes for greater synergy and effective implementation and reclassified whereby the funds under these programmes are now being released as central assistance to state plans giving the states greater autonomy, authority, and responsibility in implementation of schemes. As a result, central assistance to state and union territory (UT) plans recorded an increase from ₹ 1.19 lakh crore in RE 2013-14 to ₹ 3.38 lakh crore in BE 2014-15. Further, the composition of net revenue and net capital expenditure has broadly remained the same since 2012-13, with both these components individually contributing roughly half of Plan expenditure (Figure 2.3). Furthermore, the broad sector-wise allocations of central Plan outlay (gross budgetary support in central Plan plus internal and extra-budgetary resources of the CPSEs) indicate that the energy, transport, social service, and industry and minerals, got the maximum share in BE 2014-15 (Figure 2.4).

Figure 2.4: Central Plan Outlay 2014-15 by Sectors



Source **: Budget 2014-15.**

Non-Plan Expenditure

2.17 Non-Plan expenditure constituted around 68 per cent of total expenditure in BE 2014-15 which is 3 percentage points less than the levels of 2013-14 (PA). Out of the total non-Plan expenditure in BE 2014-15, the share of non-Plan revenue expenditure is 91.4 per cent, with the balance, a mere 8.6 per cent, being accounted for by capital non-Plan expenditure. Within capital non-Plan expenditure, it is defence expenditure which had the maximum share.

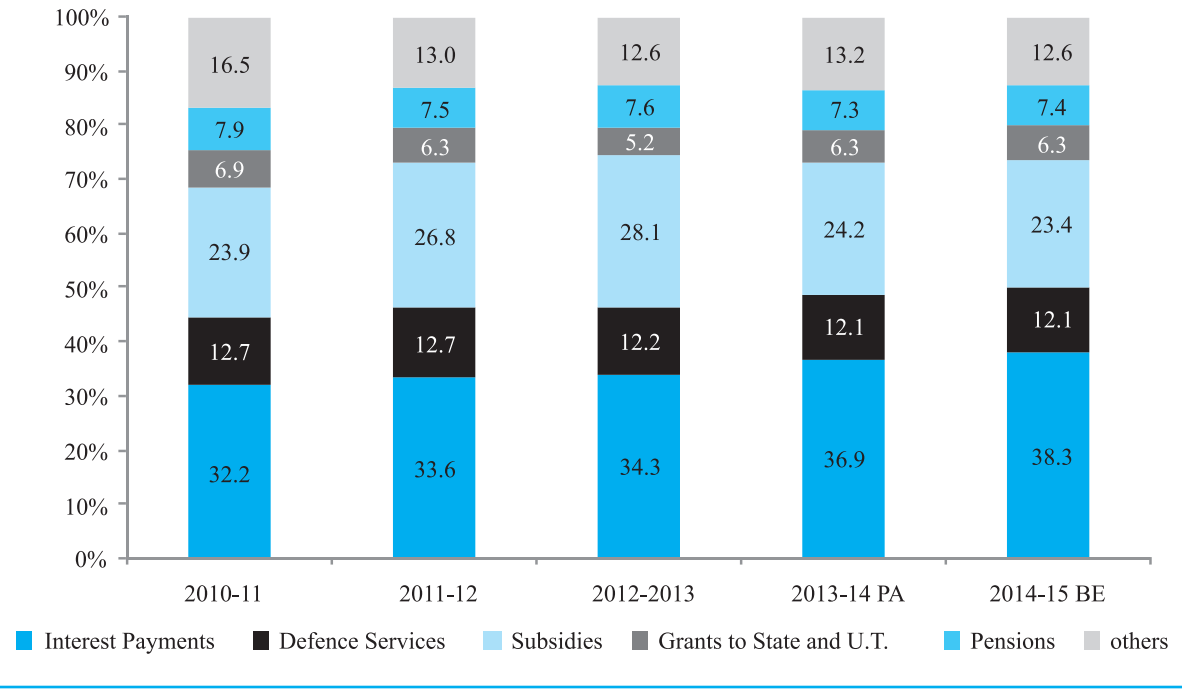
2.18 As a strategy for achieving fiscal consolidation, expenditure rationalization has major constraints on account of expenditures like interest payments, subsidies, defence services, pension, and non-Plan grants and aid to states and UTs, which constituted around 87.4 per cent of total non-Plan revenue expenditure in BE 2014-15 (Figure 2.5). The rationalization and reprioritization of non-Plan revenue expenditure is expected to play a vital role in the process of fiscal consolidation and targeting expenditure more towards inclusive and sustained development.

Subsidies

2.19 The subsidy bill for BE 2014-15 was placed at ₹ 2.60 lakh crore which was 23.4 per cent of non-Plan revenue expenditure and 2.0 per cent of GDP. In the post financial crisis period, the subsidy bill had increased from 2.2 per cent of GDP in 2009-10 to 2.5 per cent of GDP in 2012-13 (Table 2.6). The main items under this head from 2009-10 to 2012-13 were food and petroleum subsidies. The deregulation of diesel price in October 2014, along with the introduction of direct benefit (subsidy) transfer into the bank accounts of domestic LPG consumers, coupled with a sharp decline in global crude oil prices will help contain the petroleum subsidy bill. The under-recoveries on petroleum products are expected to be ₹ 74,664 crore during 2014-15 against ₹ 1,39,869 crore in 2013-14 (Box 2.3).

2.20 The rationalization of food subsidies is still an area where more effort is required. Recently, the High level Committee for Restructuring of Food Corporation of India recommended several measures including cash transfers to the beneficiaries of the public distribution system

Figure 2.5: Trends in Revenue Non-Plan Expenditure



Source **: Budget documents & CGA.**

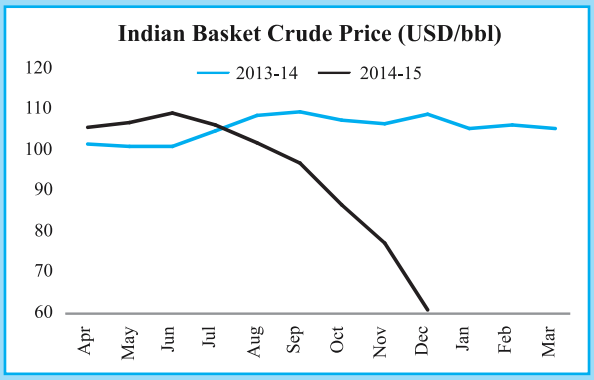
Table 2.6 : Trend in Subsidies (in ₹ crore)

Subsidy Head	2009-10	2010-11	2011-12	2012-13	2013-14 PA	2014-15 BE
Food	58443	63844	72822	85000	92318	115000
Fertilizer	61264	62301	70013	65613	71280	72970
Petroleum	14951	38371	68484	96880	83998	63427
Major subsidies	134658	164516	211319	247493	247596	251397
Total subsidies	141351	173420	217941	257079	NA	260658
Major subsidies as % of GDP	2.08	2.11	2.35	2.45	2.18	1.95
Total subsidies as % of GDP	2.18	2.22	2.42	2.54	NA	2.02

***Source* : Union Budget documents.**

Box 2.3 : Impact of Falling Global Crude Prices and Fuel Policy Reforms

Recent Trends in Prices of Crude Oil: Global prices of crude had stayed above $100/bbl since 2010. However, there has been a sharp downturn in these prices since September 2014. From July 2014 when they stood at $106.30/bbl, they have fallen to below $50/bbl in January 2015. This sharp fall can be attributed to weakening of demand in the economies of Asia, especially China, and Europe. In addition, exploration of shale gas by countries like the United States and Canada to reduce their dependence on oil imports has led to lower demand for oil. This has also resulted in reduced retail prices of diesel, domestic LPG, and kerosene. The month-wise trend in prices for the year 2014-15 is shown in Figure below:



During the last few years, the contribution towards under-recovery / subsidies had gone up substantially, adversely affecting the government's fiscal position and thus contributing substantially to inflationary pressure. However, in October 2014, the government has made a move towards major pricing reforms in order to rationalize the subsidy structure in the oil and gas sector. The prices of diesel have been deregulated and have become market-determined at retail level and at the refinery gate. Deregulation is expected to result in better service delivery on account of increased competition. Besides direct gain, lower diesel prices have also benefited consumers indirectly as cost of transportation of goods has come down.

Under-recoveries: Regulated prices of petroleum products resulted in under-recoveries to the oil marketing companies (OMCs) as they paid refinery gate prices based on import parity price (IPP)/ trade parity price (TPP) for purchase of products from the refinery but could not recover the same from domestic prices. Public-sector OMCs continued to pay TPP based on international prices for purchase of diesel and IPP for purchase of PDS kerosene and domestic LPG to refineries until 18 October 2014 when diesel was deregulated. In order to insulate the common man, the government continues to modulate the retail selling prices (RSPs) of PDS kerosene and domestic LPG.

The estimated under-recoveries during 2014-15 are ₹ 74,664 crore with diesel contributing ₹ 10,935 crore, PDS kerosene ₹ 24,412 crore, and domestic LPG ₹ 39,317 crore. In 2013-14, there were under-recoveries of ₹1,39,869 crore with diesel contributing ₹ 62,837 crore, PDS kerosene ₹ 30,574 crore, and domestic LPG ₹ 46,458 crore. During 2014-15, with de-administration of diesel and also lower crude oil prices, the under-recoveries are likely to come down by about 47 per cent.

The under-recoveries incurred by the OMCs have been shared by the upstream national oil companies and the government. During 2013-14, the national oil companies provided ₹ 67,021 crore of the total under-recoveries of ₹ 1,39,869 crore.

In view of the importance of household fuels, namely PDS kerosene and domestic LPG, subsidies are provided for these products under a scheme of 2002 (₹ 2930 crore in 2014-15 BE). In addition, support is provided for transport of fuel to far-flung areas (₹ 23 crore in 2014-15 BE).

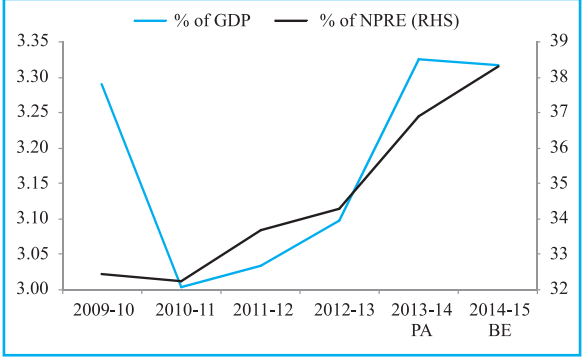
***Source* : Ministry of Petroleum and Natural Gas.**

(PDS), which will pave the way for rationalization of food subsidies.

Interest Payment

2.21 Fiscal deficit is a flow variable which gets added into the stock variable (public debt and liabilities) every year, thus attracting interest liability. Interest payments were placed at ₹ 4.27 lakh crore in BE 2014-15, accounting for 38.31 per cent of non-Plan revenue expenditure and 3.3 per cent of GDP. As a proportion of GDP, interest payments had been declining in the post-FRBM period. However, due to expansionary fiscal policy to obviate the adverse impact of the global crisis, interest payments as a proportion of GDP increased somewhat in the post-crisis period (Figure 2.6). The average cost of borrowing is placed at 8.4 per cent in 2014-15 (BE) as against 7.7 per cent in 2012-13 (Table 2.7).

Figure 2.6: Interest Payment Trends



***Note* : NPRE-Non Plan Revenue Expenditure.**

Table 2.7 : Average Cost of Borrowings

	OIL	IIL	ACB
	In ₹ crore		
2009-10	2874683	192567	7.50
2010-11	3212521	212707	7.40
2011-12	3765153	251634	7.83
2012-13	4295575	290278	7.71
2013-14(RE)	4782585	355438	8.27
2014-15(BE)	5387174	402143	8.41

***Source* : Union Budget documents.**
OIL=Outstanding Internal Liabilities excluding NSSF
IIL= Interest on Internal Liabilities excluding NSSF
ACB= Average cost of borrowing

Provisional Outcome in 2014-15 vis-à-vis BE 2014-15

2.22 The provisional outcome of April-December 2014-15 was released on 30 January 2015 by the Controller General of Accounts (CGA). Fiscal deficit stood at ₹ 5.32 lakh crore which is 100.2 per cent of BE and higher than the last five years' average of 77.7 per cent (Table 2.8).

2.23 For 2014-15, the GTR till the month of December 2014 shows a growth of 7.0 per cent which is way below the 17.7 per cent envisaged by the BE. As a proportion of the BE, direct taxes collected in April-December 2014 are broadly at the same levels as in the corresponding period of the previous year and given that last year the overall collection was close to the RE (lower only by ₹ 30,568 crore vis-à-vis the BE) implies that the same can be achieved this year too. The growth in indirect taxes at 6.2 per cent in 2014-15 (April-December) is much lower than of the 25.8 per cent envisaged over the PA of 2013-14. The outcome in April-December 2014 in terms of non-tax revenue collected as a proportion of the BE at 69.7 per cent is higher than in the corresponding period last year. However, a 6.2 per cent growth in expenditure in April-December 2014 over the corresponding period in the previous year as compared to BE of 12.9 per cent has helped in containing fiscal deficit for the first three quarters of the current fiscal. This implies that for fiscal marksmanship this year too, some expenditure compression may have to be made. In order to obviate the need for large-scale expenditure reduction, the government has however put in place some revenue augmentation and mobilization efforts.

2.24 Some of the measures to boost revenue included increases in excise duty on petrol and diesel, amid a dip in global oil prices. The four excise duty hikes since November 2014 are expected to bring in ₹ 20,250 crore in additional revenue this financial year. The government recently announced stake sales in four companies, including 10 per cent in Coal India which at current

Table 2.8 : Provisional outcome for 2014-15 (Till December 2014)

	BE (₹ crore)	April-December					
		Absolute number (₹ crore)		Per cent of respective BE		Per cent change over previous year	
	2014-15	2013-14	2014-15	2013-14	2014-15	2013-14	2014-15
1. Revenue receipts	1189763	633933	693773	60.0	58.3	11.1	9.4
Gross tax revenue	1364524	743709	795686	60.2	58.3	9.2	7.0
Tax (net to centre)	977258	517661	545714	58.6	55.8	6.9	5.4
Non-tax revenue	212505	116272	148059	67.5	69.7	34.6	27.3
2. Capital receipts	605129	529858	542615	87.0	89.7	26.0	2.4
Recovery of loans	10527	8038	8282	75.4	78.7	4.3	3.0
Other receipts	63425	5430	1952	9.7	3.1	-33.6	-64.1
3. Total receipts	1794892	1163791	1236388	69.9	68.9	17.4	6.2
4. Non-Plan expenditure	1219892	812528	883757	73.2	72.4	16.9	8.8
(a) Revenue account	1114609	731159	813270	73.6	73.0	16.9	11.2
Interest payments	427011	248464	275220	67.0	64.5	23.0	10.8
Major subsidies	251397	188899	212418	85.5	84.5	13.2	12.5
Pensions	81983	53890	68104	76.2	83.1	20.2	26.4
(b) Capital account	105283	81369	70487	69.5	67.0	16.9	-13.4
5. Plan expenditure	575000	351263	352631	63.3	61.3	18.7	0.4
(a) Revenue account	453503	274016	282278	61.8	62.2	12.8	3.0
(b) Capital account	121497	77247	70353	68.9	57.9	46.0	-8.9
6. Total expenditure	1794892	1163791	1236388	69.9	68.9	17.4	6.2
(a) Revenue expenditure	1568112	1005175	1095548	70.0	69.9	15.7	9.0
(b) Capital expenditure	226780	158616	140840	69.2	62.1	29.4	-11.2
7. Revenue deficit	378349	371242	401775	97.7	106.2	24.6	8.2
8. Effective revenue deficit	210245	275183	303912	134.1	144.6	23.0	10.4
9. Fiscal deficit	531177	516390	532381	95.2	100.2	27.6	3.1
10. Primary deficit	104166	267926	257161	155.9	246.9	32.2	-4.0

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

market prices has yielded the government ₹ 22,557 crore. The government is also expecting a surge in revenue through spectrum sales and auction of coal blocks by March this financial year. The forthcoming recommendations of the Expenditure Management Commission will also be helpful in reprioritizing expenditure and curtailing expenditure leakages.

GOVERNMENT DEBT

2.25 The debt policy emphasizes maintaining a longer-term and sustainable debt structure at lowest possible cost and is progressively resorting to market-oriented active debt management. To adhere to the debt policy objectives, the government started conducting buyback and switching of securities in 2013-14 in order to improve liquidity in securities and reduce rollover risk as well as utilizing the cash surplus. The total outstanding liabilities of the central government were ₹ 55.87 lakh crore, accounting for 49.2 per cent of GDP, comprising 39 per cent public debt and 10.2 per cent other liabilities at end-March 2014 (Table 2.9). Of total public debt,

Table 2. 9 : Outstanding Liabilities of the Central Government as Per Cent of GDP (at end-March)

	2009-10	2010-11	2011-12	2012-13	2013-14(RE)	2014-15 (BE)
1. Internal liabilities (a)+(b)	52.4	48.6	48.2	48.4	47.6	46.9
a. Internal debt	35.9	34.3	35.9	37.2	37.4	37.1
i. Market borrowings	27.0	26.6	27.9	29.5	30.3	30.4
ii. Others	9.0	7.6	7.9	7.7	7.1	6.7
b. Other internal liabilities	16.5	14.3	12.4	11.2	10.2	9.8
2. External debt #	2.1	2.0	1.9	1.8	1.6	1.5
3. Total outstanding liabilities	54.5	50.6	50.1	50.1	49.2	48.3

Source **: Union Budget Documents.**

Notes **: # External debt figures represent borrowings by central government from external sources and are based upon historical exchange rates.**

The ratios to GDP at current market prices are based on the CSO's National Accounts 2004-5 series.

internal debt constituted 95.9 per cent and the remaining was external debt (at book value). Total outstanding liabilities were estimated at ₹ 62.22 lakh crore in BE 2014-15.

Performance of Departmental Enterprises of the Central Government

Department of Posts

2.26 The gross receipts of the Department of Posts in 2013-14 were placed at ₹ 10,730 crore. The gross and net working expenses during the year were ₹ 16,797 crore and ₹ 16,204 crore respectively, yielding a deficit of ₹ 5,473 crore. In RE 2014-15, the gross receipts are budgeted to go up to ₹ 10,902 crore with gross and net working expenses estimated at ₹ 18,490 crore and ₹ 17,846 crore respectively. The deficit is projected to be ₹ 6,944 crore.

Railways

2.27 Indian Railways is steadily moving towards developing a strategy to become part of an effective multi-modal transport system, so as to ensure environment-friendly and economically efficient transport movement. Freight earnings during 2013-14, at ₹ 93,906 crore, registered a growth of 10.1 per cent over 2012-13. Passenger earnings (including other coaching earnings) at ₹ 40,211 crore registered an increase of 17.0 per cent during 2013-14. The gross traffic receipts of the Railways for 2013-14 stood at ₹ 1.39 lakh crore as against ₹ 1.24 lakh crore in 2012-13. BE for gross traffic receipts and total working expenses for 2014-15 were ₹ 1.60 lakh crore and ₹ 14.80 lakh crore. An improvement is envisaged in the operating ratio of the Railways, from 93.6 per cent in 2013-14 to 92.5 per cent in 2014-15 (BE). Net revenue as a proportion of capital-at-charge and investment from the Capital Fund, which stood at 5.6 per cent in 2013-14, is budgeted to improve to 6.3 per cent during 2014-15.

Fiscal Performance of the States[2]

2.28 Fiscal consolidation of states during recent years was largely revenue-led, with significant increases in both own tax revenue as well as current transfers from the centre, the latter reflecting the enhancements recommended by the Thirteenth Finance Commission. However, some deterioration in state government finances was seen in 2013-14, while improvement is budgeted in 2014-15. Revenue surplus as a proportion of GDP during 2013-14 (RE) was negligible compared to the previous year's 0.2 per cent. Capital outlay-GDP ratio during 2013-14 (RE) increased

[2] Based on Budgets of twenty-six state governments, out of which five are based on Vote on Account.

marginally by 0.4 per cent over the previous year, indicating improvement in the quality of expenditure. For the year 2014-15, the consolidated revenue surplus is projected to increase to 0.4 per cent of the GDP. Gross fiscal deficit (GFD) and primary deficit as proportions to GDP are budgeted to decline to 2.3 per cent and 0.8 per cent respectively in 2014-15 from 2.4 per cent and 0.9 per cent respectively in 2013-14 (RE) pointing out the intent for fiscal consolidation by states. The projected decline in GFD-GDP ratio in 2014-15 is mainly due to an increase in the revenue receipts resulting from current transfers from the centre. The expenditure pattern shows that the committed expenditure-GDP ratio (comprising interest payments, administrative services, and pension) will broadly remain unchanged during 2014-15 (BE), while overall expenditure as a ratio to GDP is budgeted to increase.

Consolidated general government

2.29 The fiscal deficit of the centre was estimated at 4.8 per cent of GDP in BE 2013-14 and revised to 4.6 per cent in RE 2013-14. With the fiscal deficit of states at 2.4 per cent of GDP in RE 2013-14, the fiscal deficit of consolidated general government (centre and states combined) was placed at 7.0 per cent of GDP in 2013-14 (RE) and estimated to decline to 6.4 per cent of GDP in BE 2014-15.

Outlook

2.30 Despite domestic challenges and external vulnerabilities, the government adhered to fiscal consolidation in 2013-14. The 4.1 per cent fiscal deficit target of 2014-15 seems achievable in spite of slow growth of revenues and delayed disinvestment. To meet this target, the government may have to resort to some expenditure compression. Nevertheless, declining global oil prices, along with the diesel-price deregulation and direct transfer of domestic LPG subsidies to bank accounts, are expected to help lower the fuel subsidy bill. Increased revenues are expected through increase in excise duties on petroleum and diesel.

2.31 Going forward, enhanced revenue generation is a priority. To some extent this will be helped by raising the growth rate of the economy. The implementation of a well-designed GST and other tax reforms would also play a crucial role in this regard. Overhauling the subsidy regime which should entail further reducing fuel (LPG and kerosene) subsidies, tackling fertilizer subsidies, and moving to Aadhaar-based direct cash transfers of food subsidy and other transfers would pave the way for expenditure rationalization. Fiscal consolidation is a necessity but the quality of consolidation is imperative to make it sustainable. To achieve this end, it would be necessary to put in place a medium-to-long- term fiscal policy framework with explicit revenue, expenditure, and deficit targets.

Monetary Management and Financial Intermediation

03 CHAPTER

Several reform initiatives were taken in the banking and insurance sector in 2014-15. These include allowing banks to raise capital from the market to meet capital adequacy norms by diluting the government's stake up to 52 per cent, launching of the Pradhan Mantri Jan Dhan Yojana to provide universal access to banking facilities with at least one basic banking account for every household, and notifying of an ordinance to enhance the foreign equity cap in the insurance sector. Equity markets continued to do well and a number of steps such as improvement in corporate governance norms and establishment of a foreign portfolio investor regulation framework were taken by the Securities and Exchange Board of India for better functioning of both primary and secondary markets.However, asset quality of banks showed some signs of stress during the year. Gross non-performing advances of scheduled commercial banks as a percentage of total advances showed an increase during the year. The year also saw a decline in the growth of bank credit.

Monetary Developments during 2014-15

3.2 The Reserve Bank of India (RBI) adopted the new Consumer Price Index (combined) as the measure of the nominal anchor (headline CPI) for policy communication. Policy rates were kept unchanged during the year till January 2015. In view of continuing easing of inflationary pressures, on 15 January 2015 the RBI reduced the policy repo rate under the liquidity adjustment facility (LAF) from 8.0 per cent to 7.75 per cent. Table 3.1 and Figure 3.1 show revisions and movements in policy rates from 2013 to 2015.

Trends in Monetary Aggregates

3.3 During 2014-15, both reserve money (M_0) and broad money (M_3) decelerated, compared to the previous year. The moderation in M_0 primarily reflects adjustments in bankers' deposits with the

Table 3.1 : Revision in Policy Rates

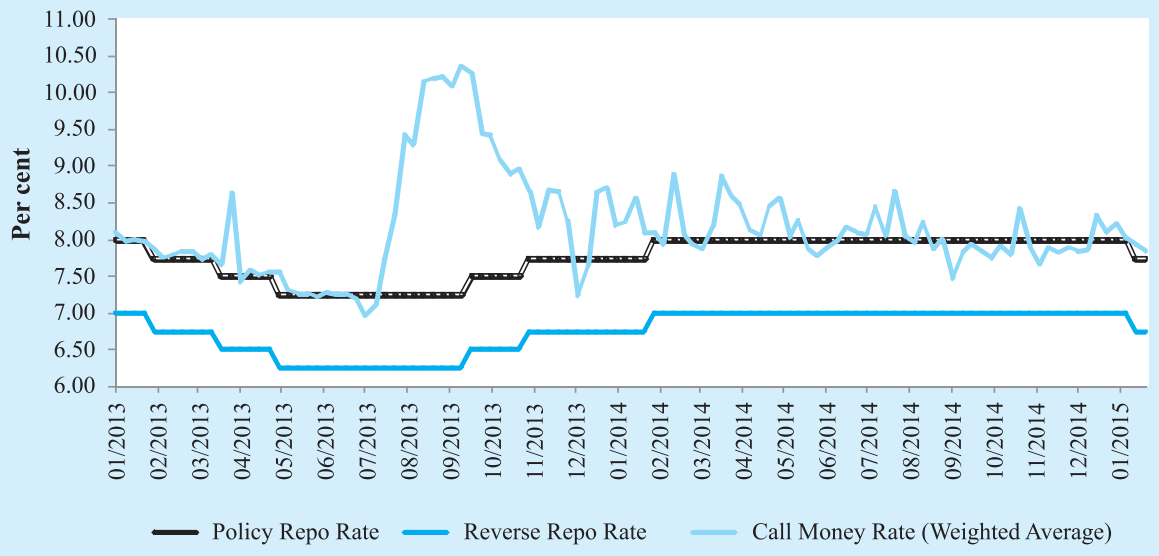
Effective date	Bank rate/ MSF rate* (percent)	Repo rate (per-cent)	Reverse repo rate (per-cent)	CRR (per cent of NDTL)	SLR (per cent of NDTL)
19-03-2013	8.50	7.50	6.50	4.00 $	
03-05-2013	8.25	7.25	6.25		
15-07-2013	10.25				
20-09-2013	9.50	7.50	6.50		
07-10-2013	9.00				
29-10-2013	8.75	7.75	6.75		
28-01-2014	9.00	8.00	7.00		
14-06-2014					22.50
09-08-2014					22.00
15-01-2015	8.75	7.75	6.75		
7-02-2015					21.50

Source : RBI.

Notes : * Bank rate was aligned to MSF rate w.e.f 13.2. 2012; $ w.e.f 09.02.2013.

MSF is marginal standing facility; CRR is cash reserve ratio; SLR is statutory liquidity ratio; NDTL is net demand and time liability.

Figure 3.1: Movement of Policy Rates



***Source* : RBI**

RBI following larger year-end accretion in deposits. On the sources side, the increase in the net foreign exchange assets (NFA) of the RBI was mostly offset by the decrease in its net domestic assets (NDA), reflecting a lower net liquidity injection by the RBI in the absence of strong demand for liquidity (Table 3.4). The trends in currency in circulation reflected weaker economic activity (Table 3.2).

3.4 Deceleration in credit (Table 3.3) could be attributed to economic slowdown, availability of alternative sources of funds, deterioration in asset quality of banks, especially public-sector banks (PSB), and selling of stressed loans by a few banks to asset reconstruction companies. Net bank credit is also lower due to repayment of loans by entities that received payments by government departments and public enterprises, and lower borrowing by oil marketing companies.

Liquidity Management

3.5 With a view to ensuring flexibility, transparency and predictability in liquidity management operations, RBI revised its liquidity management framework with effect from 5 September 2014. Its main features are: (a) assured access to liquidity of 1 per cent of NDTL (excluding export credit refinance) through bank-wise overnight fixed rate repos of 0.25 per

Table 3.2 : Sources of Change in Reserve Money (M_0) (in per cent)

	Financial year		
	2013-14	**3 January 2014 over 31 March 2013**	**2 January 2015 over 31 March 2014**
Reserve money	14.4	5.1	0.9
Select components			
Currency in circulation	9.2	5.7	5.9
Bankers' deposits with RBI	34.0	3.3	-15.7
Select sources of reserve money			
Net foreign exchange assets of RBI	15.7	15.1	10.9
Government's currency liabilities to the public	13.0	15.1	8.1
Net non-monetary liabilities of RBI	21.8	26.6	0.6

***Source* : RBI**

Table 3.3 : Sources of Change in Money Stock (M_3) (in per cent)

	2013-14	31 March 2013 to 27 December 2013	31 March 2014 to 26 December 2014
Broad money (M_3)	13.2	9.9	7.9
Currency with the public	9.4	6.4	6.2
Demand deposits with banks	6.8	2.7	7.7
Time deposits with banks	14.6	11.4	8.2
"Other" deposits with RBI	-39.3	-23.2	314.2
Sources of change in money stock (M_3)			
Net bank credit to government, of which,	12.2	9.3	1.5
Other banks' credit to government	10.5	10.2	10.1
Bank credit to commercial sector, of which,	13.7	9.1	5.7
Other banks' credit to commercial sector	13.6	9.1	5.8
Net foreign exchange assets of banking sector	17.6	16.0	9.5
Government's currency liabilities to the public	13.0	9.9	7.3
Banking sector's net non- monetary liabilities	17.4	12.3	-8.2
Memo items			
Money multiplier	5.5		
Velocity of money	1.2		
Net domestic assets	12.1	8.5	7.5
Net domestic credit	13.2	9.2	4.3

***Source*: RBI.**

cent of NDTL and variable rate fourteen-day term repos; (b) more frequent auction of term repos (four times) during a fortnight, allowing flexibility to banks to alter their liquidity assessment; and (c) higher frequency of access to RBI's overnight liquidity, with the introduction of variable rate overnight repos/reverse repo auctions. Term repo auctions are projected to grow as the main instrument of frictional liquidity management.

Table 3.4 : End-quarter growth rate of NDAs and NFAs (per cent)

	NDAs	NFAs
3/31/2013	9.1	5.8
6/28/2013	19.5	4.0
9/27/2013	24.9	10.6
12/27/2013	13.8	13.1
3/31/2014	18.3	15.7
6/27/2014	-2.1	12.7
9/26/2014	-21.5	13.7
12/26/2014	-19.0	11.5

***Source* : RBI**

Liquidity conditions

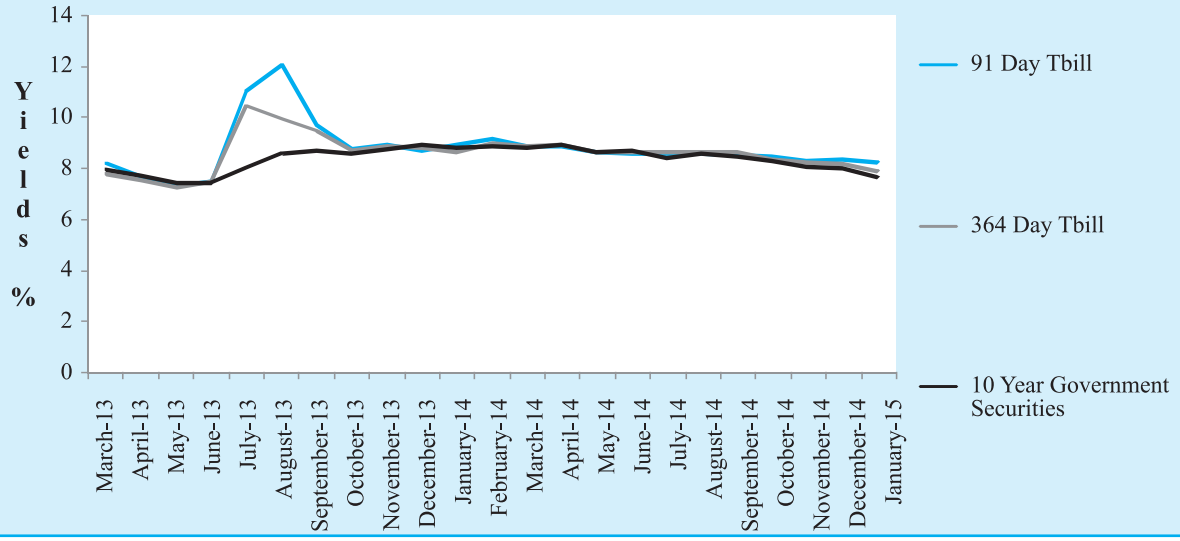
3.6 Liquidity conditions have remained broadly balanced during 2014-15 so far, except temporary tight conditions due to delayed government expenditure. Tight liquidity conditions were witnessed in March 2014 but improved from Q1 2014-15 due to decline in government cash balances. Slower paced growth in credit off-take in comparison to deposit mobilization and draw-down of government cash surplus helped ease liquidity pressures from August. The narrowing gap between credit and deposit growth (which turned negative in August 2014), also helped reduce the pressure on liquidity during this period. The revised liquidity management framework helped the weighted average cut-off rates in fourteen-day term repo auctions as well as in overnight variable rate repo auctions

remain close to the repo rate. The volatility of the weighted average call rate went down. Moderation in the weighted average call rates and long-term yields for government and high-quality corporate issuances since end-August 2014 suggest that there has been some easing of monetary conditions.

Developments in Government Securities Market

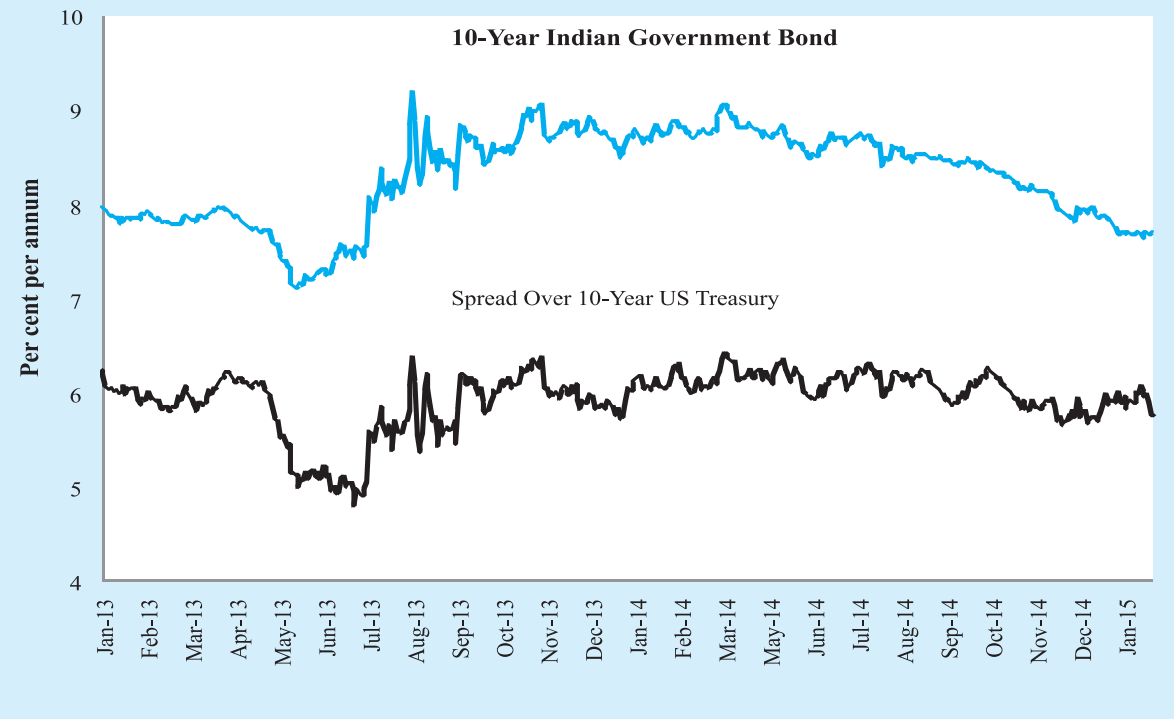
3.7 The ten-year government bond reflects the long end of the yield curve. The ten-year rates are also proxy credit risk of the sovereign. The primary factors responsible for easing in yields (Figures 3.2 and 3.3) include positive

Figure 3.2: Yield Curve



Source **: RBI and Centre for Monitoring Indian Economy (CMIE).**

Figure 3.3: Ten-Year Government Bond Yield (India and USA)



Source**: Bloomberg.**

market sentiment on account of expectations from the new stable government at the centre, three-year low retail inflation readings in December 2014, significant correction in commodity prices and firm commitment shown by the government on the fiscal front, and up gradation of outlook by sovereign credit rating agency S &P.

Table 3.5 : Growth Rates of Select Banking Aggregates

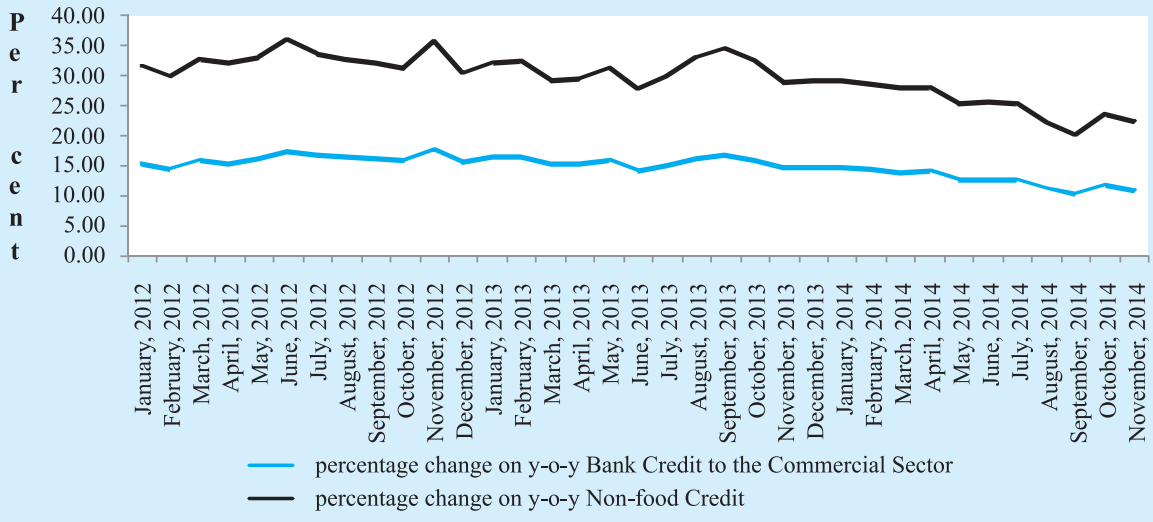
		% change			
		2012-13	2013-14	2013-14 (as on 13 December 2013)	2014-15 (as on 12 December 2014)
1.	**Bank credit**	14.1	13.9	14.6	10.9
	(a) Food credit	18.6	2.1	-1.1	-2.1
	(b) Non food credit	14.0	14.2	14.9	11.1
2.	**Aggregate deposits**	14.2	14.1	16.6	10.6
	(a) Demand Deposits	5.9	7.8	12.3	7.6
	(b) Time Deposits	15.2	14.8	17.0	10.9
3.	**Investment**	15.4	10.3	14.0	10.4
	(a) Govt securities	15.5	10.4	14.0	10.5
	(b) Other approved securities	-11.5	-33.6	-5.8	-8.3

Source **: RBI. Data for 2014-15 is provisional.**

Bank Credit

3.8 The growth of aggregate deposits of scheduled commercial banks (SCB) decelerated during 2014-15 till December (Table 3.5), mainly due to base effect, i.e. high accretion to NRI deposits, last year during September-November and due to lower deposit mobilization during this year. The growth in non-food credit also decelerated (see also Figure 3.4).

Figure 3.4: Year on Year growth of Bank Credit to Commercial Sector and Non-Food credit



Source**: RBI.**

Interest Rates of SCBs (excluding Regional Rural Banks)

3.9 The transmission of changes in policy rate to deposit and lending rates of banks remained muted in 2014-15 so far, reflecting the presence of structural rigidities in the credit market, weak pricing power of banks, and asset quality concerns.During 2014-15 till December, the median-term deposit rates of banks across all maturities declined modestly (Table 3.6), reflecting comfortable liquidity conditions as well as subdued credit demand. The weighted average lending rate (WALR) declined marginally, reflecting weak pricing power of banks, offset partly by asset quality concerns prompting banks to charge higher risk premiums.

3.10 During 2007 to 2013, real policy interest rates were consistently negative (Figure 3.5). This situation had been reversed by the end of 2013, when real interest rates started climbing into positive territory, and they now stand above 2 per cent (on a three-month forward- looking basis).

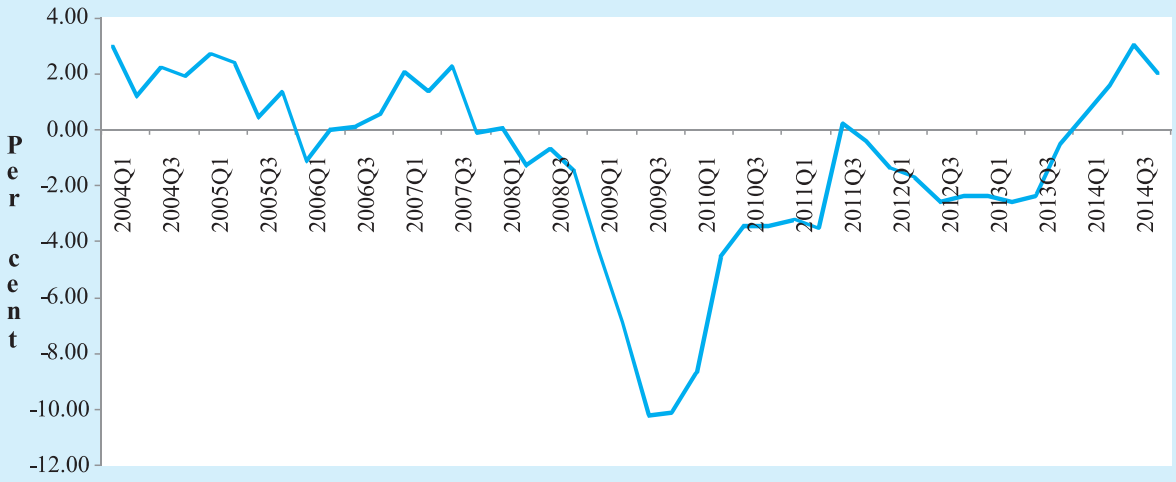
Table 3.6 : Deposit and Lending Rates of SCBs (excluding RRBs)

Items	Average interest rates (%)				Variations (percentage points)
	Mar.14	Jun.14	Sep-14	15 Dec. 2014	(December over March)
Domestic term deposit rates of SCBs- All Maturities	7.69	7.65	7.62	7.54	-0.15
Public-sector banks	7.85	7.81	7.76	7.57	-0.28
Private-sector banks	7.67	7.57	7.56	7.50	-0.17
Foreign Banks	7.56	7.58	7.54	7.53	-0.03
				Nov 2014	Nov over March
WALR (outstanding rupee loans) SCBs	12.19	12.20	12.11	12.14	-0.05
WALR (fresh rupee loans) SCBs	11.64	11.68	11.59	11.60	-0.04

***Source*: RBI.**

***Notes*: SCB is scheduled commercial bank. RRB is regional rural bank. WALR is weighted average lending rate. Data on WALR isprovisional.**

Figure 3.5: Real Policy Rate (on a three month forward looking basis)



***Source:* RBI.**

Performance of SCBs

3.11 The capital to risk weighted assets ratio (CRAR) at system level was 13.02 per cent as at end March 2014 (Basel-III). It moved to 12.75 per cent in September 2014. The regulatory requirement for CRAR is 9 per cent for FY 2015. The decline in capital positions at aggregate level, however, was on account of deterioration in capital positions of PSBs. While the CRAR of the scheduled commercial banks (SCB) at 12.75 per cent as of September 2014 is satisfactory, going forward the banking sector, particularly PSBs will require substantial capital to meet regulatory requirements with respect to additional capital buffers.

3.12 Asset quality of PSBs has come under stress in recent times. As per the RBI's Financial Stability Report (December 2014),the gross non-performing advances (GNPA) of scheduled commercial banks as a percentage of the total gross advances increased to 4.5 per cent in September 2014 from 4.1 per cent in March 2014. Stressed advances increased to 10.7 per cent of the total advances from 10.0 per cent between March and September 2014. Five sub-sectors, viz.infrastructure, iron & steel, textiles, mining (including coal), and aviation, hold 54 per cent of total stressed advances of PSBs as on June 2014. Among bank groups, exposure of PSBs to infrastructure stood at 17.5 per cent of their gross advances as of September 2014. This was significantly higher than that of private-sector banks (9.6 per cent) and foreign banks (12.1 per cent). The stress tests suggest that the asset quality of banks may improve in the near future under expected positive developments in the macro-economic environment and banks may be able to meet expected losses with their existing level of provisions. The PSBs continue to be under stress on account of their past lending. Taking GNPA and restructured advances together, the stress on PSBs is 12.57 per cent of total advances as on September 2014.

3.13 The RBI has taken a number of steps to resolve the NPA issue. In January 2014, it came out with guidelines on ''Early Recognition of Financial Distress, Prompt steps for Resolution and Fair Recovery for Lenders: Framework for Revitalizing Distressed Assets in the Economy'', whereby banks have to start acting as soon as a sign of stress is noticed in a borrower's actions and not wait for it to become an NPA. The RBI has also issued guidelines to bring flexibility in project loans to infrastructure and core industry projects, both existing and new.Towards strengthening recovery from non-cooperative borrowers, the RBI has tightened the norms for asset reconstruction companies (ARC) in August 2014, whereby the minimum investment in security receipts should be 15 per cent, as against the earlier norm of 5 per cent.

Financial Inclusion

3.14 Financial inclusion is an important priority of the government. The objective is to ensure the excluded sections, i.e. weaker sections and low-income groups, access to various financial services such as a basic savings bank account, need-based credit, remittance facility, insurance and pension.

3.15 **Pradhan Mantri Jan-DhanYojana:** To achieve the objective of financial inclusion by extending financial services to the large hitherto unserved population of the country and to unlock its growth potential, the Pradhan Mantri Jan-DhanYojana (PMJDY) was launched on 28 August 2014. The Yojana envisages universal access to banking facilities with at least one basic banking account for every household, financial literacy, access to credit and insurance. The beneficiaries will receive a RuPay Debit Card having inbuilt accident insurance cover of Rs1 lakh. In addition, there is a life insurance cover of ₹ 30,000 to those who opened their bank accounts for the first time between 15 August 2014 and 26 January 2015 and meet other eligibility conditions of the Yojana. The Yojana has entered the Guinness World Records for opening most bank accounts during the week starting 23August 2014 as part of the financial campaign. As on 28 January 2015, 12.31 crore bank accounts have been opened, of which 7.36 crore are in rural areas and 4.95 crore in

urban areas. Under the PMJDY, 67.5 per cent of the accounts as on 28 January 2015 are with zero balance.

The major initiatives taken in the banking sector are given in the box 3.1

Non-Banking Financial Companies

3.16 Non-banking financial companies (NBFCs) have evolved as important financial intermediaries particularly for the small-scale and retail sectors. NBFCs as a whole accounted for 13.1 per cent of bank assets and 0.2 per cent of bank deposits as on 31 March 2014. There are two broad categories of NBFCs based on whether they accept public deposits, viz., deposit-taking NBFCs (NBFC-D) and non-deposit-taking NBFCs (NBFC-ND). With the emergence of large sized NBFCs, the regulatory focus has gradually increased on systemically important NBFCs (NBFCs-ND-SI), i.e. with asset size ₹ 500 crore and above. The total number of NBFCs registered with the RBI declined from 12,158 (as on 30 September 2013) to 11,932 (as on 30 September 2014). The number of NBFCs-D declined from 253 to 226, while the number of NBFC-ND with asset size ₹ 100 crore and above increased from 437 to 465 during the same period. The number of NBFCs-ND-SI stood at 200 as on 30 September 2014. Loans and advances by NBFCs witnessed a growth of 13.1 percent during 2013-14. From the perspective of deployment of funds, loans and advances accounted for more than two-thirds of their total deployment of funds.

3.17 The RBI has issued a revised regulatory framework for NBFCs in November 2014, as they are increasingly exposed to risks arising out of counterparty failures, funding and asset concentration, and interest rate movement and risks pertaining to liquidity and solvency.

Developments in Capital markets

Primary Market

3.18 During April-December 2014, resource mobilization through the primary market exhibited mixed patterns with equity and debt issues declining and private placements of corporate bonds increasing, on year-on-year basis. As private placements of corporate bonds account for the lion's share, total mobilization increased during the period. The number and value of private

Box 3.1 : Major Initiatives in the Banking Sector

a) The RBI issued guidelines for licensing of new banks in the private sector on 22 February 2013, and in April 2014 two applicants have been granted'in principle' approval to setup new banks in the private sector within a period of eighteen months.

b) Pursuant to the Budget 2014-2015 announcement for setting up of differentiated banks serving niche interests such as local area banks and payment banks,the RBI has formulated and released guidelines in November 2014 for licensing of payments banks and small finance banks in the private sector. Subsequently the RBI has invited applications for setting up of small banks and payments banks.

c) Payment and Settlement Systems (Amendment) Bill 2014:The Payment and Settlement Systems Act 2007 (PSS Act) was enacted with a view to providing sound legal basis for the regulation and supervision of payment systems in India by the RBI. For establishing a legal framework for regulation of trade repositories and legal entity identifier issuer, amendments have been considered necessary to make the PSS Act more effective. The proposed amendments will provide finality to the determination of the payment obligations and settlement instructions between a central counter party (the system provider) and system participants in the event of insolvency, dissolution, or winding up of a central counter party. The Bill has been passed by the LokSabha in the winter Session of 2014 and is currently pending in the Rajya Sabha.

d) Capital requirement of PSBs: The Union Cabinet, on 10 December 2014 has approved aproposal allowing PSBs to raise capital from public markets through FPO (follow on public offer) or QIP (qualified institutional placement) by diluting Government of India holding upto 52 per cent in a phased manner based on their capital requirement, stock performance, liquidity, market appetite and subject to certain conditions.

Table 3.7 : Resource Mobilization in the Primary Market (₹ crore)

	2012-13	2013-14	2013-14#	2014-15#
Debt	16982	42383	17436	7348
Equity	15473	13269	8124	4292
of which IPOs	6528	1236	1166	1480
Pvt. Placement of corporate bonds	361462	276054	201838	269245
Total	**393917**	**331706**	**227398**	**280885**

***Source*: SEBI.**

***Notes*: The equity issues considered are only equity public issues;**
: # indicates as on 31 December of respective year.

placements increased both in the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) during the period (Table 3.7).

Secondary Market

3.19 The benchmark indices, BSE Sensex and Nifty showed a general upward trend in the current year so far, closing at 27,499 and 8283 respectively as on 31 December 2014 with corresponding growth rates of 29.9 and 31.4 per cent, year on year (Figure 3.6). The Indian indices are among the better performing in the world (Table 3.8).

Figure 3.6: Movement of Indices of Nifty and Sensex

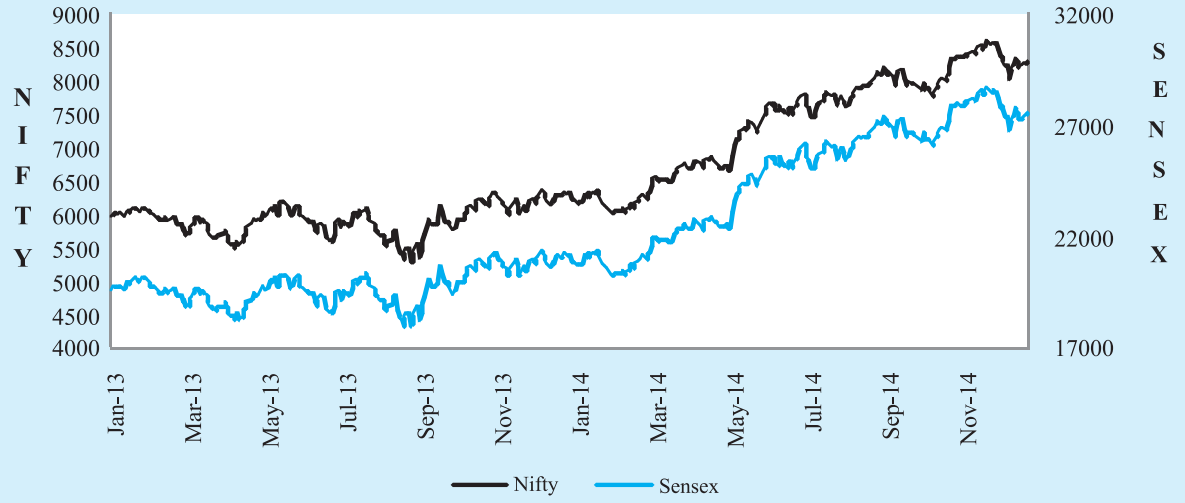


Table 3.8 : Performance of Major Stock Markets in the World

Index	Country	Index value 2014#	Percentage change in 2014 over 2013 (based on local currency)	Percentage change in 2014 over 2013 (based US$)
Sensex	India	27499	29.9	27.1
Nifty	India	8283	31.4	28.5
SPX	USA	2059	11.4	11.4
DAX	Germany	9806	2.7	-9.6
UKX	England	6566	-2.7	-8.5
NKY	Japan	17451	7.1	-5.8
HSI	Hong Kong	23605	1.3	1.3
IBOV	Brazil	50007	-2.9	-13.4
KOSPI	Korea	1916	-4.8	-8.4
FSSTI	Singapore	3365	6.2	1.2
SHCOMP	China	3235	52.9	49.1
CAC	France	4273	-0.5	-12.7

***Source* : Bloomberg**
***Note* : # indicates as on 31 December of respective year.**

Table 3.9 : Currency and Interest Rate Derivatives (₹ crore)

Exchange	Trading value in currency derivatives		Trading value in interest rate derivatives	
	2013-14#	2014-15#	2013-14#	2014-15#
NSE	3454979	2101567	30173	266607
MCX-SX	2166528	534329	7191	20346
USE	185385	52185		
BSE	17552	1073916	2580	1440

Source **: NSE, MCX-SX, BSE and USE.**

Note**: # indicates as on December 31 of respective year.**

3.20 **Currency and Interest Rate Derivatives :** Most exchanges saw a decline in trading volumes in the currency derivatives segment (**Table 3.9**). Trading in cash-settled interest rate futures contracts on ten-year Government of India securities commenced in January 2014.

3.21 **Foreign Portfolio Investment:** With the commencement of the foreign portfolio investment (FPI) regime from 1 June 2014, the erstwhile foreign institutional investors (FIIs), Sub Accounts and qualified foreign investors (QFIs) have been merged into a new investor class termed foreign portfolio investors. The total net FPI inflows during April-December 2014 stood at US $ 32,943 million compared to an outflow of US $ 539 million in the corresponding period of 2013-14.

SEBI has undertaken a number of policy initiatives for the development of both primary and secondary markets during the year. The major policy developments are given in Box 3.2

Insurance Sector

3.22 In India, insurance penetration has grown from 2.3 per cent (life 1.8 per cent and non-life 0.7 per cent) in 2000 to 3.9 per cent (life 3.1 per cent and non-life 0.8 per cent) in 2013. The life insurance penetration level compares well with the emerging market economies. During 2013-14, the life insurance industry recorded a premium income of ₹ 3,14,283 crore as against ₹ 2,87,202 crore in the previous financial year, registering a growth of 9.4 per cent. While private-sector insurers posted 1.4 per cent decline in their premium income, Life Insurance Corporation of India (LIC) recorded 13.5 per cent growth during the period. On the basis of total premium income, the market share of LIC increased from 72.7 per cent in 2012-13 to 75.4 per cent in 2013-14.

3.23 With a view to removing archaic and redundant provisions in the insurance laws, empowering the Insurance Regulatory and Development Authority (IRDA) to enable more effective regulation, and enhancing the foreign equity investment cap in an Indian insurance company from 26 to 49 per cent with the safeguard of Indian ownership and control, the government has promulgated the Insurance Laws (Amendment) Ordinance 2014 on 26 December 2014. The ordinance amends the Insurance Act 1938, the General Insurance Business (Nationalization) Act 1972, and the IRDA Act 1999.

Pension Sector

3.24 The National Pension System (NPS) which was initially introduced for the new recruits who had joined central government service (except armed forces at first stage) with effect from 1 January 2004, has been subsequently extended to autonomous bodies, state governments, and the unorganized sector. Barring two States, all the States have since come under the ambit of the NPS. From 1 May 2009, the NPS was opened up for all citizens in India to join on a voluntary basis. Till 31 December 2014, a total of 79.71 lakh members have been enrolled under the NPS with a corpus of ₹ 73, 097 crore. Assets under management

Box 3.2 : Policy Developments (April-December 2014)

Securities Laws (Amendment) Act 2014: Vide the Act passed in August 2014, enhanced powers were conferred upon SEBI, including explicit power to disgorge ill-gotten gains, power to conduct search and seizure, explicit powers for settlement, attachment and recovery, increase in penalties, and constitution of special courts.

Primary Market

- In order to strengthen the corporate governance norms, SEBI amended Clause 49 of the equity listing agreement with provisions such as exclusion of nominee director from the definition of independent director and compulsory whistle blower mechanism.
- The Securities Contracts (Regulation) Rules 1957 were amended to require a minimum public shareholding of 25 per cent of the total number of issued shares of public-sector units within three years.

Secondary Market

- The framework for stock exchanges to launch cash-settled interest-rate futures on ten-year government securities was prescribed.
- FPIs were allowed to trade in currency derivatives subject to terms and conditions.
- SEBI enabled a single consolidated view of all the investments of an investor in mutual funds and securities held in demat form with the depositories.
- SEBI permitted single registration for stock brokers/clearing members. The policy of granting single registration for operating with both the depositories was approved.
- SEBI amended SEBI {KYC Registration Agency} (KRA) Regulations 2011 to provide for sharing of KYC (know your customer) information with other regulators.

Foreign Portfolio Investors

- The SEBI (Foreign Portfolio Investors) Regulations 2014 came into effect from 1 June 2014. Operational Guidelines for Designated Depository Participants (DDPs) were issued.
- From April 2014, investment conditions for FII/QFI investments in government debt securities were changed whereby their investments in T-Bills were allowed to taper off on maturity/sale.
- FPIs were permitted to invest on repatriation basis, in non-convertible/redeemable preference shares or debentures issued by an Indian company and listed on recognized Indian stock exchanges.

Mutual Funds, Corporate bonds, AIFs

- SEBI (Real Estate Investment Trusts) Regulations 2014 were notified in September 26, 2014.
- SEBI notified the Infrastructure Investment Trust Regulations in September 2014 which provide a framework for registration and regulation of InvITs in India.
- SEBI (Research Analysis) Regulations, 2014 were notified on September 01, 2014.

under the NPS have witnessed an increase from ₹ 48,136 crore as on 31 March 2014 to ₹ 72,000 crore as on 31 December 2014, registering an increase of 49.6 per cent. The Swavalamban Scheme, a co-contributory pension scheme launched in 2010 for persons in the unorganized sector, is now open to those citizens of India who are not part of any pension/ provident fund scheme. A total of 6.29 lakh subscribers have already been enrolled under the scheme till 31 December 2014 during FY 2014-15.

3.25 The Pension Fund Regulatory and Development Authority (PFRDA) Act 2013 has been made effective from 1 February 2014, after it was passed by Parliament in September 2013. The PFRDA Act seeks to vest the PFRDA with statutory status in order to allow it to perform its regulatory and developmental roles effectively.

External Sector

04
CHAPTER

The robust external-sector outcome in the current year of moderate trade and current account deficits, abundant financial flows, a build-up of foreign exchange reserves and broadly stable exchange rate movement points to a return to the path of strength and resilience that was in evidence before the global financial crisis of 2008. This follows the improvement last year that was achieved in the face of an initial phase of severe stress and on the strength of policy responses. The correction in the international prices of crude petroleum in the second half of the current fiscal has helped in the decontrol of diesel prices. The overall trade performance signaled an opportune time for withdrawal of restrictions on gold imports. The resilience also owed in part to the trade diversification process. While trade and current account deficits are on even keel, the copious financial inflows in excess of the financing requirement has helped shore up foreign exchange reserves (US$ 328.7 billion at end-January 2015). These have helped allay the vulnerability concerns that led to severe stress last year. These concerns, however, remain a potent downside risk, should the global environment deteriorate for some reason. The global economic outlook remains somewhat uncertain but stable and likely to gain strength if lower global crude petroleum prices drive the demand recovery process in key emerging market economies.

Global Economic Environment

4.2 The global economic environment appears poised for a change for the better with the recent sharp fall in the international prices of crude petroleum, which is expected to boost global aggregate demand, and the sharp recovery in the US economy in the face of gradual withdrawal from monetary accommodation. Following the global crisis of 2008, the global economy came under a cloud of uncertainty and the prolonged weakness in the euro area, particularly since 2011, led to the International Monetary Fund (IMF) often revising global growth downwards in its World Economic Outlook (WEO). In its Update, published on 20 January 2015, the IMF projected the global economy to grow from 3.3 per cent in 2014 to 3.5 per cent in 2015 and further to 3.7 per cent in 2016. This downward revision from its October 2014 projections owed to the weaker economic prospects in China, Russia, the euro area, Japan, and some major oil exporters because of the sharp drop in oil prices. The United States is the only major economy for which growth projections have been raised by 0.5 percentage point to 3.6 per cent for 2015.

4.3 In the case of emerging market and developing economies (EMDEs), which continue to struggle with tepid domestic demand and headwinds from structural impediments, the IMF Update projects growth to moderate to

4.3 per cent in 2015 and 4.7 per cent in 2016. The IMF's projections only partially reflect the net impact of the fall in global crude oil prices and for the near term outlook. Going forward, the lower oil price is likely to be more positive for the EMDEs that account for more than half of the global output (purchasing power parity terms) given their higher contribution to global growth with inflation remaining anchored. This might lead to a better outcome than projected. A sudden correction in financial markets and downside risks to growth with a possible further slowdown in the euro area along with the likely duration of the oil price supply shock effect, are some of the concerns that linger on.

4.4 The WEO Update projects India's GDP growth at market prices to be 6.3 per cent (downward revision of 0.1 percentage point compared to the WEO of October 2014) in 2015 and for the year 2016, projected growth is 6.5 per cent surpassing the projection of 6.3 per cent for China. The recent upward revisions to India's GDP growth made by the Central Statistics Office (CSO) on 30 January 2015 may get reflected in the subsequent projections of the WEO. The level of global economic activity has a significant direct bearing on the growth prospects of the emerging economies through trade channels. As per the IMF WEO Update, January 2015, world trade volume growth projections have been placed at 3.8 per cent and 5.3 per cent, respectively for 2015 and 2016—lower by 1.1 percentage points and 0.2 percentage point respectively.

India's Merchandise Trade

4.5 Over the last ten years, India's merchandise trade (on customs basis) increased manifold from US$ 195.1 billion in 2004-05 to US$ 764.6 billion in 2013-14. As per the World Trade Organization (WTO), India's share in global exports and imports increased from 0.8 per cent and 1.0 per cent respectively in 2004 to 1.7 per cent and 2.5 per cent in 2013. Its ranking in terms of leading exporters and importers improved from 30 and 23 in 2004, to 19 and 12 respectively in 2013. While India's total merchandise trade as a proportion of gross domestic product (GDP) increased from 29.0 per cent in 2004-05 to 41.8 per cent in 2013-14, India's merchandise exports as a proportion of GDP increased from 12.1 per cent to 17.0 per cent during the same two time periods. There were considerable differences in the growth rates within the two time periods which owed largely to the global uncertainty, prolonged weakness in some areas, and volatility in global commodity prices since 2008. In particular, global crude oil prices were a major factor in the process of elevated levels of merchandise trade deficit (Box 4.1).

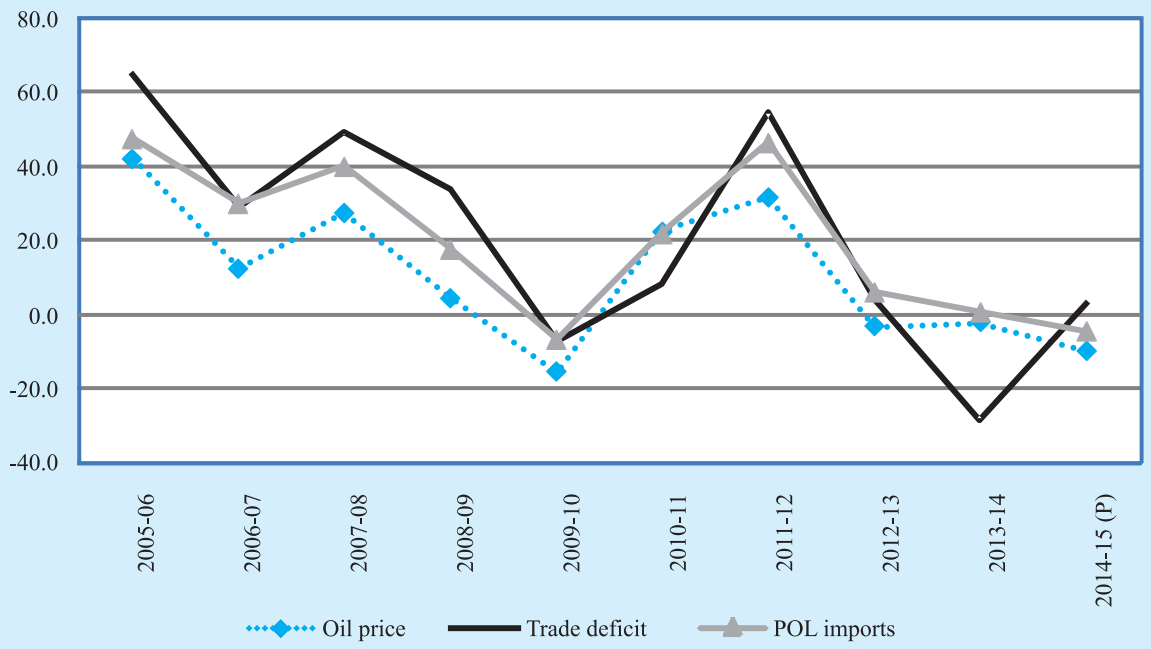
4.6 After registering very high growth of 40.5 per cent in 2010-11, growth of merchandise exports moderated to 21.8 per cent in 2011-12. The high growth in two years led to overall exports crossing the US$ 300 billion mark. In 2012-13, though exports were still above the US$ 300 billion mark, growth in exports could not be sustained and marginally declined by 1.8 per cent [Appendix Table 7.1(B)]. During 2013-14, however, exports recovered to post a growth of 4.7 per cent (US$ 314.4 billion). In 2014-15 (April-January), growth of exports moderated to 2.4 per cent (US$ 265.0 billion vis-à-vis US$ 258.7 billion in the corresponding period of the previous year).

4.7 India's merchandise imports grew by 28.2 per cent in 2010-11and the high growth continued through 2011-12 driven by broad-based expansion in imports of gold and silver, POL group and non-POL and non-gold and silver group. In 2012-13, there was only modest decline in the growth rates of gold and silver as well as non-POL imports, leading to continuance of elevated level of total imports of around US $ 490 billion. In 2013-14, in view of the sharp depreciation of the rupee owing to domestic and external factors, the government placed restrictions on gold imports which led to a sharp decline therein of 46.4 per cent. With domestic activity remaining weak, non-POL and non-gold and silver imports also declined by around 7 per cent, which along with the fall in gold imports led to overall decline in imports to US$ 450 billion. In 2014-15 (April-January), imports grew by 2.2 per cent to US$ 383.4 billion

Box 4.1 : Implications of Global Crude Oil Price Movements

Any major change in global commodity prices, particularly crude oil prices, has implication for the external sector as India is increasingly integrated with the rest of the world. It is evident that India's rising two-way external-sector transactions have more than doubled as a proportion of GDP over the last ten years. Trade openness provides opportunities for higher growth through higher exports and makes available better quality products domestically at globally competitive prices. Typically in the literature, current account deficit (CAD) is viewed as foreign savings that promote growth through higher investment given the level of domestic savings in EMDEs; but in the context of India's large oil import dependence and the sharp rise in global crude oil prices, the widening of the CAD in 2011-12 and 2012-13 may be an atypical outcome. Changes in crude oil prices have direct bearing on India's CAD. Historically, crude oil imports accounted for a substantial portion of the country's total imports. Petroleum, oil, and lubricants (POL) imports accounted for more than one-third of India's total imports in recent years. In 2013-14, POL imports accounted for 36.6 per cent of total imports. The share of POL imports in total imports is estimated at over 33 per cent in the current fiscal year so far (up to December 2014). The changes in trade deficit and by implication CAD in recent years are largely explained by the changes in crude oil prices (Figure 1).

Figure 1: Changes in Oil price (Indian Basket), POL imports and Trade deficit (per cent)



***Note* : For the year 2014-15 data relates to April-December.**

Global crude oil prices (Indian basket) which were as high as US$ 107.2 per barrel in the first quarter of 2014-15 declined to US$ 101.7 per barrel in the second and further to US$ 75.2 per barrel in the third quarter of 2014-15. Subsequently, they remained below US$ 50 per barrel. As on 30 January 2015, the crude oil prices of the Indian basket stood at US$ 46.7 per barrel. Under some simplifying assumptions, a fall in international crude oil prices by US$ 1 per barrel is likely to reduce the net import bill by US$ 0.9 billion per annum. Average prices of oil in the period from April 2014 to January 2015 were around US$ 90 per barrel, which is likely to result in lower overall net oil imports by US$ 9.5 billion for 2014-15, assuming 6 per cent growth in import quantity. India's current account balance should strengthen in view of substantial fall of about 56 per cent in crude oil prices of the Indian basket in January 2015 over the level of March 2014. Besides, a reduction in international gold prices by US $ 10 per troy oz is estimated to lead to a US$ 130 million fall in net gems and jewellery imports for 2014-15 assuming no change in quantum of imports.

as compared to US$ 375.3 billion in 2013-14 (April-January). While the value of POL imports declined by 7.9 per cent in 2014-15 (April-January), gold and silver imports grew by 8.0 per cent in 2014-15 (April-January). Non-POL and non-gold and silver imports which largely reflect

the imports needed for industrial activity grew by 7.8 per cent in 2014-15 (April-January), after registering a decline of 0.7 per cent and 6.9 per cent respectively in 2012-13 and 2013-14.

4.8 While the above developments in nominal terms broadly reflect the trends, it is useful to decompose the growth rates in terms of changes in quantity and price, which are best indicated by the quantum and unit value indices that reflect terms of trade (Table 4.1). The change in quantum index for exports broadly corresponds directionally with nominal growth in US dollar and rupee terms, albeit at much lower rates, 2012-13 being an exception when in US dollar terms there was negative growth as against a high positive growth rate in the quantum index. In the case of the quantum index of imports, there was greater directional divergence with the nominal growth rates expressed in US dollar and rupee terms.

4.9 The changes in unit value indices of exports and imports were broadly in positive territory with the exception of 2009-10. The outcome in terms of trade was reflected in the deterioration evidenced in 2011-12. This deterioration owes to the oil price shock which could be reversing in the second half of 2014-15.

4.10 The oil price shock was amplified given the large import dependence that had kept imports at elevated levels since 2011-12 and the relative sluggish global demand constraining overall export growth. India's subsequent resilience owed to the diversification processes that encompass both commodity composition and direction of trade.

Composition of Trade

4.11 The commodity composition of India's trade has undergone many changes since liberalization and has been driven by trade policy, movements in international prices, and the changing pattern of domestic demand. Manufactured goods constitute the bulk of exports — over 63 per cent in recent years, followed by crude and petroleum products

Table 4.1 : Trade Performance: Quantum and Unit Value Indices

(per cent change)

	Exports				Imports				Terms of trade	
	US$ terms	Rupee terms	Quantum index	Unit value index	US$ terms	Rupee terms	Quantum index	Unit value index	Net	Income
2001-02	-0.6	2.7	0.8	1.0	2.9	6.2	4.0	2.8	-1.7	-0.9
2002-03	20.3	22.1	19.0	2.9	19.4	21.2	5.8	14.3	-10.0	7.2
2003-04	21.1	15.0	7.3	7.5	27.3	20.8	17.4	3.1	4.3	11.9
2004-05	30.8	27.9	11.2	14.9	42.7	39.5	17.2	18.9	-3.4	7.4
2005-06	23.4	21.6	15.1	6.1	33.8	31.8	16.0	14.0	-6.9	7.1
2006-07	22.6	25.3	10.2	13.7	24.5	27.3	9.8	15.1	-1.2	8.8
2007-08	29.0	14.7	7.9	5.1	35.5	20.4	14.1	1.9	3.1	11.2
2008-09	13.6	28.2	9.0	16.9	20.7	35.8	20.2	13.8	2.7	11.9
2009-10	-3.5	0.6	-1.1	1.0	-5.0	-0.8	9.9	-10.0	12.3	11.0
2010-11	40.5	35.2	15.2	13.8	28.2	23.4	8.0	13.0	0.7	15.9
2011-12	21.8	28.3	8.9	20.2	32.3	39.3	-20.9	74.9	-31.3	-25.2
2012-13	-1.8	11.5	7.9	6.0	0.3	13.8	6.1	8.0	-1.9	5.8
2013-14	4.7	16.6	5.9	9.9	-8.3	1.7	-10.7	12.9	-2.7	3.1
2014-15(P)	3.4	5.0	4.8	3.6	1.5	3.9	0.8	3.3	0.2	5.0

Source **: Computed based on data of the Directorate General of Commercial Intelligence and Statistics (DGCI&S).**
Note **: For the year 2014-15 growth rate relates to April to September. P : Provisional.**

(including coal) with a 20 per cent share, and agriculture and allied products with a share of 13.7 per cent share [Appendix Table 7.3(B)]. The top seven product groups accounting for nearly 80.9 per cent of India's total exports in 2014-15 (April-December) were: petroleum products (19.4 per cent share); gems and jewellery (13.0 per cent share); agriculture and allied products (12.0 per cent share); textiles and allied products (11.6 per cent share); chemicals and related products (10.1 per cent share); transport equipment (8.5 per cent share) and machinery (6.3 per cent share).

4.12 Growth in exports of petroleum and agriculture and allied products which had been in positive territory for the last four years, turned negative in 2014-15 (April-January). Gems and jewellery exports which exhibited a declining trend in 2012-13 and 2013-14, continued to register a declining trend in 2014-15 (April-January). In the case of electronic goods, there has been continuous decline in exports since 2012-13. During 2014-15 (April-January), some sectors like transport equipment; machinery, chemicals and related products, textile and allied products and base metals registered positive growth in exports.

4.13 Marine products and leather and leather manufactures recorded relatively high growth in 2012-13, 2013-14, and 2014-15 (April-January). While the shares in terms of nominal value of exports (conversely imports) may be high in some sectors, the import (export) component may also be high and therefore it would be instructive to look at value added (Box 4.2).

4.14 One of the major items in India's import basket is the POL group, which accounted for 36.6 per cent of India's total imports in 2013-14. POL imports surged with a growth of 46.2 per cent in 2011-12, mainly on account of significant increase in global crude oil prices vis-à-vis 2010-11. The growth in imports of POL moderated to 5.9 per cent and 0.4 per cent respectively in 2012-13 and 2013-14. There was moderation in international crude oil prices (Brent) from US$109.8 per barrel in the first quarter of 2014-15 to US$ 76.0 per barrel in the third quarter which resulted in the value of POL imports declining by 7.9 per cent in 2014-15 (April-January). Capital goods imports are another major group which declined continuously from 2011-12 onwards. Within capital goods, imports of machinery registered positive growth in 2014-15 (April-January). Gold and silver imports accounted for 11.4 per cent of India's total imports in 2012-13 and 7.4 per cent in 2013-14. These imports declined by 9.0 per cent and 40.4 per cent respectively in 2012-13 and 2013-14 but registered a positive growth of 8.0 per cent in 2014-15 (April-January). Imports of pearls and precious and semi-precious stones grew by 5.4 per cent in 2013-14 and declined by 3.9 per cent in 2014-15 (April-January).

Direction of Trade

4.15 There has been significant market diversification in India's trade in recent years –a process that has helped in coping with the sluggish global demand, which owes to a great extent to the weakness in the euro zone. Region-wise, India's export shares to Europe and America have declined over the years—from 23.6 per cent and 20.1 per cent respectively in 2004-05 to 18.6 per cent and 17.2 per cent respectively in 2013-14. Conversely, the shares of India's exports to Asia and Africa have increased from 47.9 per cent and 6.7 per cent respectively in 2004-05 to 49.4 per cent and 9.9 per cent respectively in 2013-14. The change in direction immediately prior to the global financial crisis and since 2010-11 indicates the process of diversification underway. A comparison of India's trade in the pre-crisis (2004-05 to 2007-08) and post-crisis period (2010-11 to 2013-14) shows that India's exports and imports from Europe, the USA, and Singapore have declined, while its trade with Asia and Africa has increased (Table 4.2).

4.16 In 2014-15 (April-December), India's exports to the European region grew by only 0.2 per cent. India's exports to Africa and America grew by 12.9 and 14.5 per cent respectively and

Box 4.2 : Estimates of Labour and Non-labour Components of Domestic Value Added in India's Exports

The changing contours of trade and the emergence of global production chains have important implications for developing countries. Increasing use of imported inputs has generally caused a decline in the domestic value added share of total exports. The decomposition of value added by capital and different types of labour is an important aspect of global fragmentation of the production process. It is often argued that increasing trade and thereby integration with the world market will lead to new opportunities for developing nations to employ their abundant medium and low skilled workers. The aforementioned decomposition of domestic value added allows examination of how the benefits of globalization are being distributed between capital and different types of labour.

In the Indian context, the share of domestic value added exports in total exports has witnessed a decline from 86.9 per cent in 1998-99 to 84.1 per cent in 2003-04 and further to 78.5 per cent in 2007-08. The foreign value added share in exports, however increased, indicating deepening of the process of international production fragmentation. The domestic labour component is relatively higher in India's service exports than in merchandise exports. Further, the domestic value of exports based on four components (unskilled, semi-skilled, skilled labour, and non-labour) shows that the combined share of the skilled labour and non-labour components is significantly high, which shows a pervasive process of technological change that is biased towards the use of skilled labour and capital. An analysis of the domestic value of India's exports by factor inputs reveals that the labour component in domestic value added for merchandise exports was 28 per cent in 2007 whereas it was 39 per cent for total exports (including services) for the same year. For services exports, the corresponding figure is about 51 percent, which indicates that the domestic labour component is relatively higher in services exports than in merchandise exports. The contribution of labour to domestic value addition (Table 1) has decreased for merchandise exports (by more than 6 percentage points) and increased for service exports (by 2 percentage points) over the period 1998-99 to 2007-08. At a disaggregated level, the labour component in domestic value added of India has increased mainly for agriculture, food processing, and services sectors; whereas capital contribution has increased for machinery, metal products, and many of the other manufacturing sectors.

Table 1: Decomposition of Domestic Value Added of Exports into Factor Components 1998-99 to 2007-08
(per cent per annum)

Sectors	Labour component			Non-labour component			Domestic value added		
	1998-99	2003-04	2007-08	1998-99	2003-04	2007-08	1998-99	2003-04	2007-08
Merchandise exports	34.2	32.1	27.9	50.7	47.3	42.9	85.0	79.4	70.8
Services exports	48.8	51.4	50.9	42.0	41.4	35.8	90.8	92.8	86.7
Total exports	39.2	38.9	39.1	47.8	45.2	39.5	86.9	84.1	78.5

Source **: Computation based on input output tables published by the CSO, Annual Survey of Industries (ASI), National Sample Survey (NSS) rounds, and Social Accounting Matrices.**

Note **: The labour and non-labour components of DVA do not add up to 100 because the remaining part is the foreign value added component.**

Distribution of factor content according to skill levels of workers is shown in Table 2. Estimates at the aggregate level, show that for manufactured exports, the share of unskilled labour and capital is high whereas for services exports and total exports the share of capital and high skilled labour is significantly higher than those of medium skilled and unskilled labour.

Table 2 : Distribution of Domestic Value of India's Exports according to Factor Input and Skill Level of Labour 2007
(in per cent)

Sectors	Unskilled labour component	Semi-skilled labour component	Skilled labour component	Non-labour component	Foreign value added share
Merchandise Exports	**10.9**	**8.8**	**8.0**	**43.1**	**29.2**
Top export items					
1) Petroleum products	2.0	2.2	2.4	27.6	65.8
2) Readymade garments	17.3	13.7	9.8	42.7	16.4
3) Gems & jewellery	10.0	10.3	7.8	35.2	36.6
4) Drugs and medicines	8.7	8.0	9.6	47.6	26.1
Services exports	**10.3**	**14.5**	**26.1**	**35.9**	**13.3**
Total Exports	**10.6**	**11.6**	**16.8**	**39.6**	**21.5**

Source **: Computation based on input output tables published by the CSO, ASI, NSS survey rounds, and Social Accounting Matrix tables.**

A similar pattern in factor shares has been observed for several other emerging nations where the shares of capital and high skilled labour have increased implying that the global value chains are becoming increasingly capital and skill intensive over time.

Source**: Based on a study by Deb Kusum Das, Sreerupa Sengupta, and Pilu Chandra Das, ICRIER, 'Estimating Domestic Value Added and Foreign Content of India's Exports', sponsored by the Department of Economic Affairs, Ministry of Finance, Government of India (GoI).**

Table 4.2 : Export and Import Shares of Regions/Countries in India's Trade

Region/ countries	Exports			Imports			Exports to imports Ratio		
	2004-05 to 2007-08	2010-11 to 2013-14	Change in share	2004-05 to 2007-08	2010-11 to 2013-14	Change in share	2004-05 to 2007-08	2010-11 to 2013-14	Change
Europe	**23.3**	**19.0**	**-4.3**	**21.6**	**18.0**	**-3.6**	**73.6**	**68.6**	**-5.0**
Germany	3.3	2.5	-0.7	3.9	3.0	-0.9	56.5	53.9	-2.5
Belgium	2.7	2.1	-0.6	2.6	2.2	-0.3	73.4	62.4	-10.9
Switzerland	0.4	0.4	0.0	4.5	6.2	1.7	6.7	4.2	-2.5
Africa	**7.8**	**8.9**	**1.2**	**6.3**	**8.5**	**2.2**	**84.0**	**68.1**	**-15.9**
Nigeria	0.7	0.9	0.1	2.1	2.9	0.8	23.8	19.7	-4.1
America	**18.9**	**16.6**	**-2.3**	**10.3**	**11.0**	**0.7**	**124.9**	**98.3**	**-26.6**
U S A	14.9	11.6	-3.3	7.1	5.1	-2.0	**143.5**	**148.5**	5.0
Asia	**48.5**	**50.2**	**1.7**	**48.9**	**60.2**	**11.3**	**67.7**	**54.4**	**-13.4**
Singapore	4.8	4.5	-0.3	2.8	1.7	-1.2	116.6	177.7	61.1
Indonesia	1.5	1.9	0.5	2.1	3.0	0.9	47.2	41.5	-5.8
United Arab Emirates	9.2	11.7	2.5	4.5	7.6	3.2	140.0	99.2	-40.8
Saudi Arabia	2.0	2.8	0.8	5.1	6.8	1.7	26.6	26.3	-0.3
Kuwait	0.5	0.4	0.0	2.1	3.4	1.3	15.4	8.5	-6.9
Qatar	0.3	0.2	0.0	0.9	2.8	2.0	22.0	5.6	-16.4
Iraq	0.2	0.3	0.2	1.8	3.6	1.9	6.2	5.5	-0.6
China	6.6	5.3	-1.3	9.0	11.2	2.2	50.4	30.8	-19.6
Hong Kong	4.0	4.1	0.1	1.3	1.9	0.6	210.1	137.7	-72.5
Korea	1.7	1.4	-0.3	2.7	2.7	0.0	43.6	33.8	-9.8
Total	**100.0**	**100.0**	—	**100.0**	**100.0**	—	**68.2**	**65.1**	**-3.1**

Source **: Computed based on data of the DGCI&S.**

to Asia, a major destination accounting for nearly 50 per cent of India's exports, by 2.2 per cent in 2014-15 (April-December). Within Asia, India's exports to South Asia grew by 23.8 per cent (mainly due to high export growth to Sri Lanka, Nepal, and Bangladesh) and 8.8 per cent in the case of West Asia-Gulf Cooperation Council (GCC) (UAE, Saudi Arabia, and others). India's exports to other regions of Asia witnessed a contraction—declining by 4.4 per cent to North East Asia (consisting of China, Hong Kong, Japan), 7.2 per cent to the Association of South East Asian Nations (ASEAN) (consisting of Singapore, Indonesia, Thailand, Malaysia), and 8.5 per cent to Other West Asia (Iran, Israel, and others)—in 2014-15 (April-December). Country-wise, India's exports to the USA and UAE—major destinations with a share in India's total exports of 12.5 per cent and 9.7 per cent respectively in 2013-14—grew by 11.2 per cent and 11.9 per cent in 2014-15 (April-December). However, India's exports to China (4.7 per cent share) and Belgium (2.0 per cent share) declined by 14.7 per cent and 10.7 per cent during the same period. Since 2012-13, there has been a contraction in India's exports to Singapore and Indonesia.

4.17 The share of Europe in India's imports also declined from 23.0 per cent in 2004-05 to 15.8 per cent in 2013-14 while the shares of Asia and Africa increased substantially from 35.6 per cent and 3.6 per cent in 2004-05 to 60.7 per cent and 8.1 per cent respectively in 2013-14. The share of America in India's imports has also increased from 8.8 per cent to 12.8 per cent during the same period. China is the major source of India's imports, accounting for 11.3 per cent of India's total imports, followed by Saudi Arabia (8.1 per cent share), the UAE (6.5 per cent share), and the USA (5.0 per cent share) in 2013-14. In 2014-15 (April-December), India's imports from China

grew by 18.7 per cent. However, there was contraction in India's imports from Saudi Arabia, the UAE, and USA by 14.2 per cent, 7.9 per cent, and 7.9 per cent, respectively during the same period. Imports from Switzerland and Singapore also declined in 2012-13 and 2013-14 but picked up with a positive growth in 2014-15 (April-December).

Trade Deficit

4.18 In 2013-14, India's trade deficit (on customs basis) declined to US$ 135.8 billion from a high level of US$ 190.3 billion in 2012-13, mainly on account of a decline in the growth of imports (8.3 per cent), even though growth in exports was sluggish at 4.7 per cent. The decline in imports owed to lower growth in oil imports (0.4 per cent) and negative growth in gold and silver imports. However, in 2014-15 (April-January) trade deficit increased marginally by 1.6 per cent to US$ 118.4 billion as against US$ 116.5 billion in 2013-14 (April-January). Low export growth (2.4 per cent) and import growth (2.2 per cent), resulted in a modest increase in trade deficit by US$ 1.8 billion. Nevertheless in terms of levels, trade deficit being close to last year reflects on external-sector polices including trade policies.

Trade Policy

Trade policy measures

4.19 The elevated levels of trade deficit arising from the global and domestic factors since 2011-12 that continued through the first quarter of 2013-14 led to severe stress in the external sector outcome with larger macroeconomic implications. The government took various measures including those aimed at boosting the performance of the export sectors which supplemented the announcements made in the Budgets and in the Foreign Trade Policy (FTP) 2009 and its Annual Supplements. Various schemes were strengthened, viz. Focus Product Schemes (FPS), Focus Market Scheme (FMS), Market Linked Focus Product Scheme (MLFPS), and Vishesh Krishi and Gram Udyog Yojana (VKGUY). In addition, industry and trade bodies are given support for participation in buyer seller meets (BSM), trade fairs, and exhibitions in various countries under the Market Access Initiative (MAI) scheme and Market Development Assistance (MDA) scheme.

4.20 Some of the recent measures taken by the government are given in Box 4.3

Anti-dumping Measures

4.21 With a view to providing a level playing field to the country's domestic industry so that it is able to compete effectively in the domestic market with foreign exporters some of whom could be resorting to dumping, recourse to anti-dumping action is being taken by major markets.The Directorate General of Anti-dumping and Allied Duties (DGAD) conducts anti-dumping investigations on the basis of applications filed by the domestic industry with prima facie evidence of dumping of goods in the country, injury to domestic industry, and causal link between the dumping and injury to domestic industry. Such petitions submitted by the domestic industry are processed as per the procedure and within the time limits specified under the Customs Tariff Act 1975 and the rules made thereunder. The DGAD conducts investigations and recommends imposition of duty, wherever appropriate, to the Department of Revenue by issuing its preliminary/final findings. Acting upon such recommendations of the DGAD, the Department of Revenue may impose provisional or definitive duties.

4.22 Anti-dumping investigations are initiated by other countries as well and in 2013 about 287 were initiated in all (Table 4.3). In 2012, Brazil overtook India with more than double the investigations initiated by India. In 2013 also Brazil's investigations were high at 54, followed by the USA and India. In 2014, till June end both India and the USA have initiated equal number of investigations. Of the 690 cases initiated by India (as on 30 June 2014), duty has been imposed in 535; imports from China faced the maximum number of initiations and out of 166 cases, duty was imposed in 134.

Box 4.3 : Some of the Trade Policy Measures Taken

- To promote domestic manufacturing capabilities, scrips issued under different schemes, namely FPS, FMS, VKGUY, MLFPS, Served From India Scheme (SFIS), Agri Infrastructure Incentive Scheme (AIIS), for import of goods can be utilized for payment of excise duty for domestic procurement. This is an important measure for import substitution and will help save foreign exchange as well as create additional employment.
- Similarly, scrips issued under the FPS, FMS, Vishesh Krishi and Gram UdyogYojana (VKGUY) schemes can be utilized for payment of service tax.
- To support export of products from the North Eastern Region (NER), exporters are entitled to additional incentives of 1 per cent of FOB value of exports in addition to other benefits under the FTP if exports are made from land customs station located in the NER.
- To diversify India's exports, 7 new markets (Algeria, Aruba, Austria, Cambodia, Myanmar, Netherlands Antilles, and Ukraine) have been added to the FMS, 7 new markets (Belize, Chile, EI Salvador, Guatemala, Honduras, Morocco, and Uruguay) to the Special FMS, 46 new items to the MLFPS, and 12 new markets for the first time and 100 new items to the FPS list.
- To boost export of services, the government has organized two editions of a Services Conclave in identified service sectors which are crucial to India. In the Conclave, barriers, if any, in the specific service sectors are identified and issues relating to the reforms needed, India's potential for enhancing exports in those sectors, and new markets for exporting services are discussed. A Global Services Exhibition will be organized in April 2015 in New Delhi, which is a platform for enhancing strategic cooperation and developing synergies between competitive players of the services sector and their global counterparts.
- Indian trade portal (www.indiantradeportal.in) was launched on 8 December 2014. This portal provides vital information to Indian industry on forty-two export markets and also a mechanism to take advantage of the increased market access provided through various regional and bilateral free trade agreements (FTA) and comprehensive economic cooperation/partnership agreements (CECA/CEPA). The information is provided in a user-friendly manner in four easy steps for exporters and importers to access the portal, which will contribute to ease of doing business for trade and industry. This portal makes available important data like (i) most favoured nation (MFN) tariff, (ii) preferential tariff, (iii) Rules of Origin (RoO), and (iv) non-tariff measures (SPS/TBT) for use of exporters and importers at one place, in respect of countries with which we have FTAs. Consequently it facilitates India's exports and will also help exporters to utilize the FTAs and access the preferential tariffs available to them in various countries to capture export opportunities.
- In order to mainstream the states so that they focus expressly on boosting exports, the key elements/ steps required to be initiated by them have been distilled and listed. A fifteen-point matrix has been developed and sent to all states / union territories (UTs) to incorporate the following: (a) development of export strategy by the state government, (b) appointment of an Export Commissioner for coordination of all export-related activities by the state government, and (c) instituting export awards to motivate the leading exporters from the state and encourage them to bring in greater export revenues.

WTO Negotiations And India

4.23 While the above measures were broadly domestic policy adjustment to the emerging external-sector environment, India continued to be engaged in WTO negotiations that have an impact on the external sector as well as overall economy. The Ninth Ministerial Conference of the WTO took place in Bali during 3-7 December 2013. Ministers issued a Declaration and ten Decisions were adopted on various issues including trade facilitation and issues relating to agricultural trade rules, development, and least developed countries (LDCs). Amongst these Decisions, two are of particular significance for India, viz. the Ministerial Decision for an Agreement on Trade Facilitation and the Ministerial Decision on Public Stockholding for Food Security Purposes.

4.24 The Trade Facilitation Agreement (TFA), which was also endorsed by India at the Ninth Ministerial Conference, is basically aimed at greater transparency and simplification of customs procedures, use of electronic payments and risk

Table 4.3 : Investigations initiated by Top Ten Users of Anti-Dumping Measures

Country	2001	2011	2012	2013	Jan.-June 2013	Jan.-June 2014
India	79	19	21	29	17	13
United States	77	15	11	39	7	13
European Union	28	17	13	4	3	3
Brazil	17	16	47	54	17	29
Argentina	28	7	12	19	12	4
Australia	24	18	12	20	5	11
South Africa	6	4	1	10	5	1
China	14	5	9	11	8	4
Canada	25	2	11	17	10	3
Turkey	15	2	14	6	4	2
All countries	372	165	208	287	122	106

***Source* : WTO.**

management techniques, and faster clearances at ports. Trade facilitation was put on the agenda mainly by the developed countries while the issue of rules relating to public stockholding for food security purposes was put on the agenda by G-33 group of 46 developing countries including India.

4.25 The agricultural trade rules in the WTO's Agreement on Agriculture do not bar public procurement and stockholding for food security. However, if food for such programmes is acquired at administered prices and not market prices, then this is deemed a support to farmers. As per WTO rules negotiated in the Uruguay Round, all such support has to be kept within a limit of 10 per cent of the value of production of the product in question. This cap can constrain procurement and food aid programmes in developing countries. The WTO rules, made keeping the interests of the developed countries uppermost, have overlooked the interests of the developing countries. The draft agriculture negotiating text of December 2008 seeks to change this. It contains a proposal to revise the rules, however, as the negotiations have not concluded, this remains an unfinished agenda. India, as part of a coalition of developing countries known as the G-33, proposed an amendment to the WTO's Agreement on Agriculture to change these rules.

4.26 The G-33 proposals, as well as various alternatives suggested by the Group, met with resistance. Negotiations continued during the Bali Ministerial Conference. The finally agreed text of the Ministerial Decision provides for Members to put in place an interim mechanism and to negotiate on an agreement for a permanent solution for adoption by the Eleventh Ministerial Conference of the WTO. In the interim, until a permanent solution is found and subject to certain conditions, Members were to be protected against challenge in the WTO under the Agreement on Agriculture in respect of public stockholding programmes for food security purposes. Post Bali, the focus of the developed countries was only on the implementation of the TFA. Concerned at this uneven progress India took the stand in July 2014 that without a firm commitment to implement the other Bali Decisions, it would be difficult to join the consensus on the Protocol of Amendment to incorporate the TFA into the umbrella WTO Agreement.

4.27 Despite the general campaign of misinformation that followed about missing the deadline for the TFA and the effect of the impasse on the future of the WTO, India stood firm. Concerted efforts were made to explain the concerns underlying the stand taken and India worked with other WTO members to find a way

forward. On 27 November 2014, the General Council of the WTO adopted a Decision on Public Stockholding for Food Security Purposes, a Decision on the TFA and a Decision on Post Bali Work. The General Council Decision on Public Stockholding for Food Security Purposes makes it clear that a mechanism under which WTO members will not challenge the public stockholding programmes of developing country members for food security purposes, in relation to certain obligations under the WTO Agreement on Agriculture, will remain in place in perpetuity until a permanent solution regarding this issue has been agreed upon and adopted. The decision also includes a commitment to find a permanent solution on public stockholding for food security purposes by 31 December 2015 on a best endeavour basis and has a firm commitment to engage in negotiations for a permanent solution through an intensified programme of work. The decision addresses India's concerns on the issue of public stockholding for food security purposes. The Tenth Ministerial Conference of the WTO (MC10) will be held in Nairobi, Kenya, from 15 to 18 December 2015. WTO members are engaged in discussion to finalise the work programme to conclude the remaining issues of the Doha Development Agenda.

Balance of Payments Developments

Overview of Balance of Payments

4.28 Post the 2008 global financial crisis, EMDEs had to face periodic shocks or stresses emanating from policies in advanced economies as well as through financial channels notwithstanding the efforts of the G-20 at coordination of policy responses to the crisis. The Indian economy had to weather the shocks which got amplified on account of confluence of weak external demand and relatively strong domestic demand with large dependence on crude oil imports whose price levels remained elevated until the second half of the current fiscal. These shocks led to widening of the CAD in 2011-12 which continued through the first quarter of 2013-14. With external financing sources remaining volatile, the less than adequate quantity and deteriorating quality of financing resulted in a sharp depreciation of the rupee. The policy responses that were put in place in 2013-14 helped overcome the stress through reduction in the levels of CAD and this, along with ample financing, led to reserve accretion that helped build resilience—a process that continues through the current fiscal.

4.29 In the first half of 2014-15, India's external-sector position was benign and comfortable (Table 4.4). Two important developments were that: (i) lower trade deficit along with moderate growth in invisibles resulted in lower CAD and (ii) there was a surge in capital inflows, enabled by higher portfolio investment, foreign direct investment (FDI), and external commercial borrowings (ECB). Higher capital inflows were in excess of the financing requirement or CAD and resulted in accretion in foreign exchange reserves. Data on merchandise trade available beyond the first half discussed in an earlier section indicates that trade deficit continues to remain broadly at comparably moderate levels and the monthly data on financial inflows and foreign exchange reserves available unmistakably points to reserve accretion and the copious nature of external financing. A part of the moderate trade outcome owe to the recent fall in international prices of crude petroleum. Given the above developments and considering the current conjuncture opportune, the Government decontrolled the prices of high speed diesel on 19 October 2014 and lifted the restrictions placed on gold imports on 29 November 2014.

Current account developments in 2014-15 (April-September)

4.30 Data on balance of payments (BoP), which is available with a lag of approximately one quarter, indicates that in the first half of 2014-15, there was a year-on-year improvement in trade account (on BoP basis) as a result of low growth in imports overcoming the moderation in merchandise export growth. Merchandise exports grew by 7.6 per cent in 2014-15 (April-September) to US$ 167.0 billion. However, in the second quarter there was

Table 4.4 : Balance of Payments : Summary (US$ million)

		2009-10	2010-11	2011-12	2012-13 (PR)	2013-14 (P)	2013-14 H1 (Apr.-Sept. 2013) (P)	2014-15 H1 (Apr.-Sept. 2014) (P)
I	Current account							
i.	Exports	182442	256159	309774	306581	318607	155152	166974
ii.	Imports	300644	383481	499533	502237	466216	238941	240188
iii.	Trade balance	-118202	-127322	-189759	-195656	-147609	-83789	-73214
iv.	Invisibles (Net)	80022	79269	111604	107493	115212	56830	55272
	A. Services	36016	44081	64098	64915	72965	35239	36069
	B. Transfer	52045	53140	63494	64034	65276	32744	32757
	C. Income	-8038	-17952	-15988	-21455	-23028	-11153	-13554
	Current account balance	-38181	-48053	-78155	-88163	-32397	-26959	-17942
II	Capital account							
i.	External assistance	2890	4941	2296	982	1032	130	606
ii.	ECBs	2000	12160	10344	8485	11777	2455	3429
iii.	Short-term debt	7558	12034	6668	21657	-5044	589	69
iv.	Banking capital	2083	4962	16226	16570	25449	11487	-542
	of which							
	Non-resident deposits	2922	3238	11918	14842	38892	13700	6473
v.	Foreign investment	50362	42127	39231	46710	26386	7762	38385
	A. FDI	17966	11834	22061	19819	21564	14589	16183
	B. Portfolio investment	32396	30293	17170	26891	4822	-6827	22202
vi.	Other flows	-13259	-12484	-7008	-5105	-10813	-6619	-3407
	Capital account balance	51634	63740	67755	89300	48787	15806	38539
III	Errors & omissions	-12	-2636	-2432	2689	-882	453	-2522
	Capital account balance (including errors & omissions)	51622	61104	65323	91989	47905	16259	36017
IV	Overall balance	13441	13050	-12831	3826	15508	-10701	18076
V	Reserve change	-13441	-13050	12831	-3826	-15508	10701	-18076
	(-)indicates increase, + indicates decrease							

Source **: RBI**
Notes **: PR: Partially Revised; P: Provisional**

some deceleration in export growth owing to moderation in oil prices from an average of US$ 105.1 per barrel in 2013-14 (second quarter) to US$ 98.9 per barrel in 2014-15 (second quarter).The outcome in terms of imports was again somewhat mixed in the two quarters of the first half of the current fiscal relative to last year. This was largely due to the base effect of high gold imports in the first quarter of 2013-14 and a sharp correction in such imports in the second quarter of 2013-14 as against a steady pick-up in the first quarter of 2014-15 followed by a surge in imports in the second quarter reflecting seasonal demand spike and the easing of restrictions on gold imports. The mixed outcome also owed to the pick-up in non-gold non-POL imports in 2014-15 relative to the compression in 2013-14. Invisible account covers (a) services, (b) transfers, and

(c) income. The surplus therein has been a major factor that moderated the large trade deficits from spilling over to the CAD. Services (net) continued to be dominated by software exports and witnessed a growth of 2.4 per cent to US$ 36.1 billion in 2014-15 (April-September) as against US$ 35.2 billion in the corresponding period of the previous year (For services trade please refer to Chapter 7). Transfers (net)—mostly remittances—were around US$ 32.7 billion in the first half of both 2013-14 and 2014-15. While software services and remittances provide surpluses, net income is an outgo that reflects interest/dividends payable and has a large bearing on the level of net international investment position. Income (net) is dominated by investment income and was US$ 13.8 billion in 2014-15 (April-September) as against US$ 13.4 billion in 2013-14 (April-September). As a result of the above developments, CAD was placed at US $ 17.9 billion in 2014-15 (April-September) as against US$ 26.9 billion in the same period of 2013-14. As a proportion of GDP, the CAD declined from 3.1 per cent in the first half of 2013-14 to 1.9 per cent in the first half of 2014-15.

Capital / finance account developments in 2014-15 (April-September)

4.31 There was marked improvement in the net capital/financial flows both in terms of quantum and quality in the first half of 2014-15. Net financial flows were at US$ 36.0 billion in the first half of 2014-15 compared to US$ 16.3 billion in the first half of 2013-14. Net foreign investment, an important financial flow, surged from US$ 7.8 billion in 2013-14 (April-September) to US$ 38.4 billion in 2014-15 (April-September). Net ECB was the other important item of the capital / finance account of the BoP which also improved from US$ 2.5 billion in 2013-14 (April-September) to US$ 3.4 billion in 2014-15 (April-September). Net banking capital witnessed a decline from US$ 11.5 billion to (-) US$ 0.5 billion during the same period.

4.32 The financial account was dominated by direct and portfolio investments which are non-debt creating in nature. The net flows in the form of FDI and portfolio investment were more than sufficient to finance the CAD during this period. While higher net FDI flows reflect a positive outlook about the growth potential of the domestic economy, robust portfolio inflows in 2014-15 were underpinned by reduced external-sector vulnerabilities of the domestic economy and benign global financial conditions aided by the prospect of additional European Central Bank easing. Given the net capital flows and the CAD levels, accretion in foreign exchange reserves was US$ 18.1 billion (BoP basis) in the first half of 2014-15 as against drawdown of US$ 10.7 billion in 2013-14 (April-September). In 2014-15 (up to December 2014), there has been a net inflow of US$ 28.5 billion in foreign institutional investors (FII) investment as compared to an outflow of US$ 4.5 billion in the corresponding period of 2013-14. The latest data on FDI inflows (net) available is for the period April-December 2014 and places these inflows at US $ 24.2 billion as against a level of US $ 20.7 billion in the same period in 2013-14. In so far as non-resident Indian (NRI) deposits are concerned, the lower levels of US $ 10.0 billion in April-December 2014 relative to April-December 2013 (US$ 35.1billion) become broadly similar when adjusted for the one-off swap scheme. The above developments in the current and capital accounts indicate further accretion to reserves on BoP basis beyond the first half of the current fiscal.

Foreign Exchange Reserves

4.33 Even though 2013-14 witnessed a sharp depreciation of the rupee in the initial part of the year with significant reserve drawdown, steps taken by the government and the Reserve Bank of India (RBI) resulted in a rise in the stock of foreign exchange reserves which was placed at US$ 304.2 billion at end-March 2014 as against US$ 292.0 billion at end-March 2013. In the first half of 2014-15, India's foreign exchange reserves increased by US$ 18.1 billion on BoP basis (i.e. excluding valuation effect). However, in nominal terms (i.e. including valuation effect) the increase

Table 4.5 : Summary of Changes in Foreign Exchange Reserves (US$ billion)

Sl. No.	Year	Foreign exchange reserves at the end of financial year (end-March)	Total increase (+) / decrease (-) in reserves	Increase /decrease in reserves on BoP basis	Increase/decrease in reserves due to valuation effect
1	2007-08	309.7	110.5	92.2	18.3
2	2008-09	252.0	-57.7	-20.1	-37.6
3	2009-10	279.1	27.1	13.4	13.7
4	2010-11	304.8	25.7	13.1	12.6
5	2011-12	294.4	-10.4	-12.8	2.4
6	2012-13	292.0	-2.4	3.8	-6.2
7	2013-14	304.2	12.2	15.5	-3.3
8	End-Sep. 2014	313.8	9.6	18.1	-8.5

***Source*: RBI.**

Table 4.6 : Foreign Exchange Reserves of Some Major Countries

Sl. No.	Country	Foreign exchange reserves at end-Dec. 2014 (US$ billion)
1	China	3840.0#
2	Japan	1312.1
3	Switzerland*	526.6
4	Russian Federation	388.5
5	Brazil	363.6
6	Korea, Republic of*	363.2
7	China, P.R. Hong Kong*	344.6
8	India	320.6
9	Germany	192.7
10	Thailand*	163.7
11	France*	161.6
12	Italy*	143.3

***Source*: IMF except India and China.**
***Note*: * Latest data available for the month of November 2014 only. # www.pbc.gov.cn**

was only by US$ 9.6 billion with end-September, 2014 levels at US$ 313.8 billion (Table 4.5).

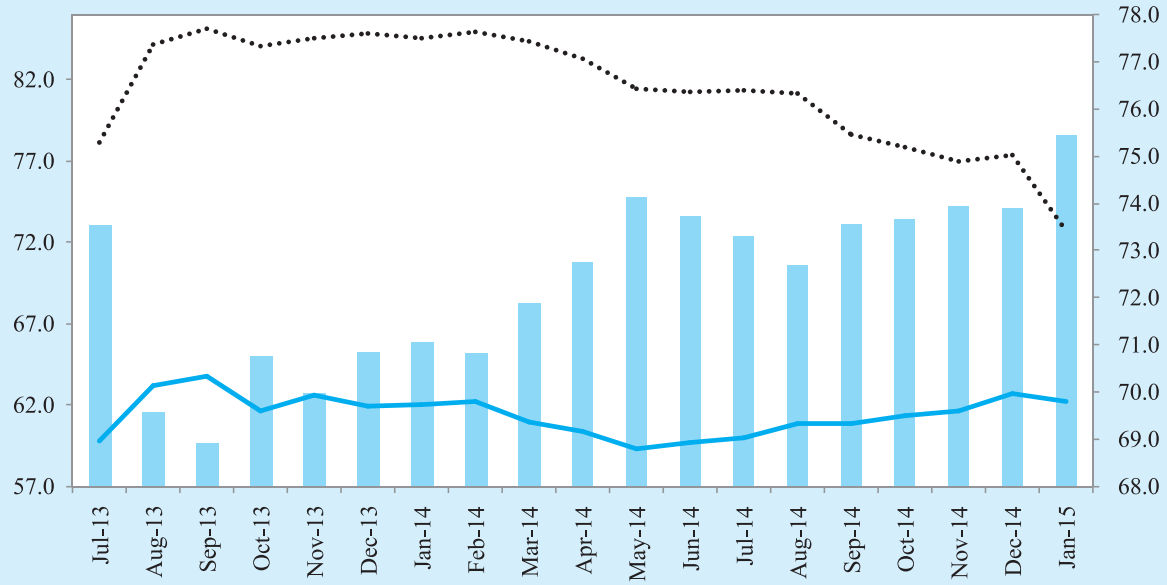
4.34 Among the major economies with current account deficit, India is the second largest foreign exchange reserve holder after Brazil (Table 4.6). India's foreign exchange reserves at US$ 328.7 billion at end-January mainly comprised foreign currency assets amounting to US$ 303.3 billion, accounting for 92.3 per cent of the total. With increase in reserves in the first half of 2014-15, all reserve-based traditional external-sector vulnerability indicators have improved. For instance, the ratio of short-term external debt to reserves has declined from 29.3 per cent at end-March 2014 to 27.5 per cent as at-end September 2014, the reserves cover for imports has also increased from 7.8 months at end-March 2014 to 8.1 months as at-end September 2014.

Exchange Rate

4.35 In 2013-14, global uncertainty following the May 2013 announcement by the US Fed about its intent to withdraw the quantitative easing led to a bout of depreciation in the currencies of emerging markets with varying intensities depending upon the external financing requirement as indicated by the levels of CAD. As India had elevated levels of CAD in 2011-13, which continued through the first quarter of 2013-14, the monthly exchange rate of the rupee against the US dollar depreciated by 14.7 per cent from ₹ 54.38 per US dollar in April 2013 to ₹ 63.75 per US dollar in September 2013. After stabilizing subsequently to reach ₹ 60.10 at end-March 2014, it was ₹ 60.36 per US dollar in April 2014.

4.36 The rupee-US dollar exchange rate has broadly remained stable during the year due to the huge inflow of FDI and FII in the equity and bond markets. Due to the weak economic outlook

Figure 4.1: Movements of Rupee against USD, Euro and NEER



***Source*: RBI.**

in Europe and Japan, the rupee has appreciated against the euro and yen since September 2014 in tandem with cross-currency movements of the euro and yen vis-à-vis the US dollar. On point-to-point basis the rupee has depreciated by 3.3 per cent from ₹ 60.10 per US dollar on 28 March 2014 to ₹ 62.14 per US dollar on 13 February 2015. The rupee reached a low of ₹ 63.75 per US dollar on 30 December 2014 and a peak of ₹ 58.43 per US dollar on 19 May 2014. On month-to-month basis, the rupee depreciated by 2.0 per cent from ₹ 61.01 per US dollar in March 2014 to ₹ 62.23 per US dollar in January 2015 (Figure 4.1). However, the rupee has appreciated by 7.3 per cent, 16.1 per cent, and 13.6 per cent against the pound sterling, euro, and Japanese yen respectively between March 2014 and January 2015.The month-wise exchange rate of the rupee against major international currencies and the RBI's sale/ purchase of foreign currency in the foreign exchange market since April 2014 are given in Table 4.7.

4.37 On the whole, the rupee has exhibited resilience to global events in view of the aforesaid strong external-sector outcome. While in May 2013, it depreciated sharply on the concerns of impact of US FED taper talk, it stabilized when the taper actually happened. As on 8 January 2015, the Indian rupee against the US dollar has depreciated modestly by 4.6 per cent over end-March 2014 as compared with the Russian rouble (40.4 per cent), Brazilian real (14.2 per cent), Mexican peso (10.7 per cent), Indonesian rupiah (10.4 per cent), and South African rand (8.5 per cent) **(**Appendix Table 6.4**)**.

4.38 Effective exchange rates are summary indicators of movement in the exchange rate of home currency against a basket of currencies of trade partner countries and are considered to be an indicator of international competitiveness. The real effective exchange rate (REER) indices are used as indicator of external competitiveness of the country over a period of time. The nominal effective exchange rate (NEER) is the weighted geometric average of the bilateral nominal exchange rates of the home currency in terms of foreign currencies. REER is defined as a weighted geometric average of nominal exchange rates of the home currency in terms of the foreign currencies adjusted for relative price differential. Although the rupee has depreciated against the US dollar, in

Table 4.7 : Exchange Rates of Rupee per Foreign Currency and RBI's Sale/Purchase of US Dollar during 2014-15

Month	Average exchange rates (₹ per foreign currency)[a]				
	US dollar	Pound sterling	Euro	Japanese yen[b]	RBI net sale (-)/ purchase (+) (US$ million)
1	2	3	4	5	6
2013-14 (annual average)	60.50 (-10.1)	96.31 (-10.7)	81.17 (-13.7)	60.40 (9.0)	8992
2014-15 (monthly average)					
April 2014	60.36 (1.1)	101.08 (0.3)	83.35 (1.2)	58.86 (1.3)	5870
May 2014	59.31 (1.8)	99.94 (1.1)	81.49 (2.3)	58.28 (1.0)	1786
June 2014	59.73 (-0.7)	100.98 (-1.0)	81.24 (0.3)	58.53 (-0.4)	2642
July 2014	60.06 (-0.5)	102.62 (-1.6)	81.39 (-0.2)	59.07 (-0.9)	5453
August 2014	60.90 (-1.4)	101.81 (0.8)	81.14 (0.3)	59.17 (-0.2)	-511
September 2014	60.86 (0.05)	99.31 (2.5)	78.60 (3.2)	56.77 (4.2)	1437
October 2014	61.34 (-0.8)	98.72 (0.6)	77.91 (0.9)	56.87 (-0.2)	2703
November 2014	61.70 (-0.6)	97.28 (1.5)	76.99 (1.2)	53.05 (7.2)	3081
December 2014	62.75 (-1.7)	98.11 (-0.8)	77.36 (-0.5)	52.60 (0.9)	6739
January 2015	62.23 (0.8)	94.54 (3.8)	72.77 (6.3)	52.54 (0.1)	—

Source **: RBI.**

Notes **: - : Not Available**

[a] **RBI reference rates.**

[b] **Per 100 Yen.**

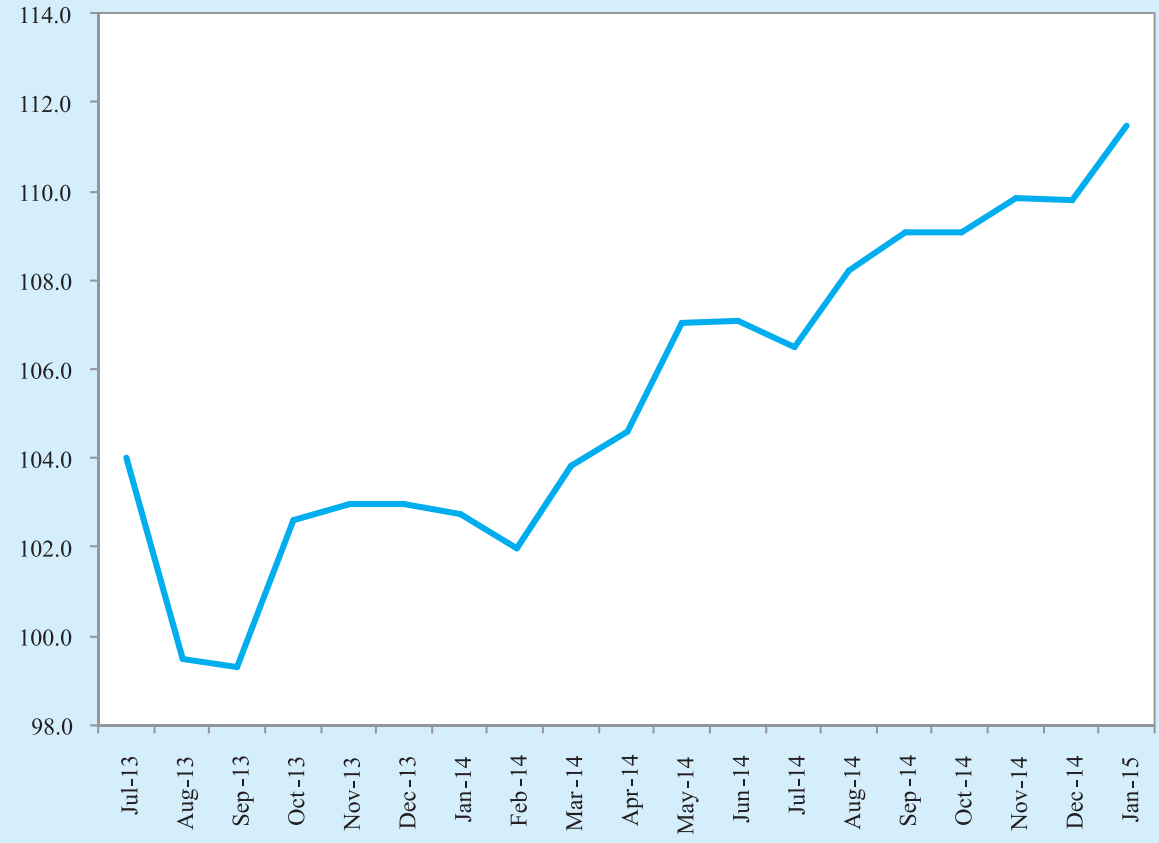
Figures in parentheses indicate appreciation (+) and depreciation (-) over the previous month/year in per cent. Figures may not tally due to rounding off.

terms of NEER (36 currencies) it appreciated by 2.8 per cent in December 2014 over March 2014. Similarly, REER also appreciated by 5.8 per cent during the same period (Figure 4.2).

External Debt

4.39 Post 1991 BoP crisis, India's prudent external debt policies and management with a focus on sustainability, solvency, and liquidity have helped contain the increase in size of external debt to a moderate level and it is compositionally better with a longer term maturity profile. India's total external debt stock at end-March 2014 stood at US$ 442.3 billion, recording an increase of US$ 32.8 billion (8.0 per cent) over the end-March 2013 level. The rise in total external debt during the period was due to long-term debt, particularly NRI deposits. A sharp increase in NRI deposits

Figure 4.2: REER-Trade Based (36 currencies) Base 2004-05 =100



***Source*: RBI.**

owed to fresh foreign currency non-resident account (banks) [FCNR(B)] deposits mobilized under the swap scheme during September to November 2013 to tide over the external financing needs. Long-term external debt at US$ 353.0 billion at end-March 2014 recorded an increase of 12.9 per cent over the end-March 2013 level, while short-term debt showed a decline of 7.7 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.

4.40 As per the latest data, India's external debt stock increased by US$ 13.7 billion (3.1 per cent) to US$ 455.9 billion at end-September 2014 over the end-March 2014 level. The rise in external debt was on account of higher long-term debt, particularly commercial borrowings and NRI deposits. The maturity profile of India's external debt indicates the dominance of long-term borrowings. At end-September 2014, long-term debt accounted for 81.1 per cent of the total external debt vis-à-vis 79.8 per cent at end-March 2014. The share of short-term debt in total external debt declined from 20.2 per cent at end-March 2014 to 18.9 per cent at end-September 2014. Details of the composition of India's external debt are presented in Table 4.8.

4.41 The currency composition of India's total external debt shows that the share of US dollar-denominated debt in external debt stock continued to be the highest at 60.1 per cent at end-September 2014, followed by Indian rupee (24.2 per cent), special drawing rights (SDR) (6.5 per cent), Japanese yen (4.5 per cent), and euro (3.0 per cent) denominated. The currency composition of government (sovereign) debt indicates predominance of SDR-denominated debt

Table 4.8: Composition of External Debt (Per cent to total external debt)

Sl. No.	Component	March 2012	March 2013 PR	March 2014 PR	September 2014 QE
1	2	3	4	5	6
1	Multilateral	14.0	12.6	12.1	11.7
2	Bilateral	7.4	6.1	5.6	5.1
3	IMF	1.7	1.5	1.4	1.3
4	Export credit	5.3	4.3	3.5	3.4
5	Commercial borrowings	33.3	34.2	33.5	35.4
6	NRI deposits	16.2	17.3	23.5	23.8
7	Rupee debt	0.4	0.3	0.3	0.3
8	**Long-term debt (1 to 7)**	78.3	76.4	79.8	81.1
9	**Short-term debt**	21.7	23.6	20.2	18.9
10	**Total external debt (8+9)**	100.0	100.0	100.0	100.0

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

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

(33.5 per cent), which is attributable to borrowing from the International Development Association (IDA), i.e. the soft loan window of the World Bank under the multilateral agencies, and SDR allocations by the International Monetary Fund (IMF). At end-September 2014, government (sovereign) external debt was US$ 88.4 billion. It accounted for 19.4 per cent of India's total external debt. Non-government external debt amounted to US$ 367.5 billion which was 80.6 per cent of total external debt at end-September 2014.

4.42 Over the years, India's external debt stock has witnessed structural change in terms of composition. The proportion of concessional in total debt declined from 42.9 per cent (average) during the period 1991-2000 to 28.1 per cent in 2001-10 and further to 9.8 per cent at end-September 2014. The dominance of non-government debt in total external debt is evident from the fact that such debt accounted for 65.6 per cent of total debt during the 2000s decade, vis-à-vis 45.3 per cent in the 1990s. Non-government debt accounted for over 70 per cent of total debt in the last five years and stood at 80.6 per cent at end-September 2014.The key external debt indicators are presented in Table 4.9. India's foreign exchange reserves provided a cover of 68.9 per cent to the total external debt stock at end-September 2014 vis-à-vis 68.8 per cent at end-March 2014. The ratio of short-term external debt to foreign exchange reserves was 27.5 per cent at end-September 2014 as against 29.3 per cent at end-March 2014. The ratio of concessional debt to total external debt declined steadily and stood at 9.8 per cent at end-September 2014 vis-à-vis 10.5 per cent at end-March 2014.

4.43 India's external debt has remained within manageable limits as indicated by the external debt to GDP ratio of 23.5 per cent and debt service ratio of 5.9 per cent in 2013-14. The prudent external debt management policy of the Government of India has helped in containing rise in external debt and maintaining a comfortable external debt position. The policy continues to focus on monitoring long- and short-term debt, raising sovereign loans on concessional terms with longer maturities, regulating ECBs through end-use, all-in-cost, and maturity restrictions; and rationalizing interest rates on NRI deposits.

International Comparison

4.44 Cross-country comparison of external debt based on the World Bank's International Debt Statistics 2015, which contains the external debt data for the year 2013, indicates that India continues to be among the less vulnerable

Table 4.9 : India's Key External Debt Indicators

(Per cent)

Year	External debt (US$ billion)	Total external debt to GDP	Debt service ratio	Foreign exchange reserves to total external debt	Concessional debt to total external debt	Short-term external debt* to foreign exchange reserves	Short-term external term Debt* to total debt
1	2	3	4	5	6	7	8
2010-11	317.9	18.2	4.4	95.9	14.9	21.3	20.4
2011-12	360.8	20.9	6.0	81.6	13.3	26.6	21.7
2012-13 PR	409.5	22.3	5.9	71.3	11.1	33.1	23.6
2013-14 PR	442.3	23.5	5.9	68.8	10.5	29.3	20.2
End-Sept.2014 QE	455.9	-	-	68.9	9.8	27.5	18.9

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

***Notes*: PR: Partially Revised; QE: Quick Estimates - : Not worked out for 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).

countries. India's key debt indicators compare well with other indebted developing countries. The ratio of India's external debt stock to gross national income at 23.0 per cent was the sixth lowest. In terms of the cover provided by foreign exchange reserves to external debt, India's position was sixth highest at 64.7 per cent **(For further details please see http://www.finmin.nic.in/reports/ind_Ext_debt.asp)**

Prices, Agriculture and Food Management

05 CHAPTER

After remaining high for a prolonged period, inflation is finally trending down. Average Wholesale Price Index inflation declined to 3.4 per cent in 2014-15 (April-December) as compared to an average of 6 per cent during 2013-14. The WPI inflation even breached the psychological level of 0 per cent in November 2014 and January 2015. Consumer price inflation released by the Central Statistics Office (base 2012=100) reached 5.1 per cent in January 2015. This is lower than the targets of 8 per cent set for January 2015 and 6 per cent for January 2016 given by the Reserve Bank of India in its report on the new monetary policy framework. Prices of the major commodity groups contributing to high inflation, namely 'eggs, meat, and fish', fruits and vegetables, and fuel, have all softened. The major developments driving the stubborn inflation down were falling global commodity prices, especially of crude oil, decline in the growth rate of rural wages, moderation in the increase in minimum support prices as also slack in economic activity. In so far as high food inflation contributed to elevated headline inflation, for sustainability of low inflation the policy focus should be on enhancing the resilience of the agriculture sector and eliminating leakages, inclusion and exclusion errors, and various distortions created by the present food policy. Growth in agriculture has now to increasingly come from non-price factors. Markets for agricultural commodities have to be made more competitive in the interests of both producers and consumers. The High Level Committee headed by Shri Shanta Kumar has given useful recommendations on proposed changes in the food policy. The upside risk to inflation outlook also emanates from uncertainties surrounding the monsoon, international crude oil prices, and the stability in the value of the rupee, particularly in the event of monetary tightening by the US Fed.

Trends in WPI and CPI Inflation

Wholesale Price Index

5.2 Headline inflation measured in terms of the Wholesale Price Index (WPI) (base year 2004-05=100) which remained persistently high at 6-9 per cent during 2011-13 moderated to a low of 3.4 per cent in 2014-15(April-December) on the back of lower food and fuel prices. During the first quarter of 2014-15, WPI headline inflation was at 5.8 per cent as mainly food and fuel prices were high. In second and third quarters of 2014-15, WPI inflation declined to 3.9 per cent and 0.5 per cent respectively (Table 5.1). WPI food inflation (weight: 24.3 per cent), which remained high at 9.4 per cent during 2013-14 moderated to 4.8 per cent during April-December 2014 following sharp correction in vegetables prices since

Table 5.1 : Quarter-wise Inflation in WPI broad groups (in per cent)

	Weights	2013-14				2014-15		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3(P)
All Commodities	**100.0**	**4.8**	**6.6**	**7.1**	**5.4**	**5.8**	**3.9**	**0.5**
I. Primary Articles	20.1	6.5	12.4	13.6	6.8	7.5	4.1	0.4
II. Fuel and Power	14.9	7.7	11.9	10.8	10.1	9.6	4.4	-4.0
III. Manufactured products	65.0	3.3	2.4	2.9	3.3	3.8	3.6	2.0
All Food	24.3	7.7	11.8	11.9	6.2	6.9	5.0	2.5
Core Inflation	55.0	2.6	2.4	3.1	3.7	4.0	3.6	2.0

***Source*: Office of Eco. Adviser, Deptt. of Industrial Policy and Promotion (DIPP) P: Provisional**

December 2013 (except March 2014) and moderation in prices of cereals and eggs, meat, and fish. As fuel has larger weight in the WPI, the decline in fuel prices led to a sharper fall in the WPI as compared to the Consumer Price Index (CPI) (base year 2010=100). Inflation in manufactured products has remained within a narrow range since 2013-14. The WPI headline inflation (provisional) in January 2015 stood at -0.4 per cent. The build up inflation rate in the financial year till January 2015 was -1.1 percent compared to a build up rate of 5.2 percent in the corresponding period of the previous year.

Consumer Price Index

5.3 The Central Statistics Office (CSO) has started releasing state-wise and all-India rural, urban, and combined CPIs since January 2011. Retail inflation as measured by the CPI (combined) (base year 2010=100) remained stubbornly sticky around 9-10 per cent for the last two years. Like WPI inflation, CPI inflation has also moderated significantly since the second quarter of 2014-15. It declined to an all-time low of 5 per cent in Q3 of 2014-15 (Table 5.2). The Reserve Bank of India (RBI) had announced its intent to anchor its monetary policy stance to headline CPI (combined) inflation from April 2014.Taking note of the sustained moderation in retail prices, it has signalled easing of the monetary stance by reducing policy repo rates by 25 basis points from 8 per cent to 7.75 per cent on 15 January 2015. The CSO has revised the base year from 2010 to 2012 (Box 5.1) and released the revised series on 12th February, 2015 along with inflation data for January, 2015. CPI inflation in terms of the revised series stood at 5.1 percent in January, 2015.

5.4 Persistence of food inflation in recent years has been the major contributing factor in high headline inflation. There have been wide variations in inflation in commodities within food sub-groups across states, across commodities, and across seasons indicating supply constraints. Demand pressures exerted by high rates of growth of rural

Table 5.2 : Quarter-wise Inflation in CPI (base 2010=100) broad groups (in per cent)

	Weights	2013-14				2014-15		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3(P)
General	**100.0**	**9.5**	**9.7**	**10.4**	**8.4**	**8.1**	**7.4**	**5.0**
I. Food, beverages & tobacco	49.7	11.0	11.1	12.9	9.2	8.9	8.6	4.8
II. Fuel and Light	9.5	8.4	7.9	7.0	6.3	5.2	4.0	3.4
III. Others	40.8	7.9	8.2	8.0	7.9	7.6	6.7	5.5
Food (CFPI)	42.7	11.1	11.4	13.6	9.3	9.1	8.8	4.5
Core inflation (Non-food non-fuel)	42.9	8.0	8.2	8.1	8.0	7.7	6.8	5.7

***Source* : CSO. P : Provisional.**

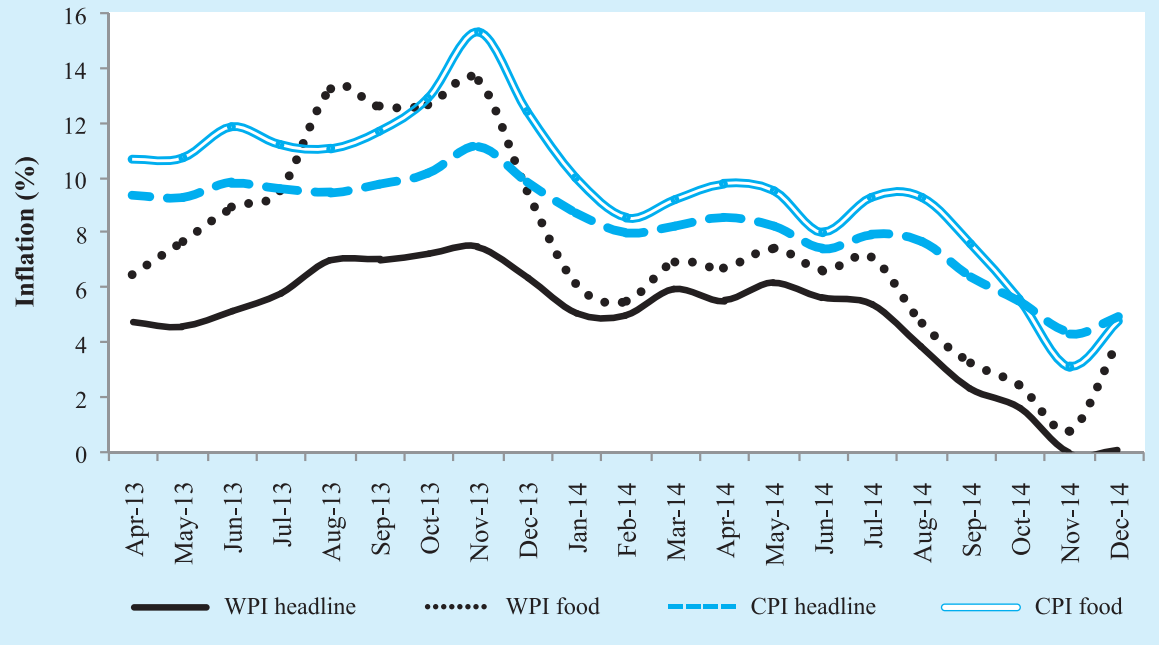
Box 5.1 : Changes in CPI New Series

The CSO, Ministry of Statistics and Programme Implementation (MOSPI) has been, since January 2011, releasing separate rural, urban, and combined CPIs on monthly basis with base year (2010=100) for all-India and states/UTs. In addition to this, separate rural, urban, and combined Consumer Food Price Indices (CFPI) for all India were released from May 2014. The weighting diagram for the new CPI series was derived on the basis of average monthly consumer expenditure of an urban/rural household obtained from the Consumer Expenditure Survey data (2004-05) of 61st Round of the National Sample Survey (NSS). The CSO has revised the base year of the Consumer Price Index from 2010=100 to 2012=100 and the revised index numbers were released on 12 February 2015. The basket of items and weighting diagrams for the revised series have been prepared by using the Modified Mixed Reference period (MMRP) data of the Consumption Expenditure Survey, 2011-12 of the 68th Round of NSS.

wages were mostly reflected in high prices of protein items like, milk, eggs, meat, and fish and also fruits and vegetables.

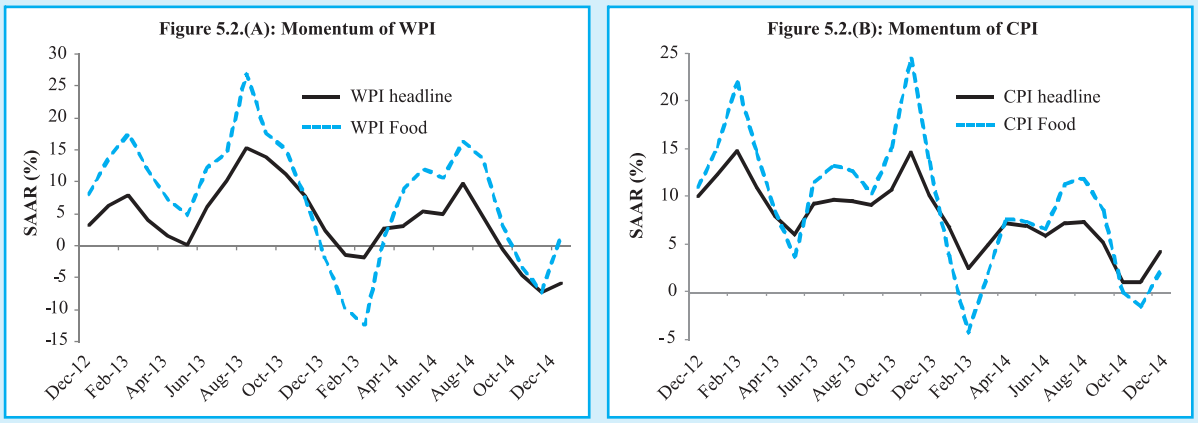
5.5 During 2014-15, particularly in the third quarter, CPI food inflation declined considerably as compared to the previous year, partly on account of base effect, but also due to the seasonal softening of fruit and vegetable prices. Late arrival of the monsoon exerted some pressure on vegetable prices during June-August 2014, but the prices came down subsequently which helped significantly in the moderation of overall CPI inflation. CPI inflation in the fuel and light group registered consistent decline during 2014-15, touching 3.4 per cent in the third quarter following the sharp decline in international crude oil prices. Core inflation (non-food non-fuel) declined to 5.7 per cent in the third quarter of 2014-15 as against 8.1 per cent in the corresponding quarter of the previous year largely on account of the slack in economic activity. Housing and transport contributed to the significant decline in core inflation. Inflation in housing declined to 8 per cent in the third quarter of 2014-15, after remaining in double digits during 2012 and 2013. Inflation in the transport and communication sub-group under the miscellaneous category registered a significant decline of 1.8 per cent during the third quarter of 2014-15, in line with the continued easing of global crude oil prices. In the sub-category others, which largely includes services, inflation dropped to 8.5 per cent during the same period after experiencing double-digit inflation through 2012 and 2013. The overall trends in WPI and CPI inflation are shown in Figure 5.1.

Figure 5.1: Inflation in WPI and CPI



***Source*: DIPP, CSO**

Figure 5.2: Momentum based on SAAR



5.6 Inflation momentum based on the seasonally adjusted annualized rate (SAAR), three month-on-three month (3m-o-3m) inched up in December 2014 after a sharp decline over the previous few months (Figure 5.2).

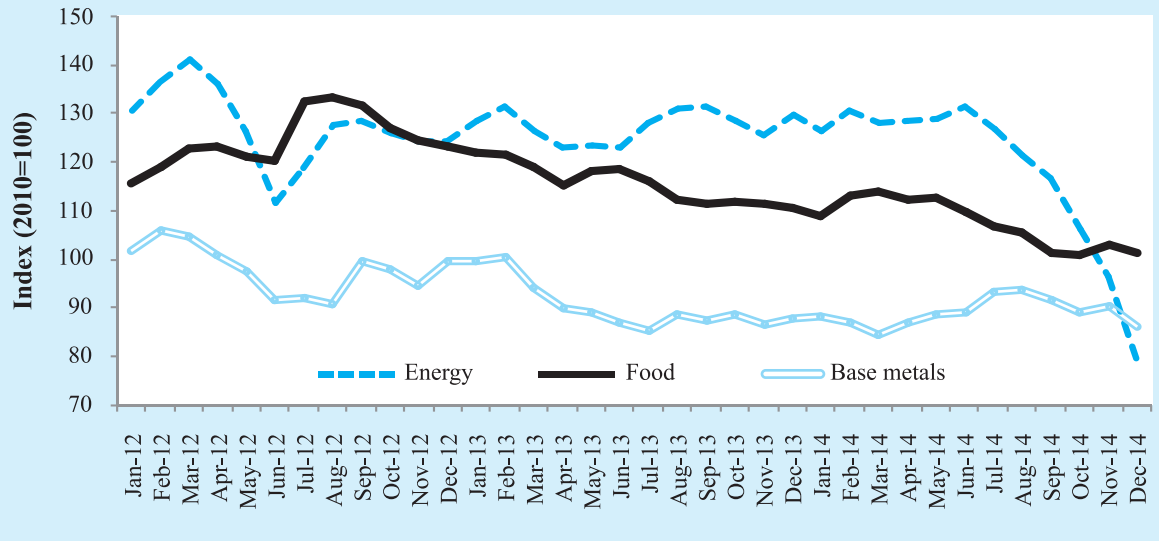
Factors causing moderation in inflation

5.7 The decline in inflation during the year turned out to be much faster than was anticipated in the initial months of the year. Global factors, namely persistent decline in crude prices and softness in the global prices of tradables, particularly edible oils and even coal, helped moderate headline inflation. The tight monetary policy helped contain demand pressures, creating a buffer against any external shock and keeping volatility in the value of the rupee under check. During the last one year, the rupee remained relatively stable vis-à-vis the currency of peer emerging countries, which too had sobering influence on inflation. Moderation in wage rate growth reduced demand pressures on protein-based items. Base effect also contributed to the decline in headline inflation.

Global inflation

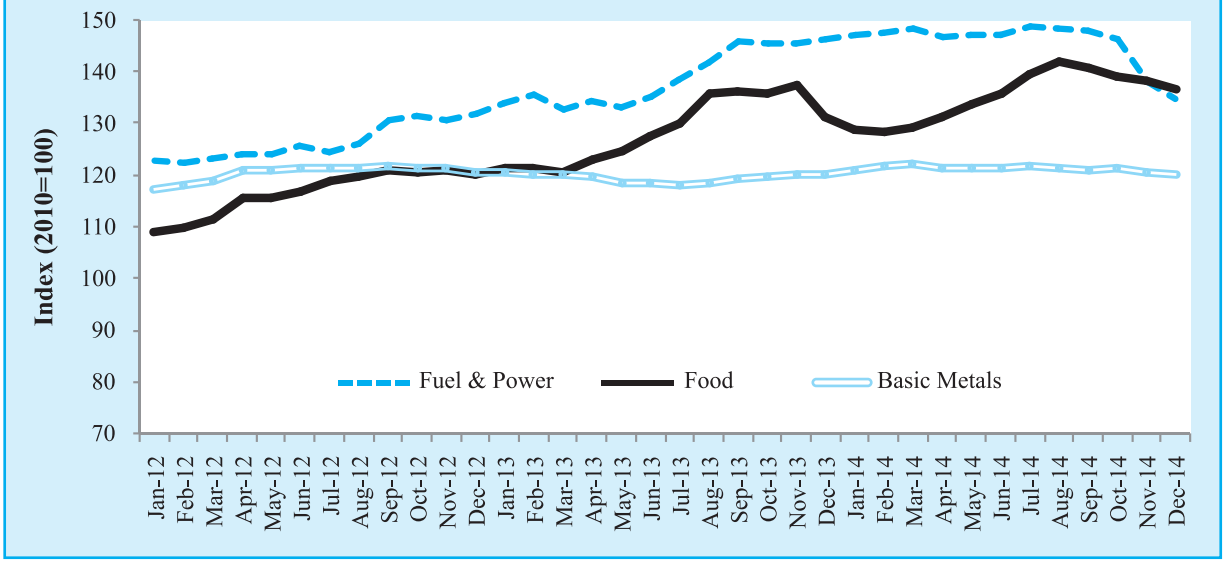
5.8 As per the World Bank Commodities Price Data (Pink Sheet), global commodity prices have shown a declining trend during 2014. The energy price index fell by 40 per cent from June 2014 to December 2014. The food index and base metal

Figure 5.3: Movement of World Bank Price Indices



***Source*: World Bank Pink Sheet**

Figure 5.4: Movement of WPI (converted 2010=100)



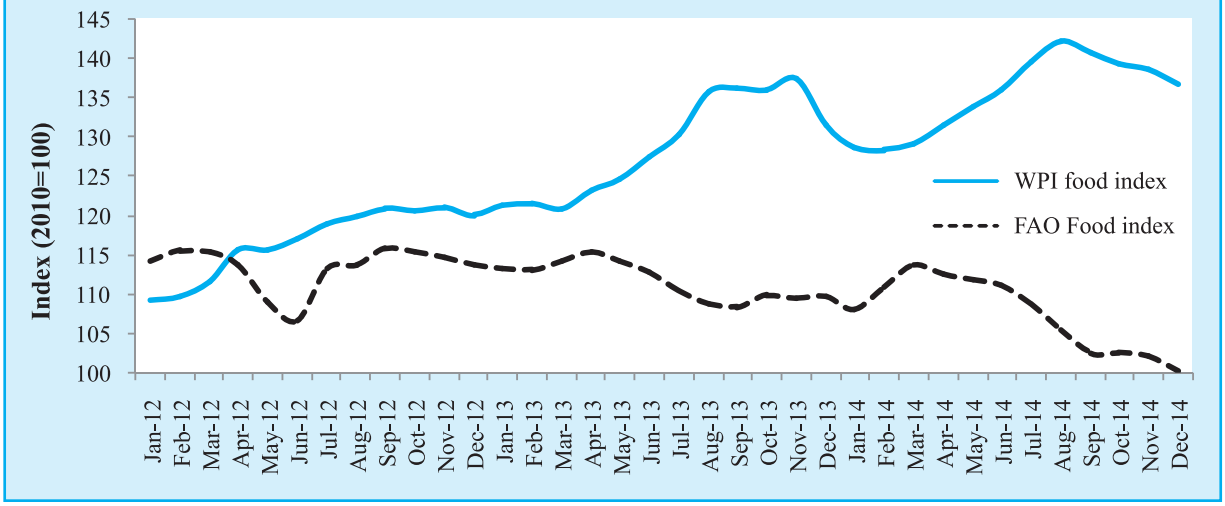
***Source*: DIPP**

index declined by 8 per cent and 3 per cent respectively during the same period. The trend in world commodity prices is indicated in Figure 5.3.

5.9 As against the 40 per cent decline in global energy prices, the Indian energy price index measured in terms of WPI fuel and power declined by only 10 per cent during the period June – December 2014. Figure 5.4 charts the movement of the WPI price indices. Though international oil prices started declining from July 2014, there has been greater alignment of international and domestic prices after the deregulation of diesel in October 2014.

5.10 The Food and Agricultural Organization (FAO) food index shows that there has been a continuous decline in the food index since March 2014, mainly on account of abundant production as well as weakening demand. While the FAO food index declined by about 13 per cent during March-December 2014 following significant decline in dairy, cereal, oil and sugar prices, the Indian food index (WPI) increased by about 6 per cent during the same period. Figure 5.5 compares the domestic and FAO food indices. The difference between the domestic food and FAO food indices indicates that the domestic food

Figure 5.5: FAO vs WPI Food (converted 2010=100)



***Source*: FAO & DIPP**

market is not integrated with the international market. The divergence in the domestic and international food prices stems from the various restrictions in domestic food and trade policy imposed to protect either farmers or consumers.

Moderating growth rate of wages

5.11 High growth rates in rural income/wages (Figure 5.6) triggered by substantial increases in minimum support prices (MSP) and the launch of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) created demand pressures on protein items and eggs, meat, and fish. The high wages also acted through increasing cost of production for agricultural commodities, thereby triggering a rise in MSPs. Since fruits and vegetables and allied agricultural activities draw from a common pool of labour, the higher wages-induced cost-push inflation was observed in the entire basket of food commodities. Prices of edible oils and pulses which are freely allowed to be imported remained subdued.

Measures taken by the Government to control inflation

5.12 The swift decisive steps taken by the government also helped control the stubbornly persistent inflation—particularly food inflation. The decline in inflation is found to be substantial in commodities where the government had taken effective measures. The government took a series of measures to improve availability of food-grains and de-clog the distribution channel. Some of the major steps taken recently in this regard include:

a) Allocation of additional 5 million tonnes of rice to below and above poverty line (BPL and APL) families in the states, pending implementation of the National Food Security Act (NFSA), and allocation of 10 million tonnes of wheat under open market sales for domestic market in 2014-15;

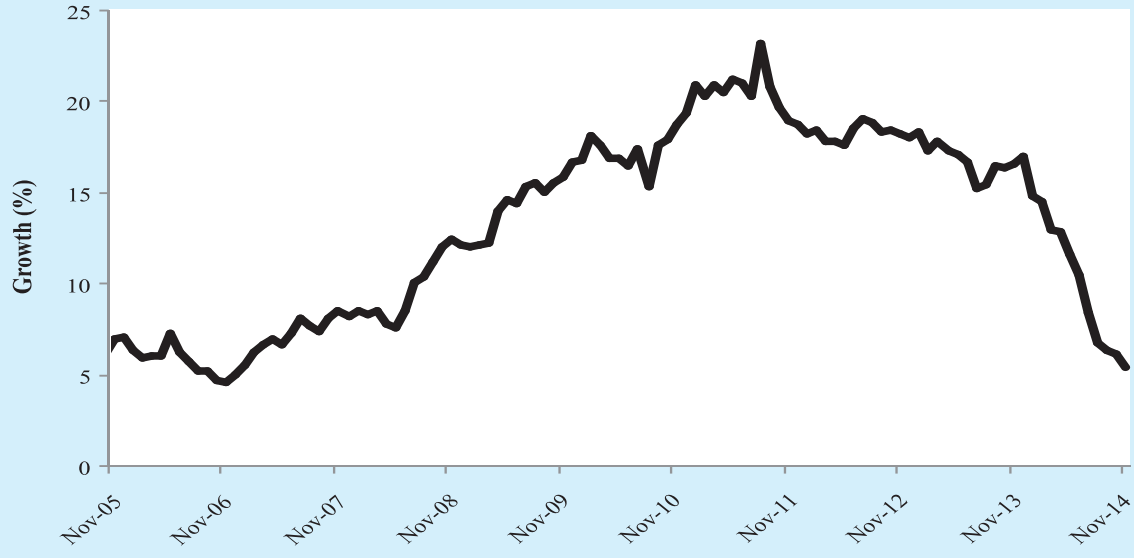
b) Moderation in increases in the MSPs during the last and current season;

c) Advisory to the states to allow free movement of fruits and vegetables by delisting them from the Agricultural Produce Marketing Committee (APMC) Act;

d) Bringing onions and potatoes under the purview of the Essential Commodities Act 1955, thereby allowing state governments to impose stock limits to deal with cartelization and hoarding, and making violation of stock limits a non-bailable offence;

e) Imposing a minimum export price (MEP) of US$ 450 per MT for potatoes with effect from 26 June 2014 and US$ 300 per MT for onions with effect from 21August 2014.

Figure 5.6: Rural Wage Growth



***Source*: Labour Bureau**

5.13 For keeping food inflation low in a sustainable manner, more radical measures will have to be taken to revamp agriculture- and food-sector production, storage, marketing, and distribution – including the public distribution system (PDS) and NFSA.

Household Inflation Expectations

5.14 Since September 2005, the RBI has been conducting quarterly inflation expectation surveys of households. The results of the latest survey covering 5000 urban households across 16 cities were released in December 2014. The survey captures the inflation expectations for the next three-month and one-year period. The current inflation perceptions and inflation expectations have moderated in the latest round (Figure 5.7).

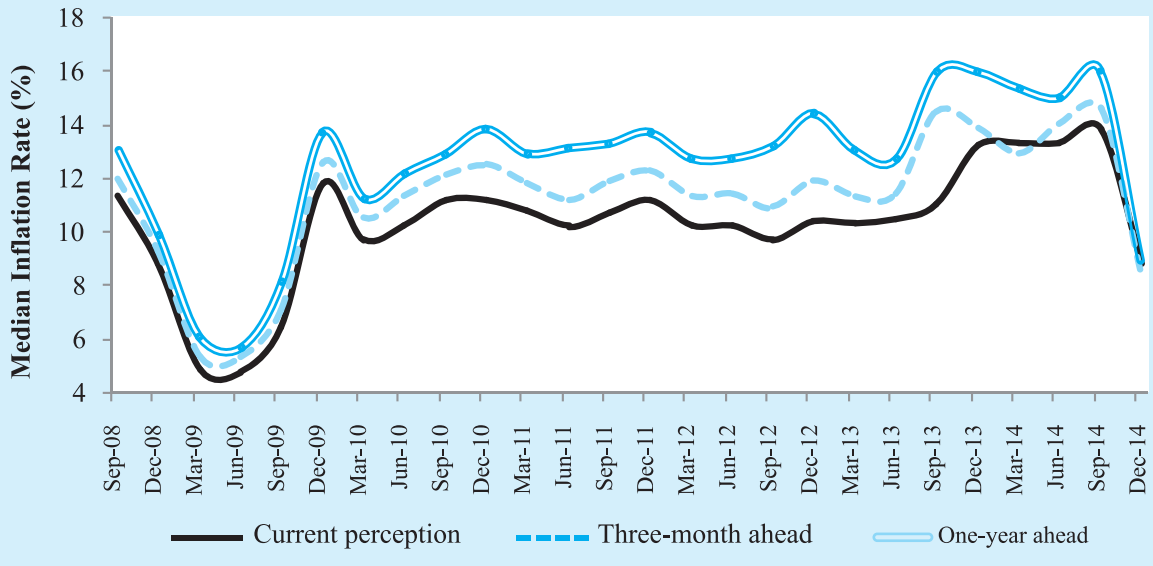
5.15 As can be seen from Figure 5.7, median inflation expectations over the next three months and one year have corrected sharply during the latest survey (December 2014) to 8.3 per cent from 14.6 per cent and to 8.9 per cent from 16 per cent in the previous quarter respectively. The sharp correction in expectations in the latest round (38th round) and the general deviation from actual inflation figures indicate excessive pessimism reflected in the household inflation expectation surveys.

5.16 The upside risk to this outlook emanates from the fact that crude oil prices will have to bottom out from these levels, though it is unlikely that they will flare up in a short space of time. Also, the lower acreage in oilseeds and pulses during the current rabi harvesting season could create supply pressures. Given the capacity constraints in warehousing and cold-storage, seasonal commodities may also add to the inflation risk.

AGRICULTURE AND FOOD MANAGEMENT

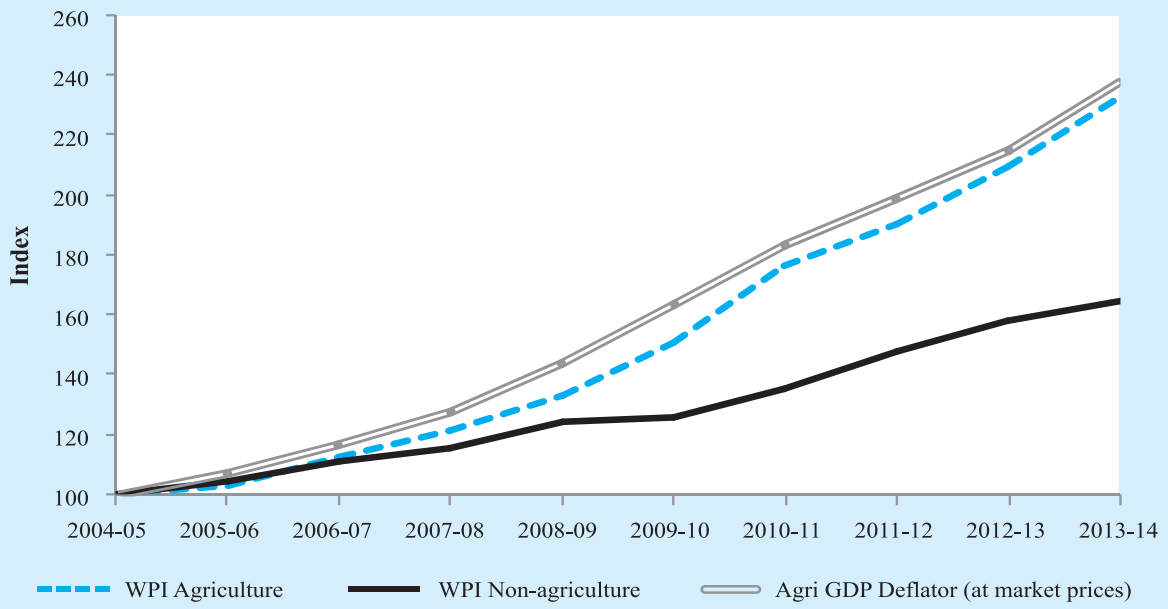
5.17 The agriculture sector registered an annual growth of 3.8 per cent in value added in the decade since 2004-05 on the back of increase in real prices (31 per cent during 2004-05 to 2011-12). The committee set up by the Ministry of Agriculture under the chairmanship of S. Mahendra Dev to come up with updated methodology to compute terms of trade between agriculture and non-agriculture has observed that, during 2004-05 and 2013-14, terms of trade have become favourable for agriculture. The ratio of WPI agriculture to WPI non-agriculture has also risen steeply after 2005-06 (Figure 5.8).

Figure 5.7: Household Inflation Expectations



***Source*: RBI.**

Figure 5.8: Movement of WPI Agriculture, Non-Agriculture & Agri GDP Deflator



***Source*: DIPP, CSO.**

5.18 A rising concern in recent times has been the high level of food inflation, seasonal and short-term price spikes in some commodities like onions, tomatoes, and potatoes which have become more frequent, more severe, and more lasting, hurting consumers and causing economic instability. A strategy of price-led growth in agriculture is, therefore, not sustainable; also the room for increasing production through raising cropped area is virtually non-existent. Hence the strategy for growth in agriculture has to rely more on non-price factors, viz., yield and productivity.

Overview of the Agricultural Sector

5.19 According to the new series of national income released by the CSO, at 2011-12 prices the share of agriculture in total GDP is 18 per cent

Table 5.3 : Agriculture Sector – Key indicators (per cent at 2011-12 prices)

Sl. No.	Item	2011-12	2012-13	2013-14	2014-15
1	Growth in GDP in agriculture & allied sectors	-	1.2	3.7	1.1
	Share of agriculture & allied sectors in total GDP	18.4	18.0	18.0	
	Crops	12.0	11.7	11.8	
	Livestock	4.0	4.0	3.9	
	Forestry and logging	1.6	1.5	1.4	
	Fishing	0.8	0.8	0.9	
2	Share of agriculture & allied Sectors in total GCF	8.6	7.7	7.9	N.A.
	Crops	7.4	6.5	6.6	
	Livestock	0.8	0.7	0.7	
	Forestry and logging	0.1	0.1	0.1	
	Fishing	0.4	0.4	0.5	
3	GCF in agriculture & allied Sectors as per cent to GDP of the sector (at current 2011-12 prices)	18.3	15.5	14.8	

***Source* : CSO.**
***Note* : GCF is Gross Capital Formation.**

in 2013-14. As against a growth target of 4 per cent for agriculture and allied sectors in the Twelfth Plan, the growth registered in the first year at 2011-12 prices was 1.2 per cent, 3.7 per cent in 2013-14, and 1.1 per cent in 2014-15 (Table 5.3).

Area, Production, and Yield

5.20 Table 5.4 gives area, production, and yield figures for different crops in 2013-14. In 2013-14, total foodgrain production has been estimated at 265.6 million tonnes as per the second Advance Estimates (AE), which is higher by 8.5 million tonnes than the 2012-13 production and 22.1 million tonnes than average foodgrain production during the last five years.

5.21 As per the 2nd Advance Estimates for 2014-15, total foodgrains production in the country is estimated at 257.07 million tonnes which is the fourth highest quantity of annual foodgrains production in the country. It may be noted that despite deficiency of 12% in the monsoon rainfall during the year, the loss in production has been restricted to just around 3% over the previous year and has exceeded the average production during the last five years by 8.15 million tonnes.

5.22 As compared to last year's production of 265.57 million tonnes, current year's production of foodgrains is lower by 8.5 million tonnes. This decline has occurred on account of lower production of rice, coarse, cereals and pulses due to erratic rainfall conditions during the monsoon season-2014.

5.23 To improve resilience of the agricultural sector and bolster food security—including availability and affordable access—our strategy for agriculture has to focus on improving yield and productivity. Though yield/productivity in foodgrains and pulses has increased post-2000, the yield gaps vis-à-vis other countries are wide and even within different states yields vary widely, showing that there are possibilities of raising production by increasing yield of most of the crops without necessarily increasing prices (Table 5.5).

Table 5.4 : Area, Production, and Yield (2013-14*)

(Area: million ha; Prod.: million tonnes; Yield: kg/ha)

Group/ commodity	Area	Per cent change in area	Production	Per cent change in production	Yield	per cent change in yield
Foodgrains[a]	126.0	4.3	264.8	3.0	2101	-1.3
Rice	43.9	2.7	106.5	1.3	2424	-1.5
Wheat	31.2	4.0	95.9	2.6	3075	-1.3
Jowar	5.8	-6.1	5.4	1.7	850	-8.2
Maize	9.4	8.3	24.4	9.2	2566	-0.7
Bajra	7.9	8.0	9.2	5.5	1198	2.9
Pulses	25.2	8.3	19.3	5.3	764	-3.2
Gram	10.2	20.3	9.9	12.3	967	-6.7
Tur	3.9	0.0	3.3	9.7	848	9.2
Oilseeds	28.5	7.6	32.9	6.4	1153	-1.3
Groundnut	5.5	17.6	9.7	105.8	1750	75.9
Rapeseed and mustard	6.7	4.7	8.0	-0.5	1188	-5.9
Cotton[b]	11.7	-2.3	36.7	7.2	532	9.4
Sugarcane	5.0	0.0	350.0	2.6	70	0.0

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

Notes **: *Fourth AE.**

[a] **Includes cereals, coarse cereals, and pulses.**

[b] **Bales of 170 kg.**

Table 5.5 : Average, Maximum, and Minimum Yield of Major Crops 2013-14

Yield (kg/ha)

Crops	All-India average	Maximum	Minimum
Rice	2416	Punjab (3952)	Madhya Pradesh (1474)
Wheat	3145	Punjab (5017)	Andhra Pradesh (500)
Maize	2676	Tamil Nadu (5372)	Assam (898)
Jowar	957	Andhra Pradesh (1661)	West Bengal (280)
Gram	960	Andhra Pradesh (1439)	Tamil Nadu (653)
Tur	813	Bihar (1667)	Andhra Pradesh (542)
Groundnut	1764	Gujarat (2668)	Himachal Pradesh (600)
Rapeseed & Mustard	1185	Gujarat (1723)	Tamil Nadu (241)
Soyabean	1012	Andhra Pradesh (1612)	Uttar Pradesh (577)
Sugarcane	70522	West Bengal (114273)	Jammu & Kashmir (1000)
Cotton#	510	Punjab (750)	Maharashtra (358)

Source **: Directorate of Economics & Statistics, Department of Agriculture & Cooperation**

Note **: # Thousand bales of 170 kg each.**

5.24 An inverse relationship is noticed between increase in yield over time and the average cost of production of various crops in real terms. For example, for rabi crops a 10 per cent increase in yield resulted in a 2.1 per cent to 8.1 per cent decline in the average cost of production of various crops in real terms. (Price Policy for Kharif Crops, February 2014, pp. 67—69, CACP). This clearly points towards the fact that productivity increases, especially in low productivity states/regions, can significantly contribute towards reducing cost-push food inflation.

5.25. Yield is contingent upon several factors like variety and quality of seeds, soil quality, irrigation – including quality of water—fertilizers—including their proportion—pesticides, labour, and extension services. Prices received by farmers and the certainty or assurance of getting a particular price also incentivize farmers to take to a particular crop and use quality inputs in its cultivation. The status of some of these factors in India is described in the following paragraphs.

Drivers of Growth

Agricultural Research and Education

5.26 The Indian Council of Agricultural Research (ICAR) is engaged in developing new crop varieties with specific traits that improve yield and nutritional quality along with tolerance / resistance to various biotic and abiotic stresses. Besides, it matches crop production and protection technologies to target agro-ecologies. A total of 104 varieties of different crops were released for different agro-ecological niches. To ensure effective seed chain for making quality seed available to farmers, 11,835 tonnes of breeder seeds of recommended varieties of different field crops were developed. The adoption of improved varieties and crop management technologies has resulted in enhancement of production and productivity of cereals, pulses, and other field crops.

5.27 While greater outlay on applied research, education, and extension will result in more assured outcome in terms of reduction in average cost and increase in average yield/productivity, and growth, the paradigm shift in yield/productivity required for the second green revolution can be achieved, with greater outlay on basic research by creating research institutions on the pattern of Indian Institutes of Technology (IIT) and Indian Institutes of Sciences (IIS). It is imperative to make Indian agricultural growth science-led by shedding 'technology fatigue'. Budget 2014-15 provided for the establishment of two institutes of excellence

in Assam and Jharkhand with an initial sum of ₹ 100 crore.

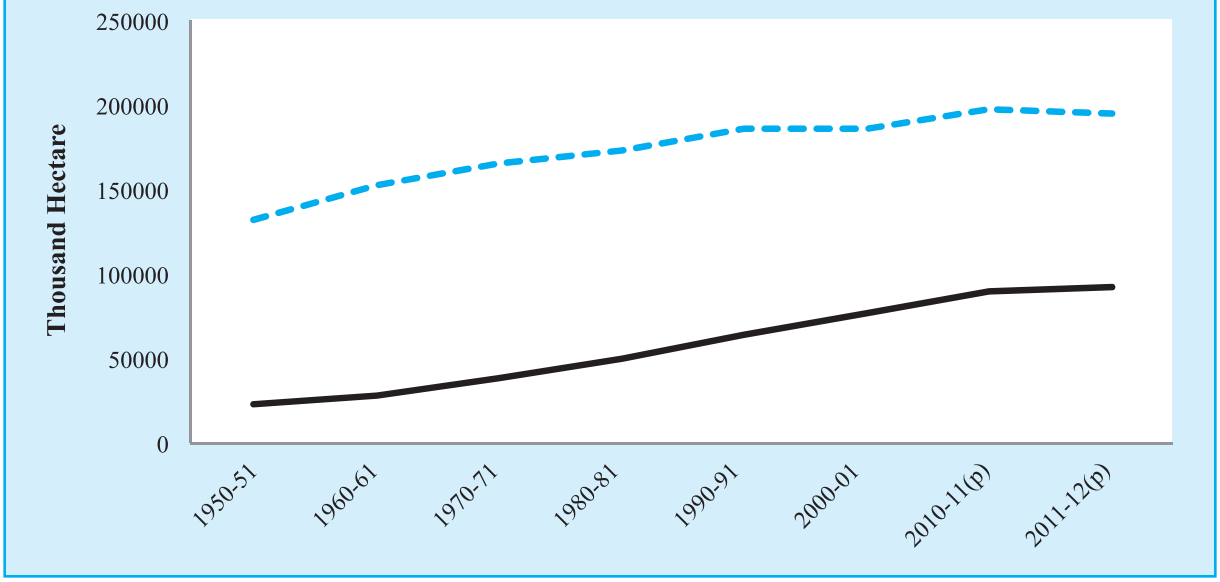
Agricultural Extension

5.28 The NSSO 70th round survey indicates that about 59 per cent of farmers do not get much technical assistance and know-how from government-funded farm research institutes or extension services. So they have to rely on progressive farmers, media, and private commercial agents such as dealers of farm inputs like seeds, fertilizers, and pesticides for technical information. To ensure last-mile connectivity, extension services need to be geared up to address emerging technological and information needs. Effectiveness of the lab-to-farm programme can be improved by leveraging information technology and e- and mobile (m-) applications, participation of professional NGOs, etc. The Budget 2014-15 allocation of Rs100 crore to Kisan TV for disseminating real-time information to farmers regarding new farming techniques, water conservation, organic farming, etc. will partly make up for the existing adverse ratio of one extension worker for every 800 to 1000 farmers and provide farmers a direct interface with agricultural experts.

Irrigation

5.29 The central government initiated the Accelerated Irrigation Benefit Programme (AIBP) in 1996-97 for the completion of incomplete irrigation schemes. Under the AIBP, ₹ 67,195.47 crore of central loan assistance (CLA)/grant has been released up to 31 December 2014. An irrigation potential of 85.03 lakh ha is reported to have been created under the AIBP by states from major / medium /minor irrigation projects till March 2013. The Command Area Development Programme has also been amalgamated with the AIBP to reduce the gap between irrigation potential that has been created and that is utilized. Suggestions for a National Water Grid for transferring water from water surplus to water deficit areas have been made from time to time. In spite of these schemes, Indian agriculture is still heavily rainfall dependent with just 35 per cent of total arable area being irrigated, and distribution of irrigation across states is highly skewed. Focus on micro-irrigation systems like drips and sprinklers would significantly increase water-use efficiency and productivity. The wide gap between gross cropped area and gross irrigated area which has not improved much since the First Five Year Plan period needs to be bridged for increasing productivity, production, and resilience (Figure 5. 9).

Figure 5.9: Gross Irrigated Area vis-a-vis Gross Cropped Area



***Source*: Department of Agriculture & Cooperation (DAC).**

Seeds

5.30 Seed is the basic input for enhancing agricultural production and productivity. Efficacy of all other agricultural inputs such as fertilizers, pesticides, and irrigation as well as impact of agro-climatic conditions is largely determined by the quality of the seed used. It is estimated that the quality of seed accounts for 20-25 per cent of agricultural productivity. An overall requirement of 343.55 lakh quintals of certified/quality seeds for 2014-15 (kharif and rabi) is estimated by the states. Against this, 351.76 lakh quintals of certified/ quality seed is available. An overall surplus of 8.21 lakh quintals seed is thus available for 2014-15. During 2014-15, there has been shortfall in the availability of certified/quality gram, lentil, pea, soyabean, and potato seeds. Given our import dependence on oils and pulses and susceptibility of potato to inflation, steps are necessary to avoid shortages of certified seeds of these commodities. Given the lack of evidence on negative consequences from Bt and other genetically modified (GM) crops, and the significant potential productivity, food security, and sustainability benefits, the corresponding regulatory frameworks and their implementation deserve rethinking.

Fertilizers

5.31 The following major initiatives were taken in the fertilizer policy of the government in 2014-15: (i) Notification of the Modified New Pricing Scheme (NPS-III) for existing urea units on 2 April 2014 in order to address the issue of under-recoveries of the existing urea units on account of freezing of fixed cost at the 2002-03 level. The modified policy has been implemented for a period of one year from the date of notification. (ii) Further, the government had notified the New Investment Policy 2012 on 2 January 2013 to facilitate fresh investment in the urea sector to make India self-sufficient. The amendment to New Investment Policy – 2012 has been notified by the Department of Fertilizers on 7 October 2014. As against the targets for domestic production of 89.68 lakh tonnes and 33.51 lakh tonnes for nitrogen and phosphate for April-November 2014, actual production was 82.86 lakh tonnes and 25.05 lakh tonnes respectively.

Credit

5.32 The following measures have been taken for improving agricultural credit flow and bringing down the rate of interest on farm loans: (i) Agricultural credit flow target for 2013-14 was fixed at ₹ 7,00,000 crore and achievement was ₹ 7,30,765 crore (Provisional), as against ₹ 6,07,375 crore in 2012-13. Agricultural credit flow target for 2014-15 has been fixed at ₹ 8,00,000 crore against which achievement has been ₹ 3,70,828.60 crore (Provisional) up to 30 September, 2014. (ii) Farmers have been availing of crop loans up to a principal amount of ₹ 3,00,000 at 7 per cent rate of interest. The effective rate of interest for farmers who promptly repay their loans is 4 per cent per annum during 2014-15. (iii) In order to discourage distress sale of crops by farmers, the benefit of interest subvention has been made available to small and marginal farmers having Kisan Credit Cards 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. Other farmers have been granted post-harvest loans against NWRs at the commercial rates. (iv) From 2014-15, in order to provide relief to farmers on occurrence of natural calamities, interest subvention of 2 per cent will continued to be available to banks for the first year on the restructured loan amount on account of natural calamities and such restructured loans will attract normal rate of interest from the second year onwards as per the policy laid down by RBI.

5.33 The Interest Subvention Scheme for short-term production credit (crop loans) which was started by the Government of India in 2006-07 was extended to private-sector banks from 2013-14. Presently the total number of loan accounts stands at 5.72 crore. Studies conducted by the RBI and National Bank for Agriculture and Rural Development (NABARD) indicate that the crop loans are not reaching intended beneficiaries and there are no systems and procedures in place at several bank branches to monitor the end-use of funds. Also, although overall credit flow to the

agriculture sector has increased over the years, the share of long-term credit in agriculture or investment credit declined from 55 per cent in 2006-07 to 39 per cent in 2011-12. According to NSSO 70th round data, as much as 40 per cent of the finances of farmers still comes from informal sources, despite an increase in the flow of institutional credit to agriculture in recent years. Usurious moneylenders account for a 26 per cent share of total agricultural credit.

5.34 Inadequate targeting of beneficiaries and monitoring/supervision of the end-use of short-term crop loans for which interest subvention scheme is applicable and decline in long-term/ investment credit to agriculture are issues that need to be addressed on priority basis.

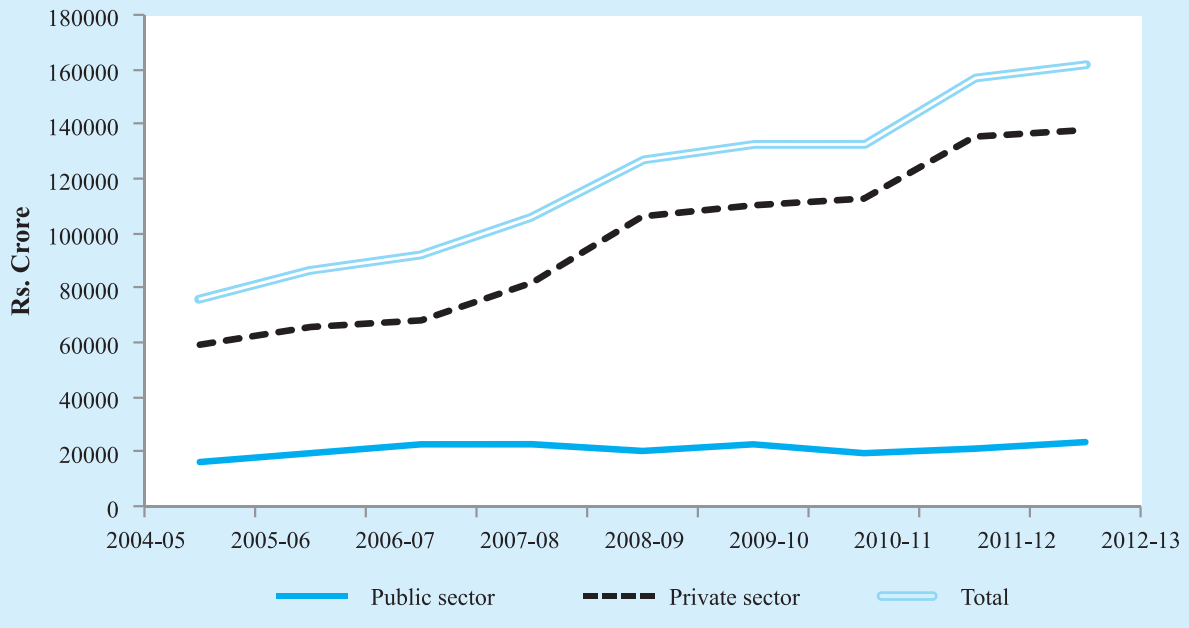
Mechanization

5.35 Agricultural mechanization increases productivity of land and labour by meeting timeliness of farm operations and increases work output per unit time. Besides its paramount contribution to the multiple cropping and diversification of agriculture, mechanization also enables efficient utilization of inputs such as seeds, fertilizers, and irrigation water. Although India is one of the top countries in agricultural production, the current level of farm mechanization, which varies across states, averages around 40 per cent as against more than 90 per cent in developed countries. Farm mechanization in India has been growing at a rate of less than 5 per cent in the last two decades. The main challenges to farm mechanization are, first, a highly diverse agriculture with different soil and climatic zones, requiring customized farm machinery and equipment and, second, largely small landholdings with limited resources. Credit flow for farm mechanization is less than 3 per cent of the total credit flow to the agriculture sector.A dedicated Sub-Mission on Agricultural Mechanization has been initiated in the Twelfth Plan, with focus on spreading farm mechanization to small and marginal farmers and regions that have low farm power availability.

GCF in Agriculture and Allied Sectors

5.36 The GCF in agriculture and allied sectors relative to agri-GDP in this sector has shown an improvement from 13.5 per cent in 2004-05 to 21.2 per cent in 2012-13 at 2004-05 prices (Figure 5.10). Given the vast investment needs of the sector, greater public investment would only help increase private investment.

Figure 5.10: Gross Capital Formation in agriculture & allied sector (at 2004-05 prices)



***Source*: DAC.**

Major Schemes of the Government

Rahtriya Krishi Vikas Yojana (RKVY)

5.37 The government has approved continuation of the RKVY scheme during the Twelfth Plan whereby RKVY funding will be routed into three components, viz. production growth, infrastructure & assets, & sub-schemes and flexi-fund. The proposed allocation for implementation of this scheme during 2015-16 is ₹ 18,000 crore. In view of the need to increase capital formation and get higher returns on investments, states are at liberty to spend up to 100 per cent of total outlay in the infrastructure and asset creation component.

The National Food Security Mission

5.38 The National Food Security Mission (NFSM) is being implemented with the new target of additional production of 25 million tonnes of foodgrains comprising 10 million tonnes rice, 8 million tonnes wheat, 4 million tonnes pulses, and 3 million tonnes coarse cereals by the end of the Twelfth Five Year Plan (2016-17). The revamped NFSM is being implemented from 2014-15 in 619 districts of 28 states. In addition to rice, wheat and pulses, crops like coarse cereals and commercial crops (sugarcane, cotton, and jute) have been included since 2014-15. Promotion of farmer producer organizations (FPOs), value addition, dal mill, and assistance for custom hiring charges have also been undertaken under the Mission. The pulses component has been allocated fifty per cent of total funds under the NFSM in order to increase their production. To promote the use of bio-fertilizers, subsidy on bio-fertilizer has also been enhanced from ₹ 100 per ha to ₹ 300 per ha.

Mission for Integrated Development of Horticulture (MIDH)

5.39 With effect from 2014-15, the Mission for Integrated Development of Horticulture (MIDH) has been operationalized by bringing all ongoing schemes on horticulture under a single umbrella. Production and distribution of quality planting material, productivity improvement measures through protected cultivation, use of micro-irrigation, adoption of integrated pest management and integrated nutrient management along with creation of infrastructure for post-harvest management and marketing are focus areas of the MIDH.

Sustainability and Adaptability

5.40 Concerns have been raised for quite some time about non-sustainability of the present cropping pattern and use of water resources. The following initiatives announced in Budget 2014-15 have brought the issue of sustainability and climate adaptation to the forefront:

- **The Pradhan Mantri Krishi Sinchayee Yojana** with allocation of ₹ 1000 crore.
- **Neeranchal,** a new programme with an initial outlay of ₹ 2142 crore in 2014 to give additional impetus to watershed development in the country,
- **The National Adaptation Fund for Climate Change**, with an initial sum of ₹ 100 crore, and
- A scheme to provide, in mission mode, **a soil health card to every farmer**, with an allocation of ₹ 100 crore. An additional amount of ₹ 56 crore has been allocated to set up 100 mobile soil-testing laboratories across the country.

Allied sectors: Animal Husbandry, Dairying, and Fisheries

5.41 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 17 per cent of world production. During 2013-14, milk production peaked at 137.69 MT, thus becoming an important secondary source of income for 70 million rural households engaged in dairying. The average year-on-year growth rate of milk, at 4.18 per cent vis-à-vis the world average of 2.2 per cent, shows sustained growth in availability of milk and milk products for the growing population.

5.42 In the poultry segment, the government's focus, besides framing suitable policies for enhancing commercial poultry production, is on strengthening the family poultry system, which addresses livelihood issues. Egg production was around 73.89 billion in 2013-14, while poultry meat production was estimated at 2.68 MT.

5.43 Fisheries constitute about 1 per cent of the GDP of the country and 4.75 per cent of agriculture GDP. The total fish production during 2013-14 was 9.58 MT, an increase of 5.96 per cent over 2012-13. Fish production during the first two quarters of 2014-15 has also shown an increasing trend and is estimated at 4.37 MT (Provisional).

5.44 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.

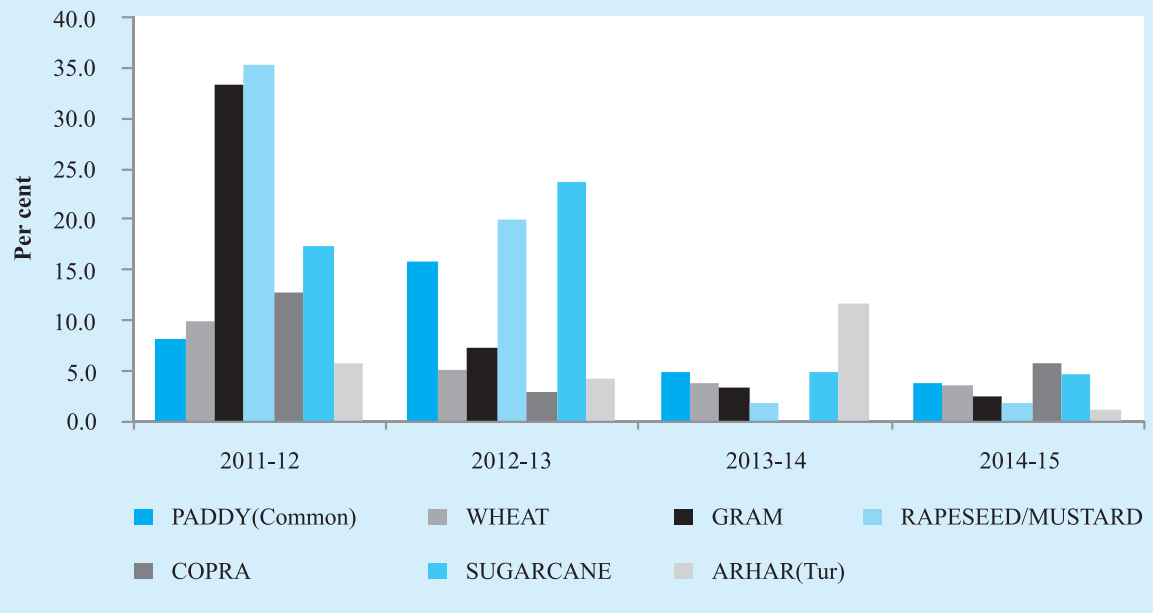
Food Management

5.45 The principal policy objective of food management is to ensure food security, particularly for the vulnerable, through timely and efficient procurement and distribution of foodgrains. This involves procurement of foodgrains from farmers at remunerative prices, building up and maintenance of buffer stocks, storage, movement, and distribution of foodgrains to consumers at affordable prices and stability of foodgrain prices. The price instruments used are MSP and central issue price (CIP).

Price Policy for Agricultural Produce

5.46 As mandated, the Commission for Agricultural Costs and Prices (CACP) recommends MSPs at national level for twenty-three crops, but effectively price support operates primarily in wheat and rice and that too in selected states. This creates incentive structures highly skewed in favour of wheat and rice. While the country is dependent on imports for pulses and oilseeds (edible oils), their prices often fall below the MSP as there is no effective price support.

Figure 5.11: Change in MSPs growth rate



Source: **Commission for Agricultural Costs & Prices (CACP).**

Since 2012-13, the growth of MSPs of various crops has been the moderate (Figure 5.11).

Procurement

5.47 To enhance efficiency of procurement and public distribution and to extend the benefits of MSP to local farmers, the Decentralized Procurement (DCP) scheme has been adopted by some state governments. The central government is urging all state governments to adopt the DCP scheme so that costs of distribution can be saved and outreach of price support mechanism to the farmers in hitherto weaker areas can be improved. To overcome the problem of gaps in the flow of information about procurement operations on day-to-day basis, an Online Procurement Monitoring System (OPMS) has been evolved for reporting and monitoring on a daily basis, procurement operations for wheat, paddy, and coarse grains in the country.

5.48 Two decisions that will impact procurement and stocks of rice and wheat from kharif marketing season (KMS) 2014-15 and rabi marketing season (RMS) 2015-16 are: (a) To limit procurement from states that are declaring bonus over and above the MSP to the extent of targeted PDS (TPDS)/other welfare schemes (OWS) requirements (In the case of non-DCP states declaring bonus, the FCI will not take part in MSP operations in those states.) and (b) To cap the percentage of levy on rice at 25 per cent.

5.49 This decision has successfully led to dropping of the practice of giving bonus over and above MSP for paddy in states like Chhattisgarh and Madhya Pradesh in KMS 2014-15 and it is expected that the state governments of Madhya Pradesh and Rajasthan will avoid giving bonus for wheat also in RMS 2015-16 in view of this policy. The procurement levels in KMS 2014-15 are lower in both Chhattisgarh and Madhya Pradesh as compared to the previous year and there is re-emergence of competition in the market. Table 5.6 gives procurement, off-stake and stock figures from 2003.

Buffer Stocks

5.50 The buffer norms for foodgrains in the central pool which were in existence since April 2005 have been revised in the backdrop of increased off-take of foodgrains under the TPDS in the last few years and with the coming into force

Table 5.6 : Public Distribution System: Procurement, Off-Take, and Stocks

(million tonnes)

Year	Procurement			Off-take			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	30.1	62.8	35.5	24.2	59.8
2013-14	31.3	25.1	56.4	29.2	28.2	57.4	30.6	17.8	49.5
2014-15*	16.2	28.0	44.2	4.5	3.8	8.3	23.5	37.3	61.6

Source **: Ministry of Food, Consumer Affairs and Public Distribution, Government of India.** ***Note*****: * as on 9.1.2015.**

Table 5.7: Revision in Buffer Stock Norms (in million tonnes)

As on	Existing since April 2005	Revised
1 April	21.2	21.04
1July	31.9	41.12
1 Oct.	21.2	30.77
1Jan.	25.0	21.41

of the NFSA with effect from 5 July 2013.The revised buffer norms are shown in Table 5.7.

5.51 As against the buffer stock norm of 21.41 million tonnes of rice and wheat (as on 1January of each year), total central pool stocks were 61.6 million tonnes as on 1 January 2015. Considering that the economic cost to the FCI for acquiring, storing, and distributing foodgrains is about 40-50 per cent more than the procurement price, the locked in extra stocks, particularly for the last five years in a row, reflect flaws in the food policy. This has also resulted in high cereal inflation despite bumper produce and overflowing stocks.

Economic Cost of Foodgrains to the FCI

5.52 The economic cost of foodgrains consists of three components, namely the MSP including central bonus, if applicable, as the price paid to farmers, procurement incidentals, and the cost of distribution. The economic cost for both wheat and rice witnessed significant increase during the last few years due to increase in MSPs and proportionate increase in incidentals as well as other costs as depicted in Table 5.8.

5.53 High economic cost necessitated a detailed review of the open-ended procurement policy, especially in states that offer high bonus on top of MSP and those that impose high taxes and statutory levies, as well as stocking and distribution policies. In this regard, the government set up a High Level Committee (HLC) in August 2014 under the chairmanship of Shri Shanta Kumar to suggest inter-alia restructuring or unbundling of the FCI with a view to improving its operational efficiency and financial management. The gist of its main recommendations is given in Box 5.2.

Open Market Sale Scheme (Domestic)

5.54 The FCI on behalf of the government has been undertaking sale of wheat at predetermined prices/reserve prices in the open market from time to time to enhance market supply of foodgrains; to exercise a moderating influence on open market prices and to offload surplus stocks. Under the Open Market Sale Scheme (Domestic), during the year 2014-15, 100 lakh tonnes of wheat has been allocated for sale in the domestic market. Deviating from the earlier practice, this year the government has adopted a policy of differential prices to encourage sale of older stock first. The government is consciously keeping the reserve price above MSP, but reasonably below the acquisition cost or economic cost of wheat, so that the buyers remain attracted to purchase of wheat from the mandis during the harvest season and the market remains competitive. At the same time the market price in the lean season does not increase much and inflation remains under check.

Table 5.8 : Economic Cost of Rice and Wheat (₹/quintals)

Year	2010-11	2011-12	2012-13	2013-14(Prov.)	2014-15 (RE)
Rice					
Pooled cost of food grains	1446.53	1512.20	1633.83	1788.96	1925.52
Procurement incidentals	313.09	350.00	383.76	435.13	462.13
Distribution cost	223.49	260.74	287.28	374.26	430.26
Economic cost	1983.11	2122.94	2304.87	2598.35	2817.91
Wheat					
Pooled cost of food grains	1064.32	1119.18	1219.41	1273.57	1346.64
Procurement incidentals	212.38	235.68	263.35	331.81	339.00
Distribution cost	217.65	240.39	269.81	326.87	361.92
Economic cost	1494.35	1595.25	1752.57	1932.25	2047.56

Box 5.2 : Recommendations of High Level Committee on restructuring FCI

On procurement related issues:

- The FCI should hand over all procurement operations of wheat, paddy, and rice to states that have gained sufficient experience in this regard and have created reasonable infrastructure for procurement. The FCI will accept only the surplus (after deducting the needs of the states under the NFSA) from these state governments (not millers) to be moved to deficit states. The FCI should move on helping those states where farmers suffer from distress sales at prices much below MSP, and which are dominated by small holdings.
- Centre should make it clear to states that in case of any bonus being given by them on top of MSP, it will not accept grains under the central pool beyond the quantity needed by the state for its own PDS and OWS.
- The statutory levies including commissions need to be brought down uniformly to 3 per cent, or at most 4 per cent of MSP, and this should be included in the MSP itself (states losing revenue due to this rationalization of levies can be compensated through a diversification package for the next three-five years);
- The Government of India must provide better price support operations for pulses and oilseeds and dovetail their MSP policy with trade policy so that their landed costs are not below their MSP.
- Cash transfers in PDS should be gradually introduced, starting with large cities with more than 1 million population; extending it to grain surplus states; and then giving deficit states for the option of cash or physical grain distribution.

On PDS- and NFSA-related issues:

- Given that leakages in the PDS range from 40 to 50 per cent, the GoI should defer implementation of the NFSA in states that have not done end to end computerization; have not put the list of beneficiaries online for anyone to verify; and have not set up vigilance committees to check pilferage from PDS.
- Coverage of population should be brought down to around 40 percent.
- BPL families and some even above that they be given 7kg/person.
- On central issue prices, while Antyodya households can be given grains at ₹ 3/2/1/kg for the time being, but pricing for priority households must be linked to MSP.

On stocking and movement related issues:

- FCI should outsource its stocking operations to various agencies.
- Covered and plinth (CAP) storage should be gradually phased out with no grain stocks remaining in CAP for more than 3 months.
- Silo bag technology and conventional storages wherever possible should replace CAP.

On Buffer Stocking Operations and Liquidation Policy:

- DFPD/FCI have to work in tandem to liquidate stocks in OMSS or in export markets, whenever stocks go beyond the buffer stock norms. A transparent liquidation policy is the need of hour, which should automatically kick-in when FCI is faced with surplus stocks than buffer norms.
- Greater flexibility to FCI with business orientation to operate in OMSS and export markets is needed.

On direct subsidy to farmers:Farmers be given direct cash subsidy (of about Rs 7000/ha) and fertilizer sector can then be deregulated.

On end to end computerization:

- The HLC recommends total end-to-end computerization of the entire food management system, starting from procurement from farmers, to stocking, movement, and finally distribution through the TPDS.

On the new face of the FCI:

- The new face of the FCI will be akin to an agency for innovations in the food management system with the primary focus of creating competition in every segment of the foodgrain supply chain, from procurement to stocking to movement and finally distribution under the TPDS, so that overall costs of the system are substantially reduced and leakages plugged and it serves a larger number of farmers and consumers.

Higher procurements have lead to stocks exceeding the buffer norms, which FCI is forced to carry over to the next year.

Food Subsidy

5.55 Provision of minimum nutritional support to the poor through subsidized foodgrains and ensuring price stability in different states are the twin objectives of the food security system. In fulfilling its obligation towards distributive justice, the government incurs food subsidy. The programme covers over 65 million BPL households serviced through 4, 50,000 fair price shops. While the economic cost of wheat and rice has continuously gone up, the issue price has been kept unchanged since 1 July 2002. On account of implementation of the NFSA, the CIP has further gone down for the APL and BPL categories. The government, therefore, continues to provide large and growing amounts of subsidy on foodgrains for distribution under the TPDS/NFSA and other nutrition-based welfare schemes and open market operations. The food subsidy bill has increased substantially in the past few years putting severe strain on the public exchequer (**Table 5.9**).

Storage

5.56 The total capacity available for storage of foodgrains as on 30 November 2014 was 727 lakh MT, comprising covered godowns of 567 lakh MT capacity and cover and plinth (CAP) facilities of 160 lakh MT capacity. The existing warehousing facility is limited not only in terms of capacity but also to certain crops. The stockholding capacity has not kept pace with the increase in production and demand for a long time. Considering that 160 lakh MT capacity is only CAP, which cannot be treated as scientific storage, public agencies do not have warehouses for proper storage of even half of the wheat and rice procured by them. In the wake of persistent seasonal inflation in perishables like fruits and vegetables, there was no effective strategy to control the inflation on a sustainable basis. Cold storage capacity for all type of food items is just 29 MT (Planning Commission 2012). The production of potato alone is about 35 MT. Cold storage facility is available for only 10 per cent of fruits and vegetables produced in India (Planning Commission 2011). The allocation of ₹ 5000 crore for developing scientific warehousing in Budget 2014 can create additional storage capacity of 16 MT. Policies to promote private investment in scientific storage are important to bridge the gap between the requirement and availability of scientific storage capacity.

Table 5.9 : Quantum of Food Subsidies Released

Year	Food subsidy (₹ in crore)	Annual growth (%age)
2005-06	23071.00	-10.39
2006-07	23827.59	3.28
2007-08	31259.68	31.19
2008-09	43668.08	39.69
2009-10	58242.45	33.37
2010-11	62929.56	8.05
2011-12	72370.90	15.00
2012-13	84554.00	16.83
2013-14	89740.02	6.13
2014-15	107823.75*	20.15

Source **: Department of Food and Public Distribution.**
Note **: * Figures up to 9 January 2015.**

Agri-Marketing Reforms

5.57 Box 5.3 gives recent initiatives in agri-marketing. Recognizing the need for setting up a national market the 2014-15 Budget stated that the central government would work closely with state governments to reorient their respective APMC Acts to provide for establishment of private market yards/private markets. The Budget also announced that the state governments would also be encouraged to develop farmers markets in town areas to enable them to sell their produce directly.

Commodity Futures Market

5.58 Currently 43 of the 113 commodities that are notified for futures trading are actively traded in 4 national exchanges and 6 commodity-specific exchanges. Share of agricultural commodities in the total turnover was 18.37 per cent in 2014-15

Box 5.3 : Recent Initiatives in Agricultural Marketing

(i) The Department of Agriculture (DAC) has issued a comprehensive advisory to states to go beyond the provisions of the Model Act and declare the entire state a single market with one licence valid across the entire state and removing all restrictions on movement of agricultural produce within the state.

(ii) In order to promote development of a common national market for agricultural commodities through e-platforms, the department has approved ₹ 200 crore for a central-sector scheme for Promotion of National Agricultural Market through Agri-Tech Infrastructure Fund (ATIF) to be implemented during 2014-15 to 2016-17. Under the scheme, it is proposed to utilize the ATIF for migrating towards a national market through implementation of a common e- platform for agri-marketing across all states.

(iii) On the request of the central government, a number of state governments have exempted the marketing of fruits and vegetables from the purview of the APMC Act. The NCT of Delhi has taken the initiative in this direction by issuing a notification on 2 September2014 , ending the regulation of fruits and vegetables outside redefined market yard/ sub-yard area of the APMC, MNI, Azadpur, APMC, Keshopur, and APMC Shahdara. The Small Farmers Agribusiness Consortium (SFAC) has taken the initiative for developing a kisan mandi in Delhi with a view to providing a platform to FPOs for direct sale of their produce to prospective buyers totally obviating or reducing unnecessary layers of intermediation in the process .They plan to scale their activities in other states based on the outcome of the experience of the Delhi kisan mandi.

Source : **DAC.**

(up to December 2014), with food items (refined soya oil, soyabean, chana, coriander and rapeseed/ mustard seed) contributing 50.01 per cent of it. The remaining (81.63 per cent) turnover was contributed by bullion, metals, and energy contracts. A committee set up by the Ministry of Finance, which submitted its report in April 2014 has observed that hedging efficiency of the commodity futures markets is low. In order to ensure that forward markets in commodities are well regulated and the Indian commodity futures market is compliant with international regulatory requirements, the regulatory framework for the commodity futures market needs to be strengthened at the earliest.

Trade Policy

5.59 Trade Policy in respect of agricultural commodities is changed from time to time in response to domestic availability and price situation. The basic customs duty (BCD) in some agri-products was reduced / removed to encourage domestic manufacture of value added products, generate employment, and make exports competitive. To combat undervaluation and protect the interests of domestic farmers and industry, the BCD of some agri-products like sugar and edible oils was raised. The duty on sugar was increased from 15 per cent to 25 per cent vide Customs Notification dated 21 August 2014 and duty on import of crude and refined edible oils raised from 2.5 per cent to 7.5 per cent and 10 per cent to 15 per cent respectively, vide custom notification dated 24 December 2014.

5.60 There is an increasing demand for opening up of the export of pulses which would incentivize farmers to invest in pulse cultivation and for a reasonable duty structure to be devised to contain excessive import. Further, a pre-announced import duty structure will bring stability in domestic edible oil prices leading to increase in production of oil seed/palm. This will also result in reduced incidence of prices falling below MSPs of oilseeds requiring procurements by government agencies.

5.61 The following policy changes were made in recent 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 up to 5 kg was permitted with an MEP of US$ 1100 per MT vide Director General of Foreign Trade's notification dated 30 April 2014.
- export of kabuli chana and 10,000 MT of organic pulses per annum has been allowed.

- since 2011, exports of rice and wheat have been permitted.
- since February 2013 processed and/or value-added agricultural products have been exempted from export restrictions /bans even if their base produce is subject to an export ban.
- free export of cotton is permitted.

5.62 The import policy for agriculture is often considered as a price support and price stabilization tool. Increase in tariffs is recommended for agricultural products in response to decline in prices on an ad hoc basis. Reform is required in the import policy of agricultural products. The applied tariffs for imports should be linked in a countercyclical manner with international prices so that the landed prices of imported commodities fall within a known range. This would protect farmers from adverse impact of steep fall in commodity prices and facilitate long-term investment in agriculture. While the trade policy regime should be stable, it should also be nimble to quickly respond to the changed export duty structure of the exporting countries aimed at pushing value-added products by neutralizing our duty differential between raw material and finished product.

Agriculture Trade

5.63 India has emerged as a significant agri-exporter in a few crops, viz. cotton, rice, meat, oil meals, pepper, and sugar. As per the World Trade Organization's Trade Statistics, the shares of India's agricultural exports and imports in world trade in 2013-14 were 2.69 per cent and 1.31 per cent respectively. Agricultural exports as a percentage of agricultural GDP have increased from 9.10 per cent in 2008-09 to 14.05 per cent in 2013-14. During the same period, agricultural imports as a percentage of agricultural GDP also increased from 3.94 per cent to 5.50 per cent.

Outlook and Challenges ahead

5.64 The inflation is not expected to rise significantly from the current levels, since:

a) The oil prices are expected to remain benign in the coming months on account of weak global demand and increased supplies.

b) Global commodity prices, both spot and futures have generally been declining. Global commodity prices are expected to remain weak in 2015 due to low international demand and comfortable supply.

c) Factors like high rural wages, higher level of MSP, and rise in input cost have been instrumental for elevated inflation in the last few years. At present, growth of all these drivers have been slowed down considerably and this could result in keeping food inflation within limits.

5.65 Agriculture and Food sector needs huge investment in research, education, extension, irrigation, fertilizers, and laboratories to test soil, water and commodities, warehousing, cold-storage. Rationalisation of subsidies and better targeting of beneficiaries would generate part of the resources for public investment. There are wide differences in the yields within states. Even the best of the states have much lower yield in different crops when compared to the best in the world. This provides ample opportunity to increase production by bridging the yield-gap to the extent feasible within the climatic zone.

5.66 The focus of public expenditure for agriculture so far has been on provision of subsidies (public expenditure in agriculture is only one-fourth of expenditure towards food and fertilizer subsidies, CACP Kharif report 2014-15) and it is time it shifted towards investments to boost productivity. Recommendations of Shanta Kumar Committee provide useful suggestions for the future road-map of food-policy. Every effort should be made to bring states on board for creating national common market for agricultural commodities.

Industrial, Corporate, and Infrastructure Performance

06
CHAPTER

The earlier perception about slow industrial growth during the last three years is at variance with the latest gross domestic product estimates, based on a new methodology and with 2011-12 as base year. The latter indicates an industrial recovery lead by mining and manufacturing However, in the current year, credit growth, corporate performance, and the Index of Industrial Production continue to point towards slow industrial growth. Infrastructure growth in terms of eight core industries has been higher than industrial growth since 2011-12 and this trend is expected to continue. A number of macro level and sectoral initiatives undertaken to improve industrial growth are expected to yield results over time.

6.2 As per recently released data on national accounts, with 2011-12 as base year, industrial growth in 2012-13 and 2013-14 at 2.4 per cent and 4.5 per cent is much better than the growth rates taking 2004-05 as the base year. Further, the 1.4 per cent growth in gross capital formation (GCF) in industry in 2013-14 implies that recovery in industrial growth commenced last year. In contrast, the Index of Industrial Production (IIP) suggests that the industrial sector is recovering slowly with a 2.1 per cent growth in April-December 2014-15 over the 0.1 per cent increase in the same period last year. The recovery is led by the infrastructure sectors, viz. electricity, coal, and cement. Mining sector growth has turned positive while manufacturing growth continues to remain tepid. In terms of use based classification, basic and capital goods appear to be on the path of recovery, intermediate goods are yet to emerge out of difficulties, and consumer goods led by consumer durables continues to experience negative growth.

6.3 Corporate sector performance of listed manufacturing companies in the private sector in terms of growth of sales and net profit appeared to turn around in Q1 of 2014-15. However, performance in Q2 of 2014-15 has dampened the expectations of sustained improvement. There is no discernible improvement in capacity utilization in the first two quarters of 2014-15, as per the twenty-seventh round of the Reserve Bank of India's (RBI's) Order Books, Inventories and Capacity Utilisation Survey.

6.4 A new regime with a fresh mind-set has been in repair damage mode for instilling confidence among the business community and boosting industrial growth. Box 6.1 lists some of the initiatives of the new government in the industrial sector. The emphasis has been on rapidly improving ease of doing business and launching fresh initiatives like Make in India and Digital India, creating a National Industrial Corridors Authority, streamlining environment and forest clearances and labour reforms. To overcome critical constraints holding up use of land and natural resources, action has been taken to remove regulatory uncertainty by passing ordinances to streamline land acquisition, e-auction of coal blocks for private

Box 6.1 : Recent initiatives to boost industrial growth

1. **Ease of Doing Business:** To improve India`s low Ease of Doing Business Index ranking, reforms are being undertaken in areas such as starting a business, dealing with construction permits, registration of property, power supply, paying taxes, enforcing contracts, and resolving insolvency. The important measures that have been undertaken are liberalization of licensing and deregulation of a large number of defence products, extending the validity of licencses to provide enough time to licencees to procure land and obtain the necessary clearances/ approvals from authorities, adoption of a checklist with specific time-lines for processing all applications filed by foreign investors in cases relating to retail/non-resident Indian (NRI)/export-oriented unit (EoU) foreign investments, automation of processes for registration with the Employees Provident Fund Organization and Employees State Insurance Corporation, processing of environment and forest clearances online, reducing the number of documents for exports, adoption of best practices by states in granting clearances and ensuring compliance through peer evaluation, self-certification, etc.
2. **Make in India:** The Make in India programme is aimed to facilitate investment, foster innovation, enhance skill development, protect intellectual property, and build best-in-class manufacturing infrastructure. Information on twenty-five sectors has been provided on a web portal along with details of FDI policy, National Manufacturing Policy, intellectual property rights, and the Delhi-Mumbai Industrial Corridor and other National Industrial Corridors. An Investor Facilitation Cell has been created in 'Invest India' to guide, assist, and handhold investors
3. **E-Biz Project:** Under the project a Government to Business (G2B) portal is being set up to serve as a one-stop shop for delivery of services to the investors and address the needs of the business and industry from inception through the entire life cycle of the business. The process of applying for industrial licence (IL) and industrial entrepreneur memorandum (IEM) has been made online and this service is now available to entrepreneur on 24x7 basis at the E-Biz website. Other services of the central government are being integrated on top priority.
4. **Skill development:** After the setting up of a new Ministry of Skill Development and Entrepreneurship to promote skill and entrepreneurial activities, work is being undertaken on setting up common norms for skill training across central ministries/ departments. Thirty- one industry/employer-led Sector Skill Councils (SSCs) are now operational and these have been aligned with the twenty-five sectors of 'Make in India'. To create a common standard for skills training and certification in the country efforts are on to align the National Council for Vocational Training (NCVT), school boards, and the University Grants Commission (UGC).
5. **Streamlining environment and forest clearances:** A process for online submission of applications for environment, coastal regulation zone (CRZ), and forest clearances has been started. The decision- making process has been decentralized by strengthening federalism. To ensure industrial and education growth, the requirement of environment clearance has been done away with for projects for construction of industrial sheds which house plant and machinery, educational institutions and hostels.
6. **Labour- sector reforms :** A Shram Suvidha portal has been launched for online registration of units, filing of self-certified, simplified, single online return by units, introduction of a transparent labour inspection scheme via computerized system as per risk-based criteria, uploading of inspection reports within seventy-two hours and timely redressal of grievances. A Universal Account Number has been launched facilitating portable, hassle-free, and universally accessible Provident Fund accounts for employees. The Apprentices Act, 1961 has been amended so as to make it flexible and attractive to youth and industry and an Apprentice Protsahan Yojana to support micro small and medium enterprises (MSME) in the manufacturing sector in engaging apprentices has been launched.

companies, and auction of iron ore and other new coal mines.

6.5 In infrastructure, the focus has been on resolving long-pending issues like pricing of gas, establishing processes and procedures for transparent auction of coal and minerals, and improving power generation and distribution. In railways, there have been several policy announcements such as 100 per cent foreign direct investment (FDI) to build a variety of rail infrastructure and new initiatives like bullet/semi-high speed trains and modernization of stations and timely completion of major projects like Dedicated Freight Corridors being monitored closely. In the road sector efforts have been undertaken to resolve problems associated with projects which are yet to be completed and the National Highways and Infrastructure Development Corporation Ltd. has been set up for speedy implementation of highway projects in the north-east.

IIP-based Industrial Performance

6.6 The IIP provides quick estimates on the performance of key industrial sectors ignoring seasonal adjustment. As per the IIP, industrial production which had slowed down to 2.5 per cent in 2008-09, improved in the next two years to reach 8.2 per cent in 2010-11, declined for the next three years successively, to reverse the trend in 2014-15. The main reasons for the declining industrial growth are high interest rates to tackle persistent inflation, slowdown in investment, and loss of business confidence.

6.7 During April-December 2014-15, industrial production attained a growth of 2.1 per cent owing mainly to recovery in the mining sector and impressive growth in the electricity sector (Table 6.1). The manufacturing sector continues to remain tepid, registering growth of 1.2 per cent in April-December 2014-15.The low growth in manufacturing is mainly due to high rate of interest, infrastructure bottlenecks, and low domestic and external demand.

6.8 In terms of use based classification, basic goods and capital goods have witnessed marked improvement in performance registering growth rates of 6.9 per cent and 4.8 per cent , intermediate goods have grown by 1.7 per cent, while consumer goods have declined by 4.9 per cent during April-December 2014-15 as compared to the same period in 2013-14. The decline in growth of consumer goods is accentuated by the (-)15.2 per cent growth in consumer durables.

Industrial-sector performance based on revised GDP estimates

6.9 The recently released new series of national accounts, revising the base year from 2004-05 to 2011-12 and applying changed methodology, whose details are not yet available, gives considerably improved estimates of growth in the industrial sector in 2012-13 and 2013-14 as compared to those based on the 2004-05 series (Table 6.2). This is mainly due to much better performance in the mining and manufacturing sectors as per the new series. In 2013-14, manufacturing sector growth is estimated at 5.3 per cent as compared to the (-) 0.7 per cent estimated under the 2004-05 series. The Advance Estimates (AE) for the year 2014-15 show industrial growth of 5.9 per cent as per 2011-12 base year. The manufacturing, electricity, and construction sectors have grown

Table 6.1 : Index of Industrial Production-Growth rates (per cent)

	Weight	2012-13	2013-14	2013-14				2014-15			
				Q1	Q2	Q3	Apr.-Dec.	Q1	Q2	Q3	Apr.-Dec.
General	100.00	1.1	-0.1	-1.0	1.9	-0.8	0.1	4.5	1.3	0.5	2.1
Sectoral											
Mining	14.16	-2.3	-0.6	-4.7	-0.2	0.5	-1.5	3.0	0.5	1.7	1.7
Manufacturing	75.53	1.3	-0.8	-1.1	1.4	-1.6	-0.4	3.9	0.4	-0.8	1.2
Electricity	10.32	4.0	6.1	3.5	8.4	5.0	5.6	11.3	9.4	9.3	10.0
Use based											
Basic goods	45.68	2.5	2.1	-0.2	2.8	1.8	1.5	8.7	7.0	5.1	6.9
Capital goods	8.83	-6.0	-3.6	-3.7	2.2	0.0	-0.4	13.6	-0.5	2.5	4.8
Intermediate goods	15.69	1.6	3.1	1.6	3.8	3.9	3.1	3.1	1.6	0.3	1.7
Consumer goods	29.81	2.4	-2.8	-2.1	-0.2	-6.1	-2.9	-3.2	-5.4	-6.4	-4.9
Consumer durables	8.46	2.0	2.8	-12.7	-9.5	-16.5	-12.9	-9.5	-15.5	-20.9	-15.2
Consumer non-durables	21.35	-12.2	4.8	7.1	8.2	2.3	5.8	1.4	2.3	3.1	2.2

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

Table 6.2 : Changes in Growth in Industry at constant prices (per cent)

	Item	2012-13		2013-14		2014-15 (AE)	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
i	Mining and quarrying	-2.2	-0.2	-1.4	5.4	NA	2.3
ii	Manufacturing	1.1	6.2	-0.7	5.3	NA	6.8
iii	Electricity, gas etc.	2.3	4.0	5.9	4.8	NA	9.6
iv	Construction	1.1	-4.3	1.6	2.5	NA	4.5
	Industry	**1.0**	**2.4**	**0.4**	**4.5**	**NA**	**5.9**

Source **: CSO.**

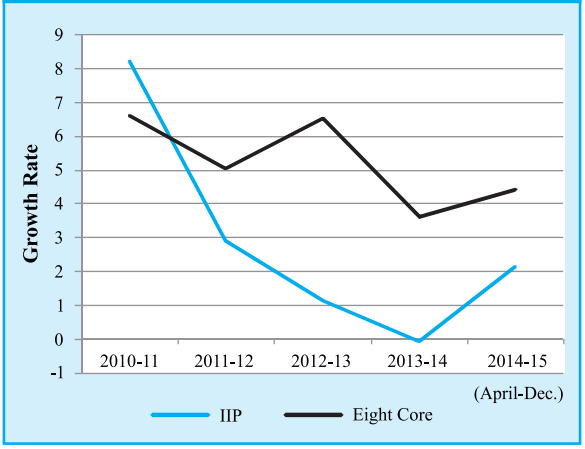
Note **: NA : Not Available**

remarkably while growth in the mining sector has declined as compared to 2013-14. The improved performance in manufacturing is attributed to the change in methodology and use of new data sources. The growth in electricity, gas, and water supply and construction shows marked improvement in 2014-15 as compared to the previous two years.

Performance of Eight Core Industries

6.10 A monthly index of eight core industries, viz. coal, fertilizer, electricity, crude oil, natural gas, refinery product, steel, and cement, comprising 38 per cent of the weight of items in the IIP, is released to gauge the impact on overall economic activity. A comparison between the annual average growth rate in the eight core industries and the IIP (Figure 6.1) shows that since 2011-12 the higher annual growth of the eight core industries than of the IIP, implies slowdown in the growth of consumer goods.

Figure 6.1: Growth of IIP & Eight Core Industries



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

6.11 The overall growth in eight core industries during April-December 2014-15 has improved marginally to 4.4 per cent compared to 4.1 per cent in the same period last year. Electricity (9.7 per cent), coal (9.1 per cent), and cement (7.9 per cent) boosted the performance, while natural gas (-5.1 per cent), fertilizers (-1.4 per cent), crude oil (-0.9 per cent), refinery products (0.2 per cent), and steel (1.6 per cent) accounted for moderation in growth. The improved performance in electricity is due to high growth in thermal generation; in coal mining to higher production by Coal India Ltd. and captive mining; and in cement to capacity addition. Natural gas and crude oil production have declined because of no major discoveries and problems with old oilfields. Domestic steel production is affected by slowdown in domestic demand and cheaper imports. Fertilizer production has contracted mainly because of non-availability of gas and no significant capacity addition in the past few years.

Comparative Position of India and World Manufacturing

6.12 India accounts for 1.8 per cent of the world's manufacturing output. World

manufacturing growth was 3.4 per cent in the first quarter and 3.0 per cent in the second quarter of 2014-15, according to the United Nations Industrial Development Organization's (UNIDO) Quarterly Report on World Manufacturing Production. Growth rates in manufacturing are uniformly low worldwide because industrialized economies are experiencing slow growth and emerging economies are finding it difficult to sustain growth as they are facing low demand in the global market and in their domestic economies. The main items which have boosted world manufacturing output are tobacco products, other transport equipment, basic metals, radio, TV and communication equipment, and machinery and equipment.

6.13 India's manufacturing output has increased by 3.9 per cent in the first quarter and 0.4 per cent in the second quarter. The items which have shown high positive growth in 2014-15 (April-December) are electrical machinery and apparatus and basic metals. These have shown positive growth in world manufacturing sector as well. However, in India items like radio, TV and communication equipment and apparatus, and office, accounting, and computing machinery have registered high negative growth whereas in the rest of the world these items have shown positive growth. India needs to be part of the global manufacturing chain to partake of the benefits of growth in these items and the electronics industry needs to be incentivized to set up domestic production facilities.

Corporate-sector Performance

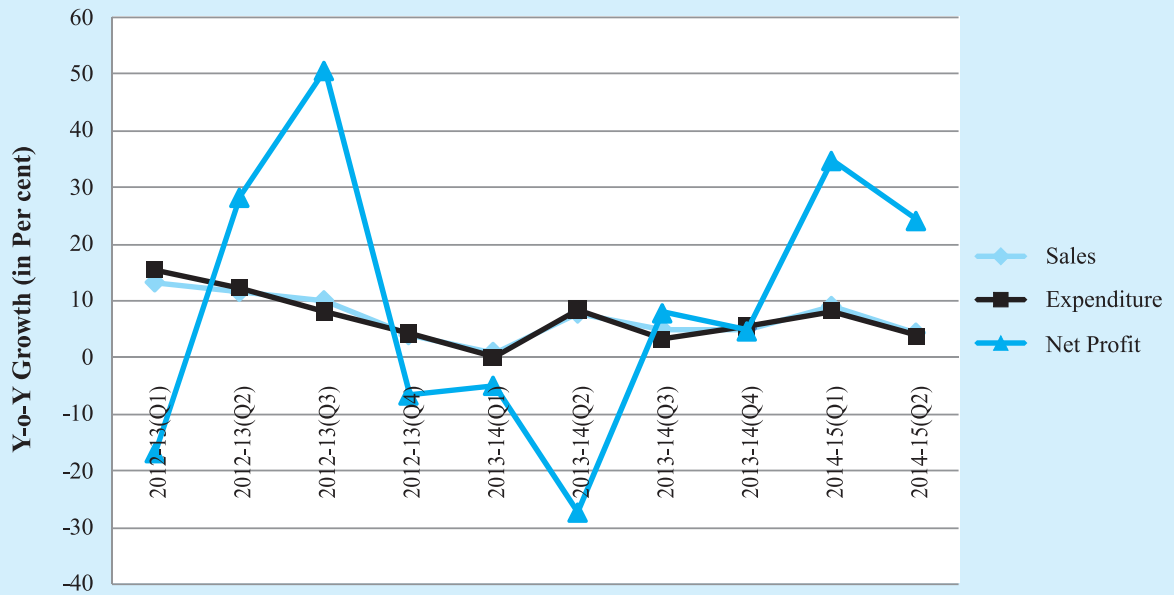
6.14 The corporate sector performance of listed manufacturing companies in the private sector in terms of growth of sales and net profit appeared to turn around in Q1 of 2014-15 (Figure 6.2). However, the performance in Q2 of 2014-15 dampened the expectations of sustained improvement. Year-on-year (Y-o-Y) sales growth declined successively from quarter to quarter from 13.1 per cent in Q1 of 2012-13 to 0.8 per cent in Q1 of 2013-14 and then moderated to around 5.0 per cent in the last two quarters of 2013-14. Sales recorded growth of 8.9 per cent and 4.2 per cent respectively in Q1and Q2 of 2014-15. Similarly, expenditure growth for the manufacturing sector declined successively from Q1 of 2012-13 till Q1 of 2013-14, and then fluctuated till Q2 of 2014-15, when it stood at 3.8 per cent after declining from 8.2 per cent in Q1 of 2014-15. Net profit growth rose sharply from 4.6 per cent in Q4 of 2013-14 to 34.7 per cent in Q1 of 2014-15 and stood at 24.1 per cent in Q2 of 2014-15. For manufacturing companies in the private sector, although growth in sales has been stagnant for the last two years, net profit has started rising from the last quarter of 2013-14, showing improved efficiency of the companies, which is a positive sign for growth of the manufacturing sector in India

6.15 Capacity utilization, as measured by the twenty-seventh round of the Order Books, Inventories and Capacity Utilisation Survey (OBICUS) of the RBI, registered an increase in Q2 of 2014-15 over the previous quarter although it was lower than its level in the previous year. The (Y-o-Y) growth in new orders decelerated from 12.0 per cent in Q1 of 2014-15 to 5.6 per cent in Q2 of 2014-15. The finished goods inventory to sales ratio at 18.0 per cent in Q2 of 2014-15 was similar to the previous quarter but down from its level in the previous year. The raw material inventory to sales ratio declined in Q2 of 2014-15 on both quarter-on-quarter (Q-o-Q) and Y-o-Y basis.

GCF in the Industrial Sector

6.16 As per the latest data available on national income, consumption expenditure, and capital formation at constant 2011-12 prices, the rate of growth of GCF has declined from 37.2 per cent in 2012-13 to 33.4 per cent in 2013-14. The rate

Figure 6.2: Growth in sales, expenditure and net profit of listed Manufacturing Companies in the Private Sector



Source **: RBI**

of growth of GCF in industry has improved from a (-) 0.7 per cent in 2012-13 to 1.4 per cent in 2013-14, implying slight uptick in investment in industry (Table 6.3). The sector-wise share in overall GCF over the period 2011-12 to 2013-14 shows that the shares of mining and electricity have gone up gradually, the share of manufacturing has remained unchanged, and the share of the construction sector has declined.

Table 6.3 : Gross Capital Formation (GCF) by Industry of use at constant prices (2011-12) (in per cent)

	2011-12	2012-13	2013-14
Rate of growth of GCF in industry		-0.7	1.4
Sector-wise share in overall GCF			
i. Mining	2.1	2.4	3.1
ii. Manufacturing	19.7	21.0	19.6
iii. Electricity	9.0	9.8	10.2
iv. Construction	6.5	5.8	5.5

Source **: CSO**

Credit Flow to the Industrial Sector

6.17 Except the mining sector, all other major industrial sectors have experienced slowdown in growth of credit in 2014-15 as compared to 2013-14 (Table 6.4). Growth of credit flow to the manufacturing sector at 13.3 per cent in 2014-15 is lower than the growth of 25.4 per cent in 2013-14, reflecting the tepid growth in the sector. Chemicals, food processing, and textiles have seen a sharp decline in growth of credit in 2014-15. In 2014-15, there is 13.3 credit growth in micro and small industries and 0.7 per cent and 6.1 per cent growth in medium-scale and large-scale industries respectively.

MSME Sector

6.18 The 3.61 crore (MSMEs), contributing 37.5 per cent of the country's GDP, have a critical role in boosting industrial growth and ensuring the success of the Make in India programme. A number of schemes are being implemented for the establishment of new MSMEs and growth and

Table 6.4 : Growth of Credit to Industry by Scheduled Commercial Banks (in per cent)

Sectors	2013-14*	2014-15**
Industries	14.1	6.8
Manufacturing	25.4	13.3
Mining	1.2	3.5
Manufacturing sub-sectors		
Food processing	31.0	12.1
Textiles	14.0	3.1
Petroleum & nuclear fuel	-3.1	-7.4
Cement & cement products	18.6	5.6
Chemicals & chemical products	19.6	-8.9
Basic metal & metal products	15.1	7.3
All engineering	16.3	6.5
Transport equipment	15.6	5.0
Other Industries	-2.5	-3.1

***Source*: RBI.**

***Note* : * End - December. 2013 over end -December 2012 .**

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

development of existing ones. These include: (a) the Prime Minister's Employment Generation Programme, (b) Micro and Small Enterprises-Cluster Development Programme , (c) Credit Guarantee Fund Scheme for Micro and Small Enterprises, (d) Performance and Credit Rating Scheme, (e) Assistance to Training Institutions, and (f) Scheme of Fund for Regeneration of Traditional Industries.

Central Public-Sector Enterprises

6.19 Central Public Sector Enterprises (CPSEs), spanning industries and infrastructure, continue to play a key role in the development of the economy. A total of 290 CPSEs existed under the administrative control of various ministries/ departments as on 31 March 2014. Of these, 234 were operational and 56 under construction. Financial investment (paid-up capital + long-term loans) in all the CPSEs stood at ₹ 9,92,971 crore as on 31 March 2014 showing an increase of 17.46 per cent over 2012-13. In 2013-14, net profit of the 163 profit-making CPSEs was ₹ 1,49,164 crore and net loss of the 71 loss-making CPSEs was ₹ 20,055 crore. The Oil and Natural Gas Corporation (ONGC) Ltd, Coal India Ltd, National Thermal Power Corporation (NTPC) Ltd, Indian Oil Corporation Ltd . and National Mineral Development Corporation (NMDC) Ltd. were the top five profit-making CPSEs during 2013-14. Bharat Sanchar Nigam Ltd (BSNL), Air India Ltd, Hindustan Photofilms Manufacturing Co. Ltd., Hindustan Cables Ltd., and State Trading Corporation of India Ltd. were the top five loss-making CPSEs in 2013-14. The contribution of CPSEs to the central exchequer by way of divided payment, interest on government loans, and payment of taxes and duties increased from ₹ 1,63,207 crore in 2012-13 to ₹ 2,20,161 crore in 2013-14. This was primarily due to increase in contribution towards dividend payment, excise duty, customs duty, corporate tax, and dividend tax.

FDI

6.20 An investor-friendly FDI policy has been put in place, whereby FDI up to 100 per cent is permitted under the automatic route in most sectors/activities. In 2014, FDI policy has been further liberalized. FDI up to 49 per cent through the government route has been permitted in the defence industry. Higher FDI has also been allowed on a case-to-case basis. FDI up to 100 per cent through the automatic route has been permitted in construction, operation, and maintenance of identified railway transport infrastructure. Norms related to minimum land area, capitalization, and repatriation of funds for FDI in construction development projects have been further liberalized.

6.21 During April-November 2014-15, total FDI inflows (including equity inflows, reinvested earnings, and other capital) were US$ 27.4 billion, while FDI equity inflows were US$ 18.9 billion. Cumulative FDI inflows from April 2000 to November 2014 were US$ 350.9 billion. Services, construction, telecommunications, computer software and hardware, drugs and pharmaceuticals, the automobile industry, chemicals, and power have attracted a proportionately high share of total inflows.

Infrastructure Performance: Specific Sectors

Power

6.22 To provide 24x7 power across the country by 2019, several decisions have been taken for increasing power generation, strengthening of transmission and distribution, separation of feeder and metering of power to consumers. The Electricity (Amendment) Bill 2014 has been introduced in the Lok Sabha to usher in reforms in the power sector, promote competition and efficiency in operation, and improve the quality of supply of electricity.

Generation

6.23 With a target of 765.39 billion units (BU) and achievement of 793.73 BU, electricity generation by power utilities has exceeded the target for April-December, 2014. Led by double-digit growth in thermal sector, a 9.9 per cent growth was achieved in power generation during April-December 2014-15 (Table 6.5). The negative growth in hydro generation in 2014-15 is mainly due to poor monsoon.

6.24 In April-December, 2014-15, in the thermal category, growth in generation from coal, lignite, and gas-based stations was of the order of 14.41per cent , 9.64 per cent, and (-) 3.89 per cent respectively. The overall plant load factor (PLF), a measure of efficiency of thermal power stations, was 65.09 per cent during April-December 2014 as compared to 64.57 per cent during April-December 2013.

Capacity addition

6.25 The capacity-addition target during the Twelfth Plan period is 88,537 MW comprising 26,182 MW in the central sector, 15,530 MW in the state sector, and 46,825 MW in private sector. As against the capacity-addition target of 17,830.3 MW in 2014-15, 11,610.41 MW (including 1,000MW nuclear capacity commissioned) has been added till 31December 2014. The cumulative capacity addition as on 31 December 2014, is 50,058.22 MW, which constitutes 56.5 per cent of the Twelfth Plan target. The individual targets achieved by the central, state, and private sectors are 39.2 per cent, 64.5 per cent, and 63.6 per cent, respectively.

Distribution

6.26 To reduce aggregate technical and commercial (AT & C) losses, establish IT-enabled energy accounting/auditing, and improve collective efficiency, a new scheme, the 'Integrated Power Development Scheme (IPDS)' which subsumes the Restructured Accelerated Power Development and Reforms Programme (R-APDRP), has been launched. The outlay for the IPDS is ₹ 32,612 crore. Its key features are strengthening of the sub-transmission and distribution network in urban areas, metering of distribution /feeders/ transformers /consumers in urban areas and roof top solar panels.

Table 6.5 : Power Generation by Utilities (billion units)

Category	April-March			April-December		
	2012-13	2013-14	Growth (per cent)	2013-14	2014-15	Growth (per cent)
Power generation	912.06	967.15	6.04	722.11	793.73	9.91
Hydroelectric#	113.72	134.85	18.58	110.76	106.73	-3.64
Thermal	760.68	792.48	4.18	580.81	657.06	13.13
Nuclear	32.87	34.27	4.14	25.11	25.04	-0.28
Bhutan Import	4.80	5.60	16.75	5.44	4.90	-9.91

***Source* : Ministry of Power.**

***Note* : # includes generation from hydro stations above 25 MW.**

6.27 A new scheme, the 'Deendayal Upadhyaya Gram Jyoti Yojana' (DDUGJY), has been launched with the objectives of: (a) separating agriculture and non-agriculture feeders to facilitate distribution companies (discoms) in the judicious rostering of supply to agricultural and non-agricultural consumers; (b) strengthening and augmentation of sub-transmission and distribution infrastructure in rural areas; and (c) metering in rural areas. The existing 'Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)' is subsumed under the DDUGJY. Under the new scheme all discoms including private sector discoms are eligible for availing of financial support.

Petroleum and Natural Gas

Production

6.28 Domestic annual production of crude oil has been stagnant at around 38 million tonnes in the last four years. During April-December 2014-15, domestic production of crude oil was 28.171 MMT which is close to the 28.423 MMT produced during the same period last year. Production was affected due to operational problems in RJ-ON-90/1, GAIL pipeline fire accident in Andhra Pradesh, and prolonged bandhs and blockages in Assam.

6.29 Gas production during April-December 2014-15 was 25.320 BCM against 26.698 BCM during the corresponding period of 2013-14, showing a decline of 5.1 per cent. The decline in natural gas production is due to lower production in Bassein and satellite fields, under performance of six newly drilled wells in M&S Tapti, seizure of one well in KG-D6, and closure of non-associated gas wells on account of the GAIL pipeline accident.

6.30 Domestic production is supplemented by oil and gas assets acquired by Indian companies abroad. During April -December 2014-15, production of crude oil and natural gas from assets abroad was 4.135 MMT and 2.417 BCM, respectively. Box 6.2 lists some of the initiatives for enhancing crude oil and natural gas production.

Box 6.2 : Recent Policy Initiatives for enhancing Crude Oil and Natural Gas production

- **New Gas Pricing Formula:** The Government approved the New Gas Pricing formula on 18 October, 2014 and released New Gas Pricing Guidelines, 2014. The increase in price of domestically produced natural gas strikes a fine balance between the expectations of investors and interests of consumers.
- **Reforms in Production-Sharing Contracts to push Investment in Exploration:** The government has ironed out a number of rigidities in production- sharing contracts to instil confidence among investors and ensure that work, which was stuck in a number of blocks, takes off in right earnest and without further delay.
- **Reassessment of Hydrocarbon Potential:** An elaborate plan has been rolled out to reassess hydrocarbon resources in India's sedimentary basins which will provide greater clarity to future investors on the prospects of the basins.
- **Project for Survey of Un-appraised Sedimentary Basins of India:** A project has been undertaken to appraise about 1.5 million sq. km area in twenty-four sedimentary basins where scanty geo-scientific data is available. Data generated under the project shall be stored, maintained, validated in a National Data Repository (NDR) which is being set up in the Directorate General of Hydrocarbons (DGH).
- **Data Acquisition through Non Exclusive Multi-Client Model:** A policy for acquisition of geo-scientific data through a non-exclusive multi-client model is being implemented. This model replaces the earlier fiscal term of profit sharing after cost recovery with the payment of a one- time project fee.
- **Level Playing Field for Gas operations in the North East Region:** For incentivizing exploration and production in the North East region, a 40 per cent subsidy on gas operations has been extended to private companies operating in the region.
- **Gas Grid Infrastructure:** In addition to the existing 15,000 km gas pipeline network, another 15,000 km has been planned for completion of the gas grid.

Refining capacity

6.31 India is a major player in global refining. Its refining capacity was 215.066 million metric tonne per annum (MMTPA) as on 1 April 2014. Crude throughput during April-December 2014-15 was 166.685 MMT, marginally higher than 166.362 MMT during April-December 2013-14.

Exploration of unconventional resources

6.32 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 (TFC), of which only 9.9 TCF has so far been established. Commercial Production of CBM in India has now become a reality with current production of about 0.60 million metric standard cubic metre per day (MMSCMD).

6.33 Shale Oil and Gas: Under the first phase of assessment of shale oil and gas, fifty 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 one well and spudded another in Cambay Basin, Gujarat, for assessment of shale gas/shale oil potential of Cambay Basin.

New And Renewable Energy

6.34 To provide a big push to solar energy, two new schemes, viz., 'Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects' and 'Pilot-cum-Demonstration Project for Development of Grid Connected Solar PV Power Plants on Canal Banks and Canal Tops' were rolled out in December, 2014. Supplementary guidelines were issued under the existing 'Solar Pumping Programme for Irrigation and Drinking Water' scheme to solarize the targeted one lakh such pumps throughout the country during the current year.

6.35 Under the 'Pilot-cum-Demonstration Project for Development of Grid Connected Solar PV Power Plants 'in principle' approval has so far been accorded to canal-top projects for generation of 34 MW solar power and canal-bank projects for 35 MW.

Coal

6.36 A quantum jump in production of domestic coal is critical when the country is gearing up to revive economic growth. The focus is therefore on addressing quantity, quality and time-bound transportation issues so that the fuel needs of a growing economy are met.

Production

6.37 The annual target for coal production for 2014-15 is 630.25 MT. Production of raw coal during April-December 2014 at 426.7 MT increased by 9.1 per cent compared to 1.5 per cent growth in the corresponding period of 2013-14 . Though the production of coal has been increasing over the years, total imports including both coking and non-coking coal have also increased due to higher demand mainly from fuel-starved power stations (Table 6.6).

Coal Mines (Special Provisions) Ordinance, 2014

6.38 The government has taken quick decisions to overcome the uncertainty in the coal sector emerging from the Supreme Court judgment dated 20 August, 2014 and its order dated 24 September, 2014 cancelling allocation of certain coal blocks and issuing directions with regard to them. The central government has issued the Coal Mines (Special Provisions) Ordinance, 2014 on 21 October 2014 followed by the Coal Mines (Special Provisions) Second Ordinance, 2014 on 26 December 2014. The main purpose of these ordinances is to provide for allocation of coal mines to steel, cement, and power utilities which are vital for development and, ensure smooth transfer of rights, title, and interests in the mines/blocks along with their land and other associated mining infrastructure to the new allottees to be selected

Table 6.6 : Production, Supply, and Import of Coal

(million tonnes)

Year	All India coal		CIL		Imports		Total imports
	Production	Offtake/ supply	Production	Offtake/ supply	Coking	Non-coking	
2008-09	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	571.25	462.41	470.91	37.19	131.25	168.44
2014-15*	485.38	497.12	388.98	398.29	27.6 #	110.0 #	137.6 #

Source **: Ministry of Coal.**

Notes **: *Up to January 2015.**

 # Import figures are up to November 2014. CIL is Coal India Limited.

through an auction or allotment (to government companies). The allocation of coal blocks would now be made in line with the provisions of the ordinances and rules made under them and the auction of coal blocks would be through an e-auction process in order to keep the process transparent. The methodology for fixing a floor/ reserve price for auction and allotment of these coal mines/blocks has also been spelt out by the government. The government has assigned high priority to the early completion of critical railway projects for movement of coal.

MINERALS

6.39 The share of the mining and quarrying sector as a percentage of gross domestic product (GDP) has declined from 2.8 per cent in 2010-11 to 2.1 per cent in 2013-14 (Provisional Estimates). During this period, following in the wake of various judicial pronouncements, and the Justice Shah Commission Report, several mining leases were either suspended or closed down. To overcome the problems in the sector, an enabling environment based on sound principles of transparency and efficiency is being designed to provide a fair level playing field to both domestic and foreign investors.

Settling the policy paradigm

6.40 To give a fillip to the mining sector, it has been decided to amend the provisions of the Mines and Minerals (Development & Regulation) Act , 1957 (MMDR) with the objectives of: (a) providing greater transparency in allotment by auctioning mining leases; (b) attracting private investment and high technology by promoting easy transferability; and (c) obtaining an increased share for the state governments. To this effect an ordinance has been promulgated on 12 January 2015. The salient features of the Mines & Minerals (Development Regulations) (Amendment Ordinance 2015) include: –

(a) Auction for realization of fair value: For realization of the fair share value of the mineral resources and for improving transparency in allocation of mineral resources, a provision has been made for grant of mineral concessions only through auction by competitive bidding. However, dispensation in respect of public sector entities has to be specified separately.

(b) Dispensing with discretion and addressing possible disruption: To remove discretion in grant of renewals, provisions for renewal of mining leases has been removed. The period

of mining lease has been increased to fifty years. After fifty years a lease will be auctioned afresh.

(c) Relief to project-affected people/district: In order to earmark funds for benefit of persons affected by mining, setting up of a District Mineral Foundation in every district affected by mining has been announced. The resources for the Foundation will be raised by way of an additional levy, not exceeding one-third of the royalty, and as decided by the Government of India from time to time. The state governments are required to frame rules for the governance structure of the Foundation and effective utilization of its funds.

(d) Boost to exploration: The establishment of a National Mineral Exploration Trust has been proposed for the purpose of regional and detailed exploration. This will be funded by an additional levy not exceeding 2 per cent of the royalty.

(e) Easy transferability to encourage private sector participation: To attract private agencies and promote the latest technology, a provision has been made for easy transfer of mineral concessions which have been granted through auction route.

(f) Timely disposal of cases: For eliminating delays in administration and facilitating expeditious and optimum development of the mineral resources, a provision has been made to empower the central government to frame rules for fixing time limits for the various stages in processing applications for grant of mining lease or prospecting license-cum-mining lease.

(g) Deterrents against illegal mining: To curb the menace of illegal mining, imposition of stricter penalties like imprisonment up to five years or fine up to ₹ 5 lakh per hectare of area where illegal mining is proved are proposed.

6.41 For a smooth transition to the new mining regime, several steps need to be taken by the government and various other agencies. These include piloting the Amendment Bill in the Parliament, framing of rules for amendment of Mineral Concession Rules, 1960 and Mineral Conservation and Development Rules, 1988 in line with the proposed changes in the MMDR Act, laying down the auction procedure including preparation of standard bidding documents, setting up of District Mineral Foundation and National Mineral Exploration Trust and most importantly hand holding the state governments, and strengthening their capacity to deal with the transition to the auction regime without any disruption in the production of important minerals.

RAILWAYS

6.42 Indian Railways (IR) is faced with the challenge of sustaining traffic volume in an environment of moderate growth. The key focus areas for IR include creation of capacity, modernization of network, improvement in asset utilization and productivity, modernization of rolling stock and maintenance practices, and improvement in the quality of services. Investments are being prioritized in important areas like Dedicated Freight Corridors (DFCs) , high speed rail, high capacity rolling stock, last mile rail linkages, and port connectivity. Box 6.3 lists some of the initiatives by IR.

Freight performance

6.43 Freight loading (excluding loading by Konkan Railways) by IR during 2013-14 was 1051.64 million tonnes, as against 1008.09 million tonnes in 2012-13, registering an increase of 4.32 per cent. During April -December 2014-15, IR carried 806.38 million tonnes of revenue-earning freight traffic, as against a budget target of 807.18 million tonnes. The freight carried shows an increase of 39.15 million tonnes over the freight traffic during the same period in 2013-14, translating into an increase of 5.1 per cent.

Box 6.3 : New initiatives by IR during 2014-15

i. **Completion of Udhampur-Katra broad gauge line:** The Udhampur-Katra broad gauge line in Jammu and Kashmir, bringing the state closer to the rest of the nation, is an engineering marvel by IR. Four train services up to Katra have commenced from July 2014.

ii. **Meghalaya gets rail connectivity:** Meghalaya got its first rail connectivity with the completion of the new Dubhnoi-Mendipathar line in August 2014. A new route from Mendipathar in Meghalaya to Guwahati in Assam, got connected by rail in November , 2014.

iii. **High speed Bullet Trains:** Steps are under way for introduction of High Speed Bullet Trains in the country on the Mumbai-Ahmedabad corridor, as part of the Diamond Quadrilateral network of high speed rail, connecting major metros and growth centres of the country.

iv. **Next Generation e-ticketing(NgeT) application:** The newly launched NgeT, developed by the Central Railway Information Centre (CRIS) has enabled sharp increase in online ticket booking capacity, number of enquiries per minute, as well as the capacity to handle concurrent sessions.

v. **Premium special trains:** To make sufficient berths available to passengers, and to earn additional revenue, as compared to trains operating on normal fares, IR has introduced premium special trains under the dynamic fare system.

vi. **Harnessing solar energy:** The Rail Coach Factory, Rae Bareli is presently functioning completely on solar power. A 30 kw solar plant has been commissioned, on the roof top of Rail Bhawan at New Delhi and provision of solar plants at other Railway buildings is being expedited , preferably under the public-private partnership (PPP) model.

vii. **Wi-Fi Broadband service at select railway stations:** Bengaluru and New Delhi Railway Stations have been provided Wi-Fi broadband facilities.

viii. **e-catering service in trains:** Indian Railways Catering and Tourism Corporation, has been entrusted the task of implementation of e-catering service in trains.

ix. **Cooperation with China :** An MoU and an Action Plan have been signed between the Government of India and People's Republic of China, for enhancing technical cooperation in the railway sector. The potential cooperation areas in the MoU include i) training in heavy haul freight transportation, ii) raising speed of trains on existing routes, iii) station re-development, iv) high speed rail, and v) setting up of a Railway University.

x. **Early completion of coal transportation projects:** Three rail connectivity projects for coal movement in Jharkhand, Odisha, and Chhattisgarh have been put on fast track.

Semi-high speed trains

6.44 Nine corridors have been identified for the introduction of semi-high speed trains at 160/200 kilometers per hour (kmph), viz. (i) Delhi-Agra (ii) Delhi-Chandigarh (iii) Delhi-Kanpur (iv) Nagpur-Bilaspur (v) Mysore-Bengaluru-Chennai (vi)Mumbai-Goa (vii) Mumbai-Ahmedabad (viii) Chennai-Hyderabad; and (ix) Nagpur-Secunderabad. All technical inputs required for running of commercial services at 160 kmph, on the New Delhi-Agra corridor, have been provided, and the corridor is ready for introducing the service. A feasibility study for raising the speed on the Chennai-Bengaluru-Mysore corridor is being taken up under a co-operation agreement with China.

ROADS

6.45 India has one of the largest road networks of over 48.65 lakh km, comprising expressways, national highways, state highways, major district roads, other district roads, and village Roads. The national highways (NHs) with a total length of 96,214 km serve as the arterial network of the country. Table 6.7 shows the status of the National Highways Development Project (NHDP) as on 31 December 2014.

Financing of NHDP

6.46 To fund the NHDP, a part of the fuel cess imposed on petrol and diesel is allocated as budgetary support. The National Highways Authority of India (NHAI) leverages this to borrow

Table 6.7 : Status of NHDP as on 31 December 2014

Sl. No.	NHDP component	Total length (km)	Completed 4/6 lane(km)	Under implementation		Balance for award of civil works (km)
				Length (km)	No. of contracts	
1.	NHDP Phase I (GQ, port connectivity, others)	7,522*	7,519	3	1	-
2.	NS-EW Corridors	6,647	5,836	441	45	370
3.	NHDP Phase III	12,109	6,352	4,708	125	1,049
4.	NHDP Phase IV	20,000	907	7,759	114	11,334
5.	NHDP Phase V	6,500	1,973	2,107	27	2,420
6.	NHDP Phase VI	1,000	0	0	0	1,000
7.	NHDP Phase VII	700	22	19	1	659
	Total	**54478**	**22609**	**15037**	**313**	**16832**

***Note* : * Two projects (24 km) for Chennai – Ennore port connectivity have been re-awarded. These two projects were merged with another project (6 km) under Phase – I whereby total length increased by 24 km.**

additional funds from the debt market. Till date, such borrowings have been limited to funds raised through 54 EC (capital gains tax exemption) bonds and tax-free Bonds.

6.47 The economic down turn seen in the last few years caused reduction in the growth of traffic and consequently lower revenue realization for build operate transfer (BOT) road projects. The reduced revenue realization adversely affected debt servicing by concessionaires. This caused widespread default in debt accounts. Concessionaires unable to service debt had to seek restructuring from lenders. With debt obligations mounting on account of debt repayment deferments, sector exposure increased, reaching the ceiling exposure norms for the road sector. The road sector debt portfolio faced disproportionately high levels of default. Consequently the appetite for BOT PPP projects came down as developers had no equity to contribute and lenders were unwilling to provide debt funds. The government stepped in and took various initiatives to restore market confidence. To ensure that project execution does not suffer owing to cash flow constraints, rescheduling of premium payment in BOT projects has been granted, to be available to concessionaires experiencing subsistence revenue shortfall.

Improvement of road connectivity in left-wing extremism (LWE)-affected areas

6.48 The government has approved a scheme for development of 1,126 km of national highways and 4,351 km of state roads in left -wing extremism (LWE) affected areas as a special project with an estimated cost of about ₹ 7,300 crore. Development in 3,299 km length has been completed up to December 2014 and cumulative expenditure incurred so far is ₹ 4,374 crore.

Creation of a corporation to expedite works in the North-Eastern Region

6.49 The National Highways and Infrastructure Development Corporation Ltd. has been created to expedite development of highways in the North-Eastern region and border areas.

Civil Aviation

6.50 One of the significant achievements of the civil aviation sector is that the PPP model for airports has led to a significant improvement in infrastructure and in collection of revenues.

Passenger and cargo handled

6.51 There has been healthy increase in international passengers and cargo handled at

Indian airports during 2014-15. During April - December 2014-15, 101.34 million domestic passengers and 36.74 million international passengers were handled at Indian airports. Domestic passenger traffic throughput increased by 7.1 per cent and international passengers increased by 10.3 per cent during April-December 2014-15 as compared to the same period in 2013-14. International cargo throughput at Indian airports was 1.17 million metric tons while domestic cargo throughput stood at 0.74 million metric tons. International cargo throughput increased by 8.3 per cent and domestic by 19.3 per cent in April –December 2014-15 as compared to the corresponding period of previous year.

Airport Infrastructure

6.52 The Airports Authority of India (AAI) is managing 125 airports in the country. It has finalized a no frills airport model to build airports in remote areas with the objective of improving air connectivity and boosting the country's economic growth. During 2014-15, the AAI has completed development of airports at Bikaner and Jaisalmer (Rajasthan), Bhatinda (Punjab), and Cuddapah (Andhra Pradesh).

Initiatives

6.53 The major initiatives to augment better airport infrastructure across the country are: (a) implementation of PPP projects at four airports of the AAI, namely Chennai, Kolkata, Ahmedabad, and Jaipur, (b) setting up of greenfield airports, namely, Mopa in Goa; Navi Mumbai, Shirdi and Sindhudurg in Maharashtra; Shimoga, Gulbarga, Hassan, and Bijapur in Karnataka; Kannur and Arnamula in Kerala; Durgapur in West Bengal; Pakyong in Sikkim; Datia/Gwalior (cargo) in Madhya Pradesh; Kushinagar in Uttar Pradesh; and Karaikal in Puducherry, and (c) development of small airports in Tier II and Tier III cities, namely Hubli and Belgaum in Karnataka, Kishangarh in Rajasthan, Jharsuguda in Odisha, and Tezu in Arunachal Pradesh.

PORTS

Cargo traffic at Indian Ports

6.54 During April-December, 2014-15, major and non-major ports achieved a total cargo throughput of 775.17 million tonnes, showing an increase of 6.8 per cent over the same period of 2013-14 (Table 6.8). The growth of cargo at non-major ports was 9.1 per cent while that at major ports was 5.0 per cent.

TELECOMMUNICATIONS

6.55 The telecom sector continues to grow rapidly. During April-November 2014-15, 31.2 million new telephone connections were added, way ahead of the 12.13 million new connections in the corresponding period of 2013-14. Overall teledensity has increased from 75.23 per cent at the beginning of April 2014 to 77.12 per cent at the end of November 2014, while total broadband connections have touched 82.22 million.

Table 6.8 : Cargo Traffic at Ports

(million tonnes)

Category of ports	2012-13	2013-14	April-December	
			2013-14	2014-15
Major ports	545.83	555.49 (1.8)	413.06	433.86
Non-major ports	387.92	420.24 (8.3)	312.84	341.31
All ports	933.75	975.73 (4.5)	725.90	775.17

Source **: Ministry of Shipping.**

Note **: Figures in parentheses indicate growth over the previous year.**

National Optical Fibre Network Project

6.56 In order to ensure equity in access and to accelerate socio-economic growth in rural areas, the Department of Telecommunications (DoT) has planned to connect all 2,50,000 Gram Panchayats in the country with minimum 100 Mbps bandwidth under the National Optical Fibre Network Project (NOFN). Cable laying has been completed in about 5000 villages and the project is likely to be completed by 31 December 2016.

Spectrum Auction

6.57 The DoT plans to conduct auction of spectrum in 2100 MHz, 1800 MHz, 900 MHz, and 800 MHz bands. A roadmap will also be chalked out for providing more spectrums, as per the National Telecom Policy 2012, keeping in view the objective of affordable and reliable communication services to serve public interest.

Urban Infrastructure

6.58 Urbanization in India has become an irreversible process and an important determinant of national economic growth and poverty reduction. The increased pace of urbanization poses challenges with respect to providing adequate infrastructure, improving connectivity, and mobilizing resources The level of urbanization has increased from 27.78 per cent in 2001 to 31.18 per cent in 2011. According to Census 2011, as many as thirty-five cities in India had a million plus population. At current rates of growth, urban population in India is projected to reach 575 million by 2030.

New schemes

6.59 Three new schemes have been announced for development of urban infrastructure. These are the Swachh Bharat Mission (SBM), Heritage City Development and Augmentation Yojana (HRIDAY), and Smart City Scheme. All statutory towns will be covered under the SBM which will be in force till 2 October 2019. The objectives of the SBM are elimination of open defecation, eradication of manual scavenging, modern and scientific solid waste management, and generating awareness about sanitation and its linkage with public health. The objective of HRIDAY is to preserve the character of a heritage city and facilitate inclusive heritage-linked urban development by exploring various avenues including involvement of the private sector. It is proposed to develop 100 smart cities identified on the basis of stipulated criteria .These cities will have smart (intelligent) physical, social, institutional, and economic infrastructure to improve public services.

Services Sector

07
CHAPTER

India's dynamic services sector has grown rapidly in the last decade with almost 72.4 per cent of the growth in India's GDP in 2014-15 coming from this sector. Unlike other developing economies, the Indian growth story has been led by services-sector growth which is now in double digits.

International Comparison

World Services GDP

7.2 In 2013 in the US$ 75.6 trillion world gross domestic product (GDP)(at current prices) the share of services improved marginally to 66.0 per cent while growth rate (at constant prices) decelerated marginally to 2.1 per cent over 2012. However, in the last twelve years, the share of services in world GDP has declined by 2.8 percentage points (pp). The US ranks first in services GDP as well as in overall GDP, with China and Japan a distant second and third. Among the world's top 15 countries in terms of GDP, India ranked 10th in terms of overall GDP and 11th in terms of services GDP in 2013. However, among these top fifteen nations, in the period 2001-13, maximum increase in services share to GDP was recorded by Spain (8.6 pp) followed by India (5.7 pp) and China (5.6 pp). During this period, with a compound annual growth rate (CAGR) of 8.7 per cent, India had the second fastest growing services sector, just below China's 10.7 per cent. Among these top fifteen countries, only China's share of services in its total GDP is less than 50 per cent (Table 7.1).

World Services Employment

7.3 As per the International Labour Organization's (ILO) Global Employment Trends 2014, services accounted for more than half of total global employment growth of 1.4 per cent in 2013 over 2012. The share of services in world income declined from 68.8 per cent in 2001 to 66 per cent in 2013, while its share in employment increased from 39.1 per cent to 45.1 per cent. For the top fifteen countries, except India and China, the shares of both services GDP and services employment are high and close to each other. India's services sector has a high share in income and relatively low share in employment, while in China, the shares of both services income and services employment are relatively low. But in both these countries, the shares of services in both GDP and employment have increased in the last twelve years.

World Services Trade

7.4 During 2001-13 the CAGR of world commercial services exports was 10 per cent, with India at the top among the top fifteen largest economies at 20.1 per cent followed by China at 16.5 per cent. In 2013, the US$ 4.6 trillion world commercial services exports grew by 5.6 per cent. Services exports of the United States, the largest exporter of commercial services, grew by 5 per cent while they decelerated for China to 7.5 per cent and India to 3.6 per cent due to decline in exports of transport services by 3 per cent in both countries. Services imports of India fell by 2.7 per cent and China's grew by 17.6 per cent.

Table 7.1 : Performance in Services: International Comparison

Country	Rank in GDP		Services growth rate (per cent) Y-o-Y		CAGR	Share of services						Services export growth (per cent) Y-o-Y		CAGR
						in GDP		in employment		in total exports				
	Over all	Ser-vices	2001	2013	2001-13	2001	2013	2001	2013	2001	2013	2001	2013	2001-13
US	1	1	2.1	1.7	1.8	77.6	78.6	75.0	81.2	27.2	29.5	-3.6	5.0	7.7
China	2	2	10.3	8.3	10.7	40.5	46.1	27.7	35.7	11.0	8.5	9.1	7.5	16.5
Japan	3	3	1.3	0.8	0.7	69.0	72.4	63.9	69.7	13.6	16.9	-6.9	2.0	7.1
Germany	4	4	3.1	0.1	0.9	68.8	68.4	64.6	70.2	12.8	16.5	5.6	7.8	10.7
France	5	5	2.0	0.6	1.4	74.7	78.5	69.9	74.9	19.8	29.0	-0.5	9.7	9.5
UK	6	6	3.4	2.0	2.2	73.6	79.2	73.8	78.9	30.1	35.1	-0.8	1.5	7.9
Brazil	7	8	1.8	2.1	3.5	67.1	69.4	59.4	62.7	13.0	13.4	-2.7	-1.7	12.9
Italy	8	7	2.3	-1.3	0.2	70.5	74.4	63.1	68.5	18.9	17.6	2.1	6.1	5.6
Russia	9	10	3.3	2.0	5.1	55.6	59.8	58.6	62.3	9.9	11.0	17.3	11.2	4.0
India	10	11	7.5	6.7	8.7	51.3	57.0	24.0	28.1	27.9	32.5	4.8	3.6	20.1
Canada	11	9	3.5	1.8	2.5	65.9	70.4	74.7	76.5	12.7	14.6	-3.6	0.0	6.2
Australia	12	12	3.7	2.5	3.0	69.9	69.7	74.2	75.5	21.8	17.1	-8.9	-0.1	9.4
Spain	13	13	4.0	-1.1	2.3	65.3	73.9	62.0	74.9	32.2	31.5	6.0	6.1	8.4
South Korea	14	15	5.0	2.9	3.7	59.0	59.1	62.6	76.4	16.3	16.6	-4.9	1.3	15.7
Mexico	15	14	1.1	2.4	3.2	57.7	58.9	56.1	61.9	7.2	4.9	-7.5	21.3	11.8
World			**2.5**	**2.1**	**2.5**	**68.8**	**66.0**	**39.1**	**45.1**	**19.4**	**19.8**	**0.1**	**5.6**	**9.9**

Source **: Computed from UN National Accounts Statistics for GDP, World Bank and ILO database for employment and WTO database for Services Trade.**

Notes **: Rank and share are based on current prices (2013); growth rates are based on constant prices (US$); construction sector is excluded in services GDP; for employment data in 2013, the available data of nearest preceding years is used.**

7.5 In Q1, Q2 and Q3 of 2014, world services exports grew by 5.7 per cent, 6.4 per cent, and 4.7 per cent respectively. India's services export growth was at 7.4 per cent in Q1 but decelerated to 2.8 per cent and 2.7 per cent in Q2 and Q3. Its services import growth fell by 3.9 per cent in Q1 but grew by 0.3 per cent and 2.7 per cent in Q2 and Q3 respectively.

Foreign Direct Investment in World Services Sector

7.6 In 2014, global foreign direct investment (FDI) inflows declined by 8 per cent to an estimated US$ 1.3 trillion, due to the fragility of the global economy, policy uncertainty, and geopolitical risks as per the United Nations Conference on Trade and Development (UNCTAD). China became the world's largest recipient of FDI, with an increase of 3 per cent driven by FDI in the services sector while FDI in manufacturing fell. India's FDI rose by around 26 per cent to an estimated US$ 35 billion also due to inflows in the top services sector as corroborated by the Indian data.

India's Services Sector

7.7 Services in India are emerging as a prominent sector in terms of contribution to national and states' incomes, trade flows, FDI inflows, and employment.

Services GDP and Gross Capital Formation

7.8 As per the new method of India's National Accounts Statistics, the services sector accounting for 51.3 per cent of India's gross value added (GVA) at basic prices (current prices) in 2013-14, grew by 9.1 per cent compared to 6.6 per cent total GVA growth and 6.9 per cent GDP growth at market prices. Including construction, a borderline service, the services share is 59.6 per cent and growth is 8.1 per cent (Table 7.2).

7.9 Interestingly, the services sector has the highest share (54.6 per cent) in the gross capital

Table 7.2 : Share and Growth of India's Services Sector (GVA at basic price)

(per cent)

	GVA			GCF	
	2012-13	**2013-14**	**2014-15#**	**2012-13**	**2013-14**
Total Services	**50.0 (8.0)**	**51.3 (9.1)**	**53.0 (10.6)**	**53.8 (-1.9)**	**54.6 (3.1)**
Trade, repair, hotels, and restaurants	11.3 (10.3)	12.0(13.3)	18.7 (8.4) *	9.6 (46.9)	11.5 (21.2)
Trade & repair services	10.2 (11.1)	11.0(14.3)		8.6 (59.9)	10.6 (23.5)
Hotels & restaurants	1.1 (3.3)	1.1 (3.9)		0.9 (-15.6)	0.9 (-0.3)
Transport, storage, communication & services related to broadcasting (of which)	6.6 (8.4)	6.6 (7.3)		6.8 (-4.1)	5.5(-16.4)
Railways	0.8 (18.0)	0.8 (9.3)		1.1 (11.0)	1.2 (5.6)
Road transport	3.3 (7.5)	3.2 (5.0)		2.5 (-16.6)	1.6(-35.8)
Air transport	0.1 (-5.9)	0.1 (6.0)		0.2 (-11.4)	0.0(-72.4)
Financial services	5.9 (6.7)	5.8 (6.4)	20.9(13.7)^	1.3 (-9.8)	1.1(-10.6)
Real estate, ownership of dwelling & professional services	13.6 (9.8)	14.0 (8.5)		22.7 (-15.1)	20.1(-10.2)
Public administration and defence	6.0 (3.2)	6.0 (4.9)	13.4 (9.0)@	8.5 (1.7)	10.6 (26.3)
Other services	6.6 (6.2)	6.9(10.7)		4.9 (4.2)	5.8 (20.3)
Construction	8.7 (-4.3)	8.3 (2.5)	8.0 (4.5)	5.8 (-11.5)	5.4 (-4.4)
Total Services (+ construction)	**58.7 (6.0)**	**59.6 (8.1)**	**61.0 (7.1)**	**59.6 (-3.0)**	**60.0 (2.4)**
TOTAL GVA / GFC	**100.0 (4.9)**	**100.0 (6.6)**	**100.0 (7.5)**	**100.0 (-0.7)**	**100.0 (1.4)**
GDP (market price constant 2011-12)	**(5.1)**	**(6.9)**	**(7.4)**		

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

Notes **: Shares are in current prices and growth in constant 2011-12 prices; Figures in parentheses indicate growth rate; # AE for 2014-15.* Also includes transport, communication and services related to broadcast, ^ Also includes real estate and professional services, @ Also includes other services. This is based on new method followed by the CSO.**

formation (GCF) of ₹ 35.4 lakhs in 2013-14. This is owing to the GCF in real estate, ownership of dwelling and professional services at 20.1 per cent, though the share has fallen in the last two years, followed by trade and repair services (10.6 per cent) and public administration and defence (10.6 per cent) where there is improvement in shares. The growth rate of services GCF at 3.1 per cent has also been higher than the total GCF growth of 1.4 per cent. Infact, the positive GCF growth in services led to positive growth in total GCF as GCF growth in agriculture and industry was negative at - 0.3 per cent and - 0.6 per cent respectively. GCF growth in manufacturing was even more negative at - 5.4 per cent.

7.10 As per the old method of estimating GDP at factor cost (GDP at FC), the services sector accounting for 57 per cent of GDP grew by 6.8 per cent in 2013-14, marginally lower than in 2012-13. This is mainly due to a fall in the growth rate of the combined category of trade, hotels, and restaurants and transport, storage, and communications to 3.0 per cent from 5.1 per cent in 2012-13, and in spite of robust growth of financing, insurance, real estate, and business services at 12.9 per cent. The somewhat differing results in services growth under the two methods are due to conceptual changes of GDP at FC to basic price and adoption of latest data sources. There was also drastic decline in services share under the new method. The major change took

place in the share of trade, repair, hotels, and restaurants from 17.2 per cent in 2012-13 using the old factor cost method to 11.3 per cent using the new basic price method. This is because trade carried out by manufacturing companies has now been shifted to manufacturing from trade and the data on unorganized trade enterprises has been updated with the 2010-11 survey instead of the 1999-2000 survey. However, this sector's growth was much higher using the new method than under the old method.

7.11 As per the Advance Estimates (AE) in 2014-15, growth of the services sector accelerated further to 10.6 per cent as compared to 9.1 per cent in 2013-14. This is mainly due to growth acceleration in financial, real estate, and professional services to 13.7 per cent from 7.9 per cent and public administration, defence, and other services to 9.0 per cent from 7.9 per cent in the previous year. There was also good growth in trade, hotels, transport, communication, and related services at 8.4 per cent in 2014-15 though it was lower than the 11.1 per cent growth in 2013-14.

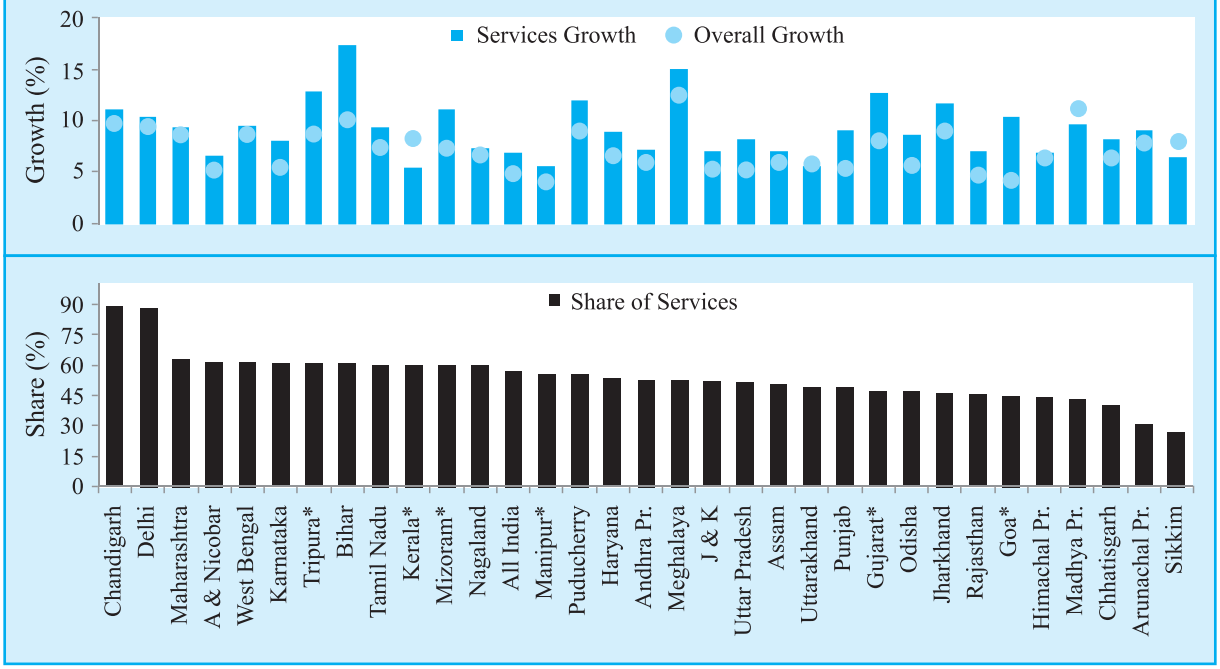
State-wise Comparison of Services

7.12 The services sector is the dominant sector in most states of India with a share of more than 40 per cent in the gross state domestic product (GSDP) in 2013-14 except for Arunachal Pradesh and Sikkim (Figure 7.1). Chandigarh is at the top with a share of 88.4 per cent followed by Delhi with 87.7 per cent. The major services in most of the states with high share are trade, hotels, and restaurants followed by real estate, ownership of dwellings and business services. Banking and insurance has an important share only in a few states/ union territories (UT) like Delhi, Maharashtra, and Chandigarh. In 2013-14, Bihar had the highest services growth of 17.3 per cent and Uttarkhand the lowest of 5.5 per cent. Bihar has been consistently showing double-digit growth in the services sector in the last five years due to high growth in trade, hotels, and restaurants.

FDI in India's Services Sector

7.13 The ambiguity in classifying FDI in different activities under the services sector continues. The combined FDI share of financial and non-financial services under services sector, construction

Figure 7.1: Share and Growth of the Services Sector in 2013-14



Source : **Computed from CSO data.**
Note : **Share at current prices, growth rate at constant (2004-05) prices; * indicates 2012-13 data; Andhra Pradesh-undivided.**

Table 7.3 : FDI Equity Inflows in the Services Sector

Ranks	Sector	Value (in US $ million)			Percentage to total	Growth rate	
		2013-14	2014-15 (Apr. Nov.)	Cumulative (Apr. 2000-Nov. 2014)		2013-14	2014-15 (Apr. Nov.)
1	Services sector (financial & non-financial)	2225	1847	41307	17.5	-54.0	24.9
2	Construction development #	1226	703	24009	10.2	-8.0	-20.9
3	Telecommunications *	1307	2472	16635	7.0	329.9	7390.9
4	Computer software & hardware	1126	862	13679	5.8	131.7	62.9
5	Hotel &tourism	486	544	7662	3.2	-85.1	180.4
	Total top five services	**6370**	**6428**	**103291**	**43.7**	**-37.6**	**105.8**
	Total FDI inflows	**24299**	**18884**	**236465**	**100**	**8.4**	**22.2**

Source **: Based on Department of Industrial Policy and Promotion (DIPP) data.**

Note **: # indicates township, housing, built-up infrastructure; * indicates radio paging, cellular mobile, basic telephone services.**

development, telecommunications, computer hardware and software, and hotels and tourism can be taken as the best estimate of services FDI, though it could include some non-service elements. This share is 43.7 per cent of the cumulative FDI equity inflows during the period April 2000-November 2014. If the shares of some other services or service-related sectors like trading, information and broadcasting, construction (infrastructure) activities, consultancy services, hospital and diagnostic centres, ports, agriculture services, education, air transport including air freight, and retail trading are included, then the total share of cumulative FDI inflows to the services sector would increase to 53.8 per cent. In 2013-14, FDI inflows to the services sector (top five sectors including construction) declined sharply by 37.6 per cent to US$ 6.4 billion, though overall FDI inflows grew by 8.4 per cent. However, during 2014-15 (April to November), the FDI inflows to services grew by 105.8 per cent compared to 22.2 per cent growth in overall FDI inflows. The total FDI inflows to the top five services in the first eight months of this year are higher than for the whole of 2013-14 owing to major inflows in telecommunications (Table 7.3).

India's Services Trade

7.14 India's share in global exports of commercial services increased to 3.2 per cent in 2013 from 1.2 per cent in 2000. Its ranking among the leading exporters in 2013 was sixth. After witnessing high growth during 2002-03 to 2008-09 with a CAGR of 31.2 per cent, and a pick up and good growth in 2010-11 and 2011-12 in the aftermath of the global financial crisis, export growth of services decelerated in 2012-13 to 3.4 per cent. In 2013-14 services exports grew by 4.0 per cent to US$ 151.5 billion and services imports declined by 2.8 per cent to US$ 78.5 billion resulting in net services of US$ 73.0 billion with 12.4 per cent growth. In the first half of 2014-15, services exports grew by 3.7 per cent to US$ 75.9 billion and import of services grew by 5.0 per cent to US$ 39.9 billion, resulting in net services growth of only 2.4 per cent (Table 7.4). Net services has been a major source of financing India's trade deficit in recent years. Surplus on account of services exports financed 49.4 per cent and 49.3 per cent of merchandise trade deficit in 2013-14 and H1 of 2014-15 respectively. Two recent developments in India's exports sector are the rising foreign value added content and services value added content (Box 7.1).

7.15 India's major services exports in 2013-14 are computer services (45.8 per cent share); other business services (18.8 per cent share) including professional and consulting services (10.2 per cent share), technical and trade-related services (7.8 per cent share) and R & D services (0.8 per

Table 7.4 : Export Performance of Major Services

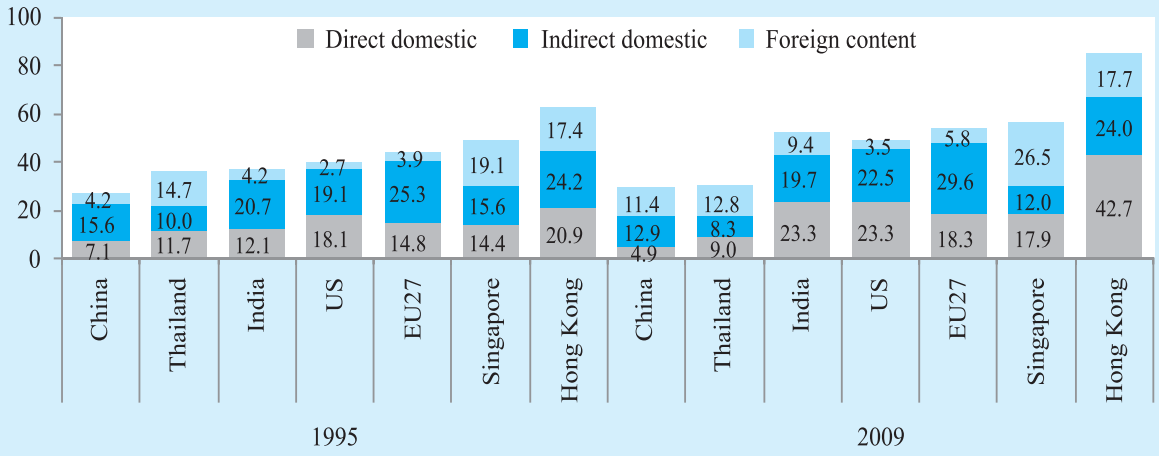
	Value (US$ bn) 2013-14	Share (per cent) 2013-14	Export growth rate (per cent) 2012-13	2013-14	2013-14 H1	2014-15 H1
Total services exports	**151.5**	**100**	**3.4**	**4.0**	**3.4**	**3.7**
Transport	17.4	11.5	-5.1	0.3	-2.1	8.5
Travel	17.9	11.8	-2.5	-0.4	4.8	18.0
Construction	1.3	0.9	24.9	33.3	37.2	36.0
Financial, insurance, & pension services	8.8	5.8	-16.5	22.2	23.3	-11.8
Telecommunications services	2.4	1.6	2.0	43.0	38.4	-22.2
Computer services	69.4	45.8	5.9	5.4	5.6	5.1
Other business services	28.5	18.8	15.8	0.1	-0.1	-3.9
R & D services	1.1	0.8	17.0	24.0	9.7	6.3
Professional& consulting services	15.5	10.2	26.0	10.4	7.1	-6.7
Technical,trade-related,& others	11.8	7.8	6.8	-12.2	-8.6	-1.4
Net services exports	**73.0**	**—**	**1.4**	**12.4**	**12.6**	**2.4**

Source **: RBI's Balance of Payments (BoP) data (BPM-6).**

Box 7.1 : Services GVA Content in India's Exports

As per the Organisation for Economic Cooperation and Development's (OECD) TiVA (trade in value added) data, domestic value added content in India's gross exports was 78 per cent in 2009, a little above the OECD average (76 per cent), but 12 pp lower than in 1995, reflecting increasing fragmentation of production and integration with global value chains. Interestingly, services value added content of India's exports at 52.4 per cent in 2009, is marginally higher than the OECD average (48 per cent). India is fifth highest in terms of services value added content in its exports after Hong Kong, Iceland, Singapore, and EU-27. There is also a 15.4 pp increase over 1995 (Figure 1). This has been driven by increasing direct exports of services and more than doubling of foreign services content of exports also indicating greater integration with global value chains.

Figure 1: Services Value Added Content of Gross Exports (%)



A study for the Ministry of Finance, Government of India (GoI) by Indian Council for Research on International Economic Relations (ICRIER) also shows rising share of foreign value added in India's exports. The increase was higher in merchandise exports from 11.2 per cent in 1995 to 25.7 per cent in 2011 than in services exports, where it increased from 6.4 per cent to 8.5 per cent.

Source **: Based on OECD and ICRIER reports**

cent share); travel (11.8 per cent share); transport (11.5 per cent share); and financial, insurance and pension services (5.8 per cent share). In 2013-14, there was deceleration in export growth of software services to 5.4 per cent, negative growth of - 0.4 per cent in travel, and marginal growth in transport (0.3 per cent) and other business services (0.1 per cent). However, moving in tandem with global exports of financial services, India's exports of financial services registered a high growth of 34.4 per cent. In the first half of 2014-15, export growth decelerated further for computer services (5.1 per cent) and was negative for other business services (- 3.9 per cent) and financial, insurance, and pension services (-11.8 per cent). But growth was robust for travel (18.0 per cent) with pick up in foreign tourist arrivals (FTAs) and foreign exchange earnings (FEEs) in dollar terms and good for transport (8.5 per cent) due to pick up in India's external trade by 2.5 per cent in H1 of 2014-15 compared to 0.8 per cent in the previous year.

7.16 There are many market access barriers and domestic regulations in India's services sector (see Economic Survey 2012-13 and 2013-14). Given the potential of India's services sector, removal of many of these barriers both domestically and internationally is of vital importance. Services-sector negotiations both at multilateral and bilateral/ regional levels are therefore of special significance to India (See Box 7.2).

Box 7.2 : WTO Services Negotiations and Bilateral Negotiations including Services Trade

WTO Negotiations: India's Stand

- The post Bali work programme has to be within the mandate of the Doha Development Agenda (DDA) and valuable milestones such as the Annex C on 'Services' of the Hong Kong Ministerial Declaration (HKMD) which contains the roadmap for conclusion of the Doha Round.
- India does not support any cherry picking of issues or sectors of interest to certain economies in the name of concluding the Doha Round and the level of ambition across the negotiating pillars including in services would be governed by agriculture.
- Since development is the central theme of the Doha negotiations, commitments in areas of export interest to developing countries and least developed countries (LDCs) is crucial for the success of the round. In the past, India has been dismayed by the negligible progress in Mode 4 offers.
- Preferential treatment for the LDCs in the World Trade Organization (WTO): At the High Level Meeting of the WTO services council on 5 February 2015, discussions were held to operationalize the Bali decision on LDC services waiver. India has been a generous partner for LDCs and offered market access for contractual services suppliers and independent professionals under Mode 4 in sectors like engineering services, integrated engineering services, computer and related services, some important management consulting and project management services, hotel and other lodging services, travel agency, tour operator services and tourist guides conversant in a foreign language, other than English. An exclusive quota of 250, only for tourist guides from LDCs was offered. India has also agreed to waive visa fee for LDC applicants seeking Indian business or employment visas.

Bilateral Agreements: Status

- India has signed Comprehensive Bilateral Agreements with the Governments of Singapore, South Korea, Japan, and Malaysia. A Free Trade Agreement (FTA) in services and investment was signed with the Association of South East Asian Nations (ASEAN) in September 2014.
- India has joined the Regional Comprehensive Economic Partnership (RCEP) plurilateral negotiations and is continuously engaged in the bilateral FTA negotiations including Trade in Services with Canada, Israel, Thailand, the European Free Trade Association (EFTA), Australia, New Zealand, and the EU. Negotiations with Canada and Australia have not progressed much and modalities for the negotiations are still being discussed. Negotiations with Thailand are at an advanced stage and with EFTA are more or less over. India is also engaged in bilateral trade dialogues 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*: Department of Commerce, Government of India.**

Table 7. 5 : Sector-wise Employment Trends (UPS)

	Absolute number(million) (Share in percent given in parentheses)					Employment elasticity			
	1993-94	1999-00	2004-05	2009-10	2011-12	1993-94 to 1999-00	1999-00 to 2004-05	2004-05 to 2009-10	2009-10 to 2011-12
Agriculture	204.3 (61.1)	214.7 (58.5)	226.8 (54.5)	220.5 (51.6)	204.4 (47.1)	0.3	0.7	-0.2	-0.5
Industry	53.5 (16.0)	61.7 (16.8)	81.0 (19.5)	93.1 (21.8)	106.1 (24.4)	0.4	0.9	0.3	0.9
Services	76.6 (22.9)	90.6 (24.7)	108.0 (26.0)	113.7 (26.6)	123.9 (28.5)	0.3	0.5	0.1	0.5
Trade, hotels, and restaurants	26.8 (8.0)	34.1 (9.3)	46.5 (11.2)	48.4 (11.3)	50.5 (11.6)	0.4	0.8	0.1	0.3
Transport, storage, and communication	11.0 (3.3)	15.0 (4.1)	18.7 (4.5)	19.9 (4.6)	22.8 (5.2)	0.5	0.4	0.1	0.6
Financial, insurance, real estate and business services	3.7 (1.1)	4.8 (1.3)	7.5 (1.8)	9.4 (2.2)	10.7 (2.5)	0.5	1.6	0.4	0.6
Community, social, and personal services	35.1 (10.5)	36.7 (10.0)	35.3 (8.5)	36.1 (8.4)	39.9 (9.2)	0.1	-0.2	0.1	1.1
Total	**334.4 (100.0)**	**367.0 (100.0)**	**415.7 (100.0)**	**427.4 (100.0)**	**434.4 (100.0)**	**0.2**	**0.4**	**0.1**	**0.1**

***Source* : Based on data from National Sample Survey Office (NSSO) different round reports and CSO.**

***Note* : Employment elasticity is calculated by CAGR method, Employment elasticity = (CAGR employment) / (CAGR GDP at FC constant 2004-05 prices) for the respective period. UPS- usual principal status**

India's Services Employment

7.17 The pattern of the sectoral share of employment has changed over the last two decades with the share of agriculture falling and of industry and services rising steadily. Services share in employment at 28.5 per cent in 2011-12 is higher than in industry at 24.4 per cent. Among the different services sectors, from 1993-94 to 2011-12, there was continuous increase in employment share in trade, hotels, and restaurants; transport, storage, and communication; and financial, insurance, real estate and business services. Employment share in community, social, and personal services has fallen continuously except in 2011-12 when there was an increase compared to 2009-10 and 2004-05. Employment elasticity has increased for both services and industry in 2009-10 to 2011-12 compared to 2004-05 to 2009-10, though industry had relatively higher employment elasticity. Among services, employment elasticity was the highest in 'financial, insurance, real estate, and business services' and 'transport, storage, and communication' (Table 7.5).

Major Services: Overall Performance

7.18 Some available indicators of the different services in India for 2014-15 show reasonably good performance of tourism, telecom, aviation, and railways (Table 7.6). Estimates of the Centre for Monitoring Indian Economy (CMIE) derived from limited firm-level data indicates improved performance in retail trading, aviation, telecom, and transport logistics. Other estimates like the HSBC's services PMI (Purchasing Managers Index) data indicate improvement in services sector growth in the current year as the reading was above 50 in all months since May 2014 and it was at 52.6 in November 2014, 51.1 in December 2014 and 52.4 in January 2015.

Table 7.6 : Performance of India's Services Sector: Some Indicators

Sector	Indicators	Unit	Period		
			2009-10	2013-14	2014-15
Aviation	Airline passengers (domestic and international)*	Million	77.4	103.7	(68.0)74.9#
Telecom	Telecom connections (wireline and wireless)[b]	Million	621.3	933.0	(910.1)964.2#
Tourism	Foreign tourist arrivals[a]	Million	5.2	7.0	7.5
	Foreign exchange earnings from tourist arrivals[a]	US $ billion	11.1	18.4	19.7
Shipping	Gross tonnage of Indian shipping[b]	Million GT	9.7	10.5	10.3@
	No. of ships[b]	Numbers	1003	1213	1209@
Ports	Port traffic	Million tonnes	850.0	975.7	(725.9)775.2@
Railways	Freight traffic by railways[c]	Million tonnes	887.8	1051.6	(767.2)806.4@
	Net tonne kilometres of railways[c]	Billion	600.5	665.8	(478.9)506.9@
Storage	Storage capacity	Lakh MT	106.0	105.6	103.1#
	No. of warehouses	Numbers	487	471	470#

***Sources*: Telecom Regulatory Authority of India (TRAI), Ministry of Tourism, Ministry of Shipping, Ministry of Railways, Directorate General of Civil Aviation, Central Warehousing Corporation.**

***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 and 2014-15 is on originating basis; * foreign airlines included for international passenger; # data is upto November 2014; @ data is upto December 2014; data in parentheses are for same period of 2013-14. GT=gross tonnage; MT=metric tonnes.**

Major Services: Sector-wise Performance And Some Recent Policies

7.19 This section includes some of the important commercial services for India based on their significance in terms of GDP, employment, exports, and future prospects. Some important services covered in other chapters have been excluded to avoid duplication.

Tourism

7.20 According to the World Travel and Tourism Council (WTTC), the US$ 7 trillion travel and tourism sector's contribution to world GDP increased in 2013 to 9.5 per cent, creating 4.7 million new jobs. This resulted in total employment in this sector of nearly 266 million, that is one in eleven jobs in the world. This sector is estimated to grow by 4.3 per cent in 2014 and generate 6.5 million new jobs. The latest World Tourism Barometer of the United Nation's World Tourism Organization (UNWTO) also shows that international tourist arrivals reached 1.1 billion in 2014, a 4.7 per cent increase over the previous year and for 2015 the forecast is a 3 to 4 per cent increase. France has the highest share in International tourist arrivals (ITAs) and the US in International tourism receipts (ITRs) in 2013. India's share in ITAs is a paltry 0.6 per cent compared to 7.8 per cent in France and 6.4 per cent in the US. Even Vietnam and Indonesia have higher shares than India. However, in terms of ITRs, India's share at 1.5 per cent is better than those of Vietnam and Indonesia though it is way below the share of the US at 14.5 per cent. Even in terms of growth, countries like Vietnam, Indonesia, Thailand and Turkey are ahead of India in 2013 (Table 7.7).

7.21 In India's National Accounts Statistics there is no separate heading for tourism. Some tourism activities like travel agent, tour operator, and other reservation activities are a part of the broad category administrative and support service activities and other professional activities. As per the Second Tourism Satellite Account of India (TSA), the contribution of tourism to total GDP

Table 7.7 : Tourism Performance: International Comparison in 2013

Country	International Tourist Arrivals			International Tourism Receipts		
	Numbers (in million)	Share (%)	Growth (%)	Value (US $ billion)	Share (%)	Growth (%)
France	84.7	7.8	2.0	56.7	4.7	5.6
US	69.8	6.4	4.7	173.1	14.5	7.4
Spain	60.7	5.6	5.6	60.4	5.1	7.3
Turkey	37.8	3.5	5.9	28.0	2.3	10.7
Thailand	26.5	2.4	18.8	42.1	3.5	24.6
Malaysia	25.7	2.4	2.7	21.5	1.8	6.4
Singapore	11.9	1.1	7.2	19.1	1.6	1.1
Indonesia	8.8	0.8	9.4	9.1	0.8	9.5
Vietnam	7.6	0.7	10.6	7.5	0.6	10.3
India	6.8	0.6	4.1	18.4	1.5	4.0
World	1087	100.0	4.8	1195	100.0	7.2

Source **: UNWTO.**

during 2012-13 was 6.9 per cent (3.7 per cent direct and 3.1 per cent indirect) and to total employment 12.4 per cent (5.3 per cent direct and 7.0 per cent indirect). After poor foreign exchange earnings (FEE) growth in dollar terms at 4.0 per cent, despite growing foreign tourist arrivals at 5.9 per cent, in 2013, there was an increase in growth of both foreign tourist arrivals (7.1 per cent) and FEEs (6.6 per cent) in 2014.

7.22 In Budget 2014-15, the government announced several measures for boosting tourism like streamlining of some service tax bottlenecks and focused effort for the development of a global-scale Buddhist circuit and cleaning of the Ganga along with creation of world class amenities to enhance the spiritual experience along the holy river. Further, easing of the Indian tourism visa regime through the execution of tourist visa on arrival enabled by electronic travel authorization (ETA) for forty-three countries will provide a major boost to tourism.

Some Transport-related Services

Shipping

7.23 Shipping is an important indicator of both commodity and services trade of any country. Around 95 per cent of India's trade by volume and 68 per cent in terms of value is transported by sea. As on 31 December 2014, India had a fleet strength of 1209 ships with gross tonnage (GT) of 10.3 million, with the public-sector Shipping Corporation of India (SCI) having the largest share of around 31 per cent. Of this, around 358 ships with 9.1 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 dead weight tonnage (DWT) is only 1.1 per cent as on 1 January 2014. In 2013, as per UNCTAD, India with 10.7 million twenty-foot equivalent units of container (TEUs) and a world share of 1.6 per cent ranked eighth among developing countries in terms of container ship operations.

7.24 India continues to be a leading ship-breaking destination. It topped the list of ship-recycling countries in 2014 (January to October) with a world share of 32 per cent, scrapping 234 ships of 7.98 million DWT as per the ISL Shipping Statistics and Market Review. India is also a major supplier of seafarers to the world. According to BIMCO/ISF Manpower Update 2010-2014, India supplied 60,000 crew (fresh seamen) and 44,500 officers in 2014.

7.25 The shipping sector has been plagued by economic hardships since 2008. In 2014, all segments of shipping saw intermittent spikes but

Table 7.8 : Some Performance Indicators of Ports in India

Indicators	2000-01	2010-11	2012-13	2013-14	(Apr. to Nov) 2014-15
Average turnaround time (days)	4.2	2.7	2.6 (0.0)	2.3 (-0.3)	2.1 (-0.1)
Average pre- berthing time (days)	1.2	0.5	0.5 (0.0)	0.3 (-0.2)	0.2 (-0.1)
Average output per ship berth day (in tonnes)	6961	9140	11786 (-1287)	12509 (723)	14326 (1817)

Source : **Ministry of Shipping.**
Note **: Changes from previous years are given in parentheses.**

there was no secular uptrend in any of them. Further, internationally deliveries of new ships are slated in 2015 which could dampen shipping freight rates even more. The Baltic Dry Index, the barometer of merchandise trade as well as shipping services, which had peaked to 11,793 on 20 May 2008 has been in the lower range since then and is in the red at 530 as on 13 February 2015.

7.26 There has also 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 9.1 per cent in 2012-13. The existing Indian fleet is also ageing, with the average age increasing from 15 years in 1999 to 17.7 as on 1 October 2014 (43.1 per cent of the fleet is over 20 years old and 10.7 per cent in the 16-19 age group). Thus there is urgent need to increase India's shipping fleet.

7.27 Recognizing the need to encourage the growth of Indian tonnage, several policy initiatives were taken which include allowing Indian shipping companies to acquire ships abroad and flag them in the country of their convenience; allowing access to cheaper finance abroad; exemption from customs and central excise duty leviable on bunker fuels used in Indian flag vessels for transportation of export and import items and on empty containers between two or more ports in India; and elimination of registration requirement of ship repair units (SRUs) with the Director General of Shipping.

Port Services

7.28 The cargo traffic of Indian ports increased by 4.5 per cent to 975.7 million tonnes in 2013-14 and by 6.8 per cent in (April-December) 2014-15 (see Chapter 6). In the Maritime Agenda, a target of 3130 million tonnes (MT) port capacity has been set for the year 2020 with around ₹ 2,96,000 crore investment. More than 50 per cent of this capacity is to be created in the non-major ports. FDI up to 100 per cent under automatic route is permitted for construction and maintenance of ports. In 2013-14, 16 public private partnership (PPP) projects were awarded at an estimated cost of ₹ 18,640.8 crore for capacity addition of 159.7 MT in the major ports comprising construction of berths and terminals and mechanization of existing berths.

7.29 The three ports-related performance indicators showed continued improvement with the average turnaround time and average pre-berthing detention time falling to 2.1 days and 0.2 day respectively and the average output per ship berth day improving to 14,326 tonnes in 2014-15 (April-November) (Table 7.8). The improvement in turnaround time and pre-berthing detention time could partly be due to mechanization and systemic improvements in ports and partly to lower volume handled in some ports on account of global downturn. However, the improvement in average output per ship berth day indicates that the performance parameters of Indian ports are also improving

Some Professional Services

IT and ITeS

7.30 Software development and information technology enabled services (ITeS) including business process management (BPM), software engineering R & D services and product development has emerged as one of the most dynamic and vibrant sectors in India's economy.

It is the single largest contributor to services exports. As per AT Kearney's Global Services Location Index 2014, India ranked first and remains the pre-eminent destination for offshore services, with excellence in IT, BPO, and voice services. The sector continues to be one of the largest employers in the country, directly employing nearly 3.5 million people as per the National Association of Software and Service Companies (NASSCOM).

7.31 As per the Central Statistics Office (CSO), computer and related services with a share of 3.3 per cent in India's GDP grew by 14.4 per cent in 2013-14. As per NASSCOM's estimate the revenue of the IT-BPM industry at US$119 billion grew by 12 per cent in 2014-15, while the export market at US$ 98 billion grew by 12.3 per cent over the previous year. The BPM sector is being driven by greater automation, expanding omni-channel presence, and application of analytics across the entire value chain. The year also witnessed hyper-growth in the technology start-up and software product landscape, India ranking as the fourth largest start-up hub in the world with over 3100 start-ups in the country. The domestic IT-BPM market is estimated at US$ 20.9 billion in 2014-15, with a growth of 10 per cent. Software products and services revenues for 2015-16 is projected to grow at 12-14 per cent to reach US$ 133-136 billion as per NASSCOM. Export revenues are projected to grow by 12 to 14 per cent to reach US$ 110-112 billion and domestic revenues by 10-15 per cent to reach US$ 23-24 billion during 2015-16.

7.32 Recognizing the need for greater penetration of IT services domestically, in Budget 2014-15 Digital India has been envisioned as an ambitious umbrella programme to prepare India for knowledge-based transformation. This would ensure broadband connectivity at village level, improved access to services through IT-enabled platforms, greater transparency in government processes and increased indigenous production of IT hardware and software. One of the important components of this programme is people's empowerment through availability of entitlements on the cloud, coupled with Aadhaar Authentification Platform. A National Rural Internet and Technology Mission for services in villages and schools and E-Kranti for government service delivery are other initiatives. Recognizing the importance of IT, the government's Make in India mission has included IT and BPM among the twenty-five focus sectors.

Research and Development Services

7.33 The Research and Development (R&D) sector has been growing consistently in double digits in the last few years with growth at 20.8 per cent in 2012-13 (old method). Professional, scientific and technical activities including R&D grew by 14.0 per cent in 2013-14 (new method). According to Global R&D Service Providers (GSPR) Rating 2014, a report by Zinnov Management Consulting, India's R&D globalization and services market is set to double by 2020 to US$ 38 billion. The study estimates the overall addressable R&D globalization and services opportunity at US$ 170 billion as of 2014. Currently only US$ 55 billion of this opportunity is addressed globally. India's share of the addressed market is 33 per cent with in-house R&D centers contributing US$ 11.3 billion worth of services to their parent companies.

7.34 According to the Global Competitiveness Report 2014-15, India's capacity for innovation has been lower than that of many countries like the USA, UK, South Korea, and even other BRICS countries (Brazil, Russia, India, China, and South Africa) except Russia (Table 7.9). Even in quality of scientific research institutions, India scores lower than China, Brazil, and South Africa. This is also exhibited through its poor score on university–industry collaboration on R&D as compared to some other BRICS 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 is far below China. Only in terms of availability of scientists and engineers, India scores better or is equal to other BRICS countries.

Table 7.9 : 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	5.5	4	5.8	2	5.3	5	149.8	11
UK	5.3	10	6.3	2	4.8	14	5.7	4	4.8	22	89.1	18
South Korea	4.7	24	5.0	27	4.5	20	4.6	26	4.4	42	201.5	8
South Africa	4.3	35	4.7	34	3.4	48	4.5	31	3.5	102	6.5	45
China	4.2	40	4.3	39	4.3	23	4.4	32	4.4	43	11.7	34
Brazil	4.1	44	4.0	50	3.5	43	3.8	54	3.3	114	3.2	50
India	4.0	48	4.0	52	3.8	30	3.9	50	4.4	45	1.5	61
Russia	3.8	66	4.0	56	3.2	62	3.6	67	4.1	70	7.1	41

***Source* : Global Competitiveness Report 2014-15, World Economic Forum.**

***Note* : PCT- Patent Cooperation Treaty.**

Consultancy Services

7.35 Consultancy services are emerging as one of the fastest growing services in India cutting across different sectors with some overlapping. According to Plunkett Research, global consulting industry revenues (including human resources [HR], IT, strategy, operations, management, and business advisory services) increased to an estimated $431 billion in 2014 compared to US$ 415 billion during the previous year. India's outsourcing and consulting industry is estimated at US$ 86.4 billion in 2014, accounting for almost 20 per cent of global consulting industry revenue, and is projected to reach US$ 99.0 billion in 2015.

7.36 India's emergence as one of the fastest growing consultancy markets worldwide is largely attributable to increased investment activities due to liberalization of FDI, entry of many new players into the Indian market and low cost sourcing. Indian consultants have good expertise particularly in engineering consultancy which could be leveraged to enhance consultancy exports.

Real Estate and Housing

7.37 Real estate and ownership of dwelling constitute 7.8 per cent of India's GDP in 2013-14. Both domestic and global slowdown affected this sector with growth decelerating from 7.6 per cent in 2012-13 to 6.0 per cent in 2013-14 and FDI in the real estate sector falling to US$ 703 million in the period April-November 2014.

7.38 House prices have increased over the years in many cities and towns as per the National Housing Bank's RESIDEX index of residential prices in India. In 2014, out of 26 cities, 17 witnessed increase in prices over 2013 with the maximum increase observed in Chennai (17 per cent) followed by Ahmedabad (15 per cent), while 7 saw decline, with the maximum fall witnessed in Meerut (-16 per cent) followed by Chandigarh (-8 per cent).

7.39 The widening gap between demand and supply of housing units and affordable housing finance solutions is a major policy concern for India. At present urban housing shortage is 18.8 million units of which 95.6 per cent is in economically weaker sections (EWS) / low income group (LIG) segments and requires huge financial investment to overcome. Institutional credit for housing investment is well below that in countries like China, Thailand, and Malaysia though growing at a CAGR of about 19 per cent per annum. Procedural delay is another major constraint in this sector. According to the World Bank's 'Doing Business 2015', India ranked 184th (out of 189 economies) in terms of construction permits, requiring on an average 27 procedures to get permits as compared to an average of 14 in South

Asia and 12 in OECD (Organization for Economic Cooperation and Development) countries.

7.40 Several policy initiatives taken in 2013-14 to help this sector include the amendment of the FDI policy, thereby reducing the minimum floor area to 20,000 sq. m from the earlier 50,000 sq.m and bringing down the minimum capital requirement to US$ 5 million from US$ 10 million. Budget 2014-15 also announced setting up of Real Estate Investment Trusts (REITs) and SEBI has approved the REITs regulation. In order to encourage savings, the deduction limit on housing loan interest for self-occupied property was also increased to ₹ 2 lakh from the earlier ₹ 1.5 lakh in Budget 2014-15. In order to push development of affordable housing and achieve the target of housing for all by 2022, the Reserve Bank of India (RBI) relaxed norms for issue of long-term bonds by banks for financing affordable housing.

Internal Trade

7.41 The ₹ 11,47,274 crore trade and repair services sector with a share of 11.0 per cent in GDP, grew by 14.3 per cent in 2013-14. Trade is the major item in this category as the share of repair services in this category is just 6-7 per cent. As per the AT Kearney's Global Retail Development Index (GRDI), India's retail trade ranking slipped further to twentieth in 2014 from fourteenth in 2013. The retail sector was affected in 2013 by high consumer price inflation, currency fluctuations, and strict FDI policies. However, India remains an attractive long-term retail destination for several reasons, including its large population, 58.3 per cent of which is below 30 years and 31.1 per cent of which lives in urban areas with rising disposable incomes. Migration from traditional stores to modern retail continues, though the latter accounts for only 8 per cent of the total market.

7.42 India's e-commerce market is expected to grow by more than 50 per cent in the next five years. Inventory management, logistics planning, and resource availability are important hurdles for online retail in India. Consumer safeguard being another concern for consumers of e-commerce, the government proposes including sufficient provisions in the ongoing amendment to the Consumer Protection Act 1986.

Media and Entertainment Services

7.43 The Indian media and entertainment industry comprises various segments which include television, print, films, radio, music, animation, gaming and visual effects, and digital advertising. According to a report by FICCI-KPMG, the Indian media and entertainment industry grew by 11.8 per cent to ₹ 918 billion in 2013 and is projected to grow at a CAGR of 14.2 per cent to reach ₹ 1786 billion by 2018. Digital advertising and gaming are projected to drive the growth of this sector in the coming years. With ₹ 18.4 billion inflows, this sector contributed 1.6 per cent of the total FDI inflows in India during April 2000-November 2014.

7.44 With 161 million TV households, India is the world's third largest TV market after China and the USA. There are about 826 satellite television channels, 86 teleports, 243 FM radio channels, and 179 community radio stations operating in India. India's broadcasting distribution network comprises 6000 multi system operators (MSOs), around 60,000 local cable operators (LCOs), and 7 direct to home (DTH) operators. The Government has embarked on an ambitious exercise of digitizing its cable network in four phases leading to complete switch off of analog TV services by 31 December 2016. India also has a liberalized FDI regime for the broadcasting sector where 26 per cent FDI is allowed in content and 74 per cent in various carriage services like DTH, HITS (headend in the sky).

7.45 India is emerging as the new favourite of international studios, with 100 per cent FDI permitted in the film sector. Disney, Fox, Sony, and Warner Brothers have entered into co-production and distribution deals with domestic production houses. India has co-production treaties with ten countries. During the year 2014-15 (till December 2014), the government has accorded permission for film shooting in India to twenty-one foreign production houses.

7.46 To sum up, the performance of the services sector in recent years has been reasonably good, despite the difficult international and domestic situation. However, the performance of different sectors varied.

Climate Change and Sustainable Development

08
CHAPTER

The year 2015 is likely to be momentous with the world set to witness new agreements on climate change and sustainable development. The global agreement on climate change under the UN Framework Convention on Climate Change applicable to all countries must be ambitious, comprehensive, equitable, and balanced, taking into account the huge development needs of developing countries including access to financial resources and low carbon technological options. In India, landmark environmental measures introduced in recent years reflecting actions both at national and sub-national levels are being further supplemented by policies in the light of new scientific findings and current needs.

8.2 The course for international development and environmental policy agenda for the global community for the next fifteen years is being decided in the year 2015. The negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) are expected to result in a global agreement by December 2015, applicable to all countries, to take action on climate change from 2020. Simultaneously, governments are due to agree on a new post 2015 development agenda including a set of Sustainable Development Goals (SDGs), replacing the Millennium Development Goals, which are coming to an end in 2015.

8.3 A major development attracting attention worldwide has been the Joint Announcement on Climate Change by the United States and China—the world's two largest emitters—in November 2014. As per this announcement, the US intends to achieve an economy-wide target of reducing its emissions by 26 -28 per cent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 per cent. China intends to achieve the peaking of carbon dioxide (CO_2) emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20 per cent by 2030. This has great political significance in the run-up to the post 2015 climate change agreement. The announcement is expected to provide a boost to the renewable energy sector globally.

8.4 Domestically, several measures have been taken to address climate change. Most importantly, India's national solar mission is being scaled up fivefold from 20,000 megawatts (MW) to 100,000 MW and the clean energy cess on coal has been doubled to ₹100/tonne in 2014.

Climate Change

Recent Scientific Findings from IPCC Fifth Assessment Report

8.5 The Intergovernmental Panel on Climate Change (IPCC) reviews and assesses the most recent scientific, technical, and socio-economic information produced worldwide relevant to climate change. The IPCC in its recent report—

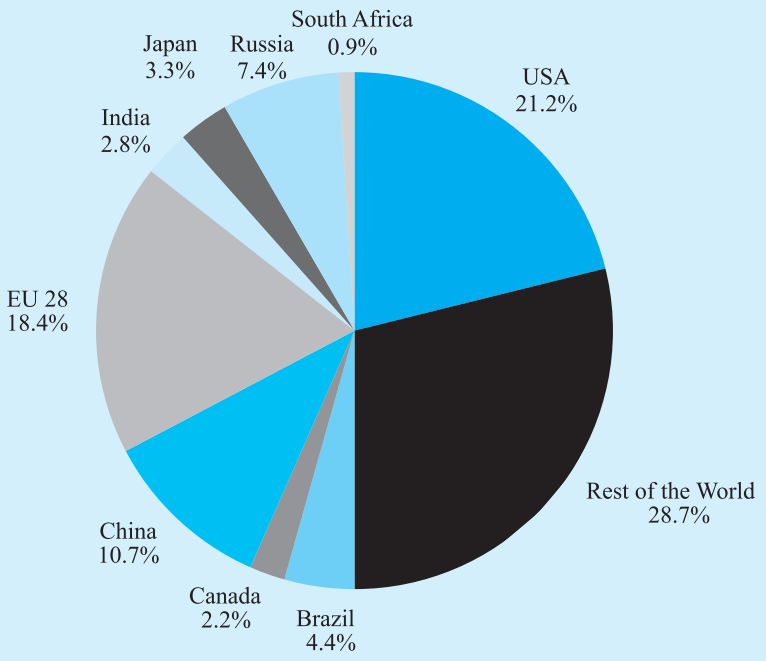
Fifth Assessment Report (AR5)—published in 2014 has observed that there has been an increasing trend in the anthropogenic emissions of greenhouse gases (GHG) since the advent of the industrial revolution, with about half of the anthropogenic CO_2 emissions during this period occurring in the last forty years.The period 1983-2012 is likely to have been the warmest thirty-year period of the last 1400 years. CO_2 emissions from fossil fuel combustion and industrial processes have contributed a major portion of total GHG emissions during the period 1970 - 2010.

8.6 The change in the climate system is likely to have adverse impact on the economy, livelihoods, cropping pattern, and food security. According to the various projections by the IPCC, extreme heat events are likely to be longer and more intense in addition to changes in precipitation patterns.The change in climate could affect the production of wheat, rice, and maize in the tropical and temperate zones; have negative impact on health by exacerbating health problems that already exist especially in developing countries; and adversely impact productive activities like growing food and working outdoors.

8.7 The ecological overshoot problem, i.e. the ecological footprint being larger than the bio-capacity of the population, is an important issue in the global climate discourse. The 'overshoot'can also be understood in terms of the carbon budget. The risk of climate change is largely a function of total cumulative GHGs in the atmosphere. IPCC AR5 has estimated that for temperature increase to remain below 2°C of pre-industrial levels the world can emit only about 2,900 Giga tonnes (Gt) of CO_2 from all sources from the industrial revolution till 2100. Till 2011, the world has emitted 1,900 Gt of CO_2, thus already consuming around two-thirds of this budget. This means that out of the budget of 2,900 Gt, only 1,000 Gt remains to be used between now and 2100. The World Resources Institute estimates that if emissions continue unabated, the remaining budget will last only 30 more years.

8.8 The key issue therefore for designing emission reduction commitment is how we should allocate this remaining sparse carbon budget between countries in a manner which is both fair and achievable. This certainly should involve an assessment of historic responsibility based on how

Figure 8.1: Contribution by Different Countries to Cumulative Global CO_2



Source **: Centre for Science and Environment and IPCC AR5.**

countries have contributed to cumulative emissions so far. India's contribution to cumulative global CO_2 (1850-2011) was a meagre 3 per cent as against 21 per cent by the USA and 18 per cent by the EU (Figure 8.1). The sustainability of the world economic system also needs to be analysed through the lens of social justice and equity. For developing countries, their future commitment will also be determined by what kind and level of financial, capacity-building, and other support is provided by developed countries that have contributed most to cumulative global GHG emissions so far.

8.9 There are multiple mitigation pathways that are likely to limit warming to below 2°C relative to pre-industrial levels. These pathways would require substantial emissions reduction over the next few decades and near zero emissions of CO_2 and other long-lived GHGs by the end of the century. Implementing such reductions poses substantial technological, economic, social, and institutional challenges.

Global GHG Emissions from Major Sectors and Countries

8.10 Since 2000 GHG emissions have been growing in all sectors, except agriculture, forestry, and other land use (AFOLU). Of the 49 (±4.5) $GtCO_2eq$ (CO_2 equivalent) emissions in 2010, 35 per cent were released in the energy supply sector, 24 per cent in AFOLU, 21 per cent in industry, 14 per cent in transport, and 6.4 per cent in buildings (Figure 8.2).

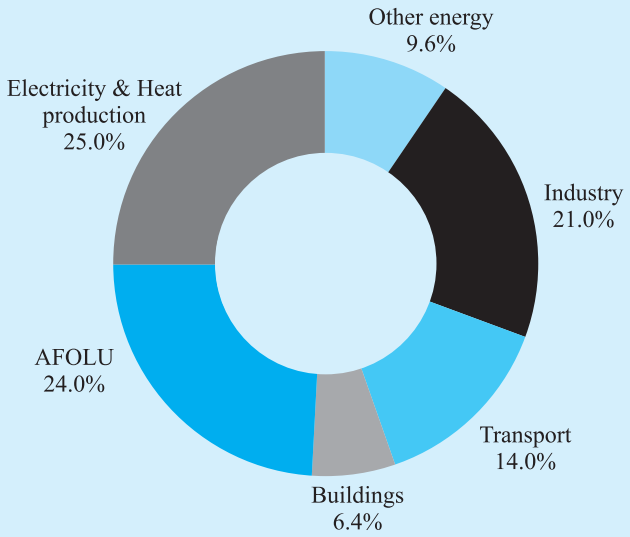
8.11 There are substantial variations in total and per capita emissions of different countries. As per AR5 of IPCC, per capita GHG emissions in 2010 were highly unequal with median per capita emissions for the group of low-income countries (1.4 t CO_2eq/cap) being 9 times lower than median per capita emissions of high income countries (13 t CO_2eq/cap). In terms of absolute CO_2 emissions from fossil fuel use and cement production in 2013, China, the USA, and EU hold the first three positions respectively with India a distant 4th (Figure 8.3). However, in terms of per capita CO_2 emissions from the same sectors in 2013, countries like India, Brazil, and South Africa fall in the bottom 100 among 196 countries (Figure 8.4).

India's Progress on Climate Change

National Action Plan on Climate Change

8.12 India was one of the early adopters of a national climate change plan. Launched way back in 2008, the National Action Plan on Climate Change (NAPCC) outlines policies directed at mitigation and adaptation to combat climate change. India is also working on the voluntary goal

Figure 8.2: Global GHG Emissions from Different Sectors in 2010



***Source* : IPCC, AR5.**

Figure 8.3: Absolute CO_2 Emissions of Some Major Countries

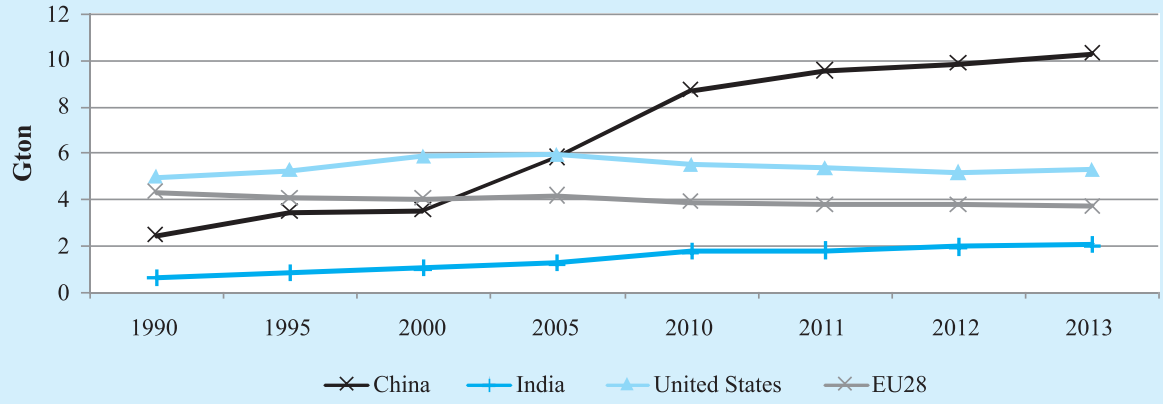
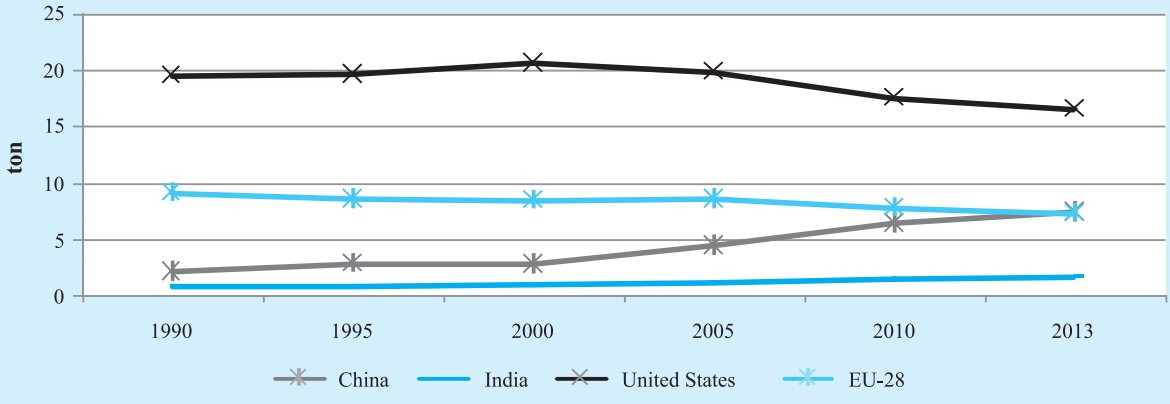


Figure 8.4: Per capita CO_2 Emissions of Some Major Countries



Source **: Trends in Global CO_2 Emissions 2014 Report, European Commission Joint Research Centre**
Note **: CO_2 emissions from fossil fuel use and cement production.**

of reducing the emissions intensity of its GDP (excluding emissions from agriculture) by 20-25 per cent by 2020 as compared to the base year of 2005. The recent United Nations Environment Programme (UNEP) Emission Gap Report (2014) has recognized India as being one of the countries on track to achieve its voluntary pledges. India is also taking proactive steps in enhancing energy efficiency and expanding renewables to combat climate change. At the same time adaptation measures in agriculture, water resources, and urban areas remain its key priorities.

8.13 India is now revisiting National Missions under the NAPCC in the light of new scientific information (IPCC AR5) and technological advances; undertaking additional interventions in areas like GHG mitigation in power generation, other renewable energy technology programmes, disaster management, protection of coastal areas, and the health sector; creating capacity at different levels of the government; exploring possibilities of new missions on wind energy, health, waste to energy, and coastal areas; and redesigning the National Water Mission and National Mission on Sustainable Agriculture.

State Action Plans on Climate Change

8.14 Subsequent to the NAPCC, in 2009 all the state governments were requested to prepare State Action Plans on Climate Change (SAPCC). So far, 31 states have prepared and submitted SAPCC documents. The SAPCCs have both adaptation and mitigation components to address climate change impacts, though adaptation has been identified as the more important element. A

combined budgetary requirement of around ₹ 11,33,692 crore has been estimated for implementation of the 31 SAPCCs.

Progress in Expanding the Share of Renewable Energy in India

8.15 India's total renewable power installed capacity as on 31 December 2014 has reached 33.8 GW. Wind energy continues to dominate this share accounting for 66 per cent of installed capacity, followed by biomass, small hydro power, and solar power. As per Census of India 2011, around 1.1 million households are using solar energy to meet their lighting needs and an almost similar number meets cooking energy needs from biogas plants. India's renewable energy sector is driven primarily by the private sector. The government has been promoting private investment in renewable energy through an attractive mix of fiscal and financial incentives, in addition to preferential tariffs being provided at state level. These include capital/interest subsidy, accelerated depreciation, and nil/concessional excise and customs duties. The level of capital subsidy being provided depends on the renewable resources and region, and varies from about 10 per cent to 90 per cent of project costs. The Jawaharlal Nehru National Solar Mission launched in January 2010 seeks to establish India as a global leader in solar energy by creating policy conditions for its diffusion across the country. Installed capacity of Indian solar power in 2013-14 was 2647 MW. As per Bloomberg New Energy Finance/UNEP report, in 2013, there was a total investment of US$ 6 billion in renewable energy in India. Proposals for the next five years are likely to generate business opportunities of the order of US$ 160 billion. It offers very good opportunity for businesses to set and scale up industry, leapfrog technologies, and create volumes. Some of India's major immediate plans on renewable energy include scaling up cumulative installed capacity to 170 GW that includes 100 GW of solar power by 2022 and establishing a National University for Renewable Energy.

Clean Energy Cess on Coal

8.16 One of the important instruments being proposed for dealing with climate change is the introduction of carbon taxes. However, very few countries in the world have introduced carbon taxes so far. India introduced a clean energy cess on coal in 2010. This cess on coal which feeds the National Clean Energy Fund (NCEF) has been increased from ₹ 50 to ₹ 100 per tonne in Budget 2014-15. Total collection so far (till 2014-15) under the Fund is ₹ 17,084.45 crore (Budget Estimates—BE) and 46 clean energy projects worth ₹ 16,511.43 crore have been recommended for funding out of the NCEF till September 2014 (Table 8.1). The scope of the NCEF has now been expanded to include funding in the area of clean environment initiatives.

Table 8.1 : Projects Recommended for NCEF Funding

Year	Number of Projects	Amount (₹ in crore)
2011-12	9	566.50
2012-13	6	2715.11
2013-14	12	1229.65
2014-15	19	12000.17
Total	46	16511.43

Progress in Adaptation Actions

8.17 India has also made progress in adaptation actions. The National Bank for Agriculture and Rural Development (NABARD) is India's National Implementing Entity (NIE) for the Adaptation Fund created under the UNFCCC. At present, NABARD is the only NIE in the Asia Pacific Region. In its capacity as NIE, NABARD has generated several feasible proposals on climate change adaptation, five of which, amounting to US$ 7.3 million, have been submitted to the Adaptation Fund. The Adaptation Fund Board has recently sanctioned the first set of two projects submitted by NABARD with an outlay of US$ 3.2 million for promoting climate resilient agriculture systems in West Bengal and enabling the fisheries sector in Andhra Pradesh.

8.18 Additionally, NABARD is implementing several development projects to promote sustainable development livelihood through Natural Resource Management, such as watershed development and sustainable livelihood for tribal communities. NABARD has sanctioned a pilot project of ₹ 21 crore on climate change adaptation in Maharashtra to develop knowledge, strategies, and approaches that will enable vulnerable communities to adapt to the impending impacts of climate change. Under NABARD Infrastructure Development Assistance, it is financing green investments in solar power generation and improvement of electricity distribution networks which includes India's first 1MW canal-top solar power project in Gujarat.

8.19 Further, as a follow-up of its announcement in Budget 2014-15, a 'National Adaptation Fund' with an initial corpus of ₹ 100 crore has been set up to support adaptation actions to combat the challenges of climate change in sectors like agriculture, water, and forestry.

Domestic Carbon Market Mechanisms

8.20 Simultaneously, there have been a number of actions on the domestic front to create carbon markets. An important one is the Perform, Achieve & Trade (PAT) scheme which is being implemented for the designated industries under the National Mission on Enhanced Energy Efficiency. The activities under the PAT scheme provide opportunities for new markets as it devises cost-effective energy efficient strategies for end-use demand-side management leading to ecological sustainability. The PAT scheme covers 478 plants (designated consumers) in eight energy-intensive industrial sectors accounting for one-third of total energy consumption. The target for reduction in average specific energy consumption under PAT is 4.05 per cent during PAT Cycle 1 (1 April 2012 to 31 March 2015). As a major initiative of the National Solar Mission under the NAPCC, renewable energy certificates (REC) seek to address the mismatch between availability of renewable energy sources and the requirement of the obligated entities to meet their renewable purchase obligations. The value of an REC is equivalent to 1 MW hour of electricity injected into the grid from renewable energy sources. As per the Renewable Energy Certificate Registry of India, a total of 16,58,593 solar RECs were issued till January 2015.

International State of Negotiations: Twentieth Session of the Conference of Parties to the UNFCCC

8.21 The just concluded twentieth session of the Conference of Parties to the UNFCCC (COP 20) in December 2014 in Lima, Peru, was an important milestone as it came out with a 'Lima Call for Climate Action' after long deliberations and intense negotiations (Box 8.1). With less than a year left to conclude the deal in Paris later this year, nations are working hard towards finalizing the agreement by December 2015 at the COP 21 session in Paris.

8.22 India's main concern in the negotiations was to protect its long term interests and emphasize the need for growth and development space to tackle the problem of eradicating poverty, providing energy access to all and address other developmental priorities. India's stand in the negotiations was guided by the principle of Equity and Common but Differentiated Responsibilities (CBDR) (Box 8.2).

International Climate Finance Flows

8.23 The UNFCCC squarely places the responsibility of providing climate finance to the developing countries on the developed countries. For this purpose a financial mechanism for the provision of financial resources on a grant or concessional basis, including for the transfer of technology, has been defined in Article 11 of the Convention.

8.24 The Global Environment Facility (GEF) is one of the two operating entities under the financial mechanism as per Article 11. It funds projects in energy efficiency, renewable energy, sustainable urban transport, and sustainable management of land use, land-use change and forestry and climate-smart agriculture. Recently, thirty donor countries pledged US$ 4.43 billion for the GEF-6 cycle (July 2014 – June 2018). India has received an allocation of US$ 130.58 million under this, of

Box 8.1 : Key Lima Outcomes

The UNFCCC negotiations focused on the finalization of elements of the draft negotiating text for the 2015 Paris agreement, identification of information to be submitted by Parties under the Intended Nationally Determined Contributions (INDCs), and enhancement of pre 2020 actions. Some of the important outcomes of the Lima Conference are the following:

- The Lima Conference has decided that the new agreement will be under the UNFCCC and will reflect the principle of CBDR in the light of different national circumstances. It also addresses all elements, i.e. mitigation, adaptation, finance, technology development and transfer, capacity building, and transparency of action and support in a balanced manner.
- The draft text has to be finalized by May 2015 in order to be placed for consideration and adoption of Parties at COP 21.
- Another key decision was that countries should not backslide from current pledges under the INDCs and their contribution has to be more than their current commitments. The final decision successfully ensured that countries can include adaptation, finance, technology development and transfer, capacity building, and transparency of action and support also in their INDCs, in addition to mitigation. There is also no 'ex-ante assessment' to be undergone.
- Now countries have to submit quantifiable information on the reference point (base year), time frames, scope and planning process, assessments, etc. related to the INDCs. This will be published on the UNFCCC website and a Synthesis Report of the aggregate effect of the INDCs prepared by 1 November 2015.
- It was decided to accelerate action on enhancing the pre-2020 actions like early ratification of the Kyoto Protocol second commitment period, revisiting of targets and conditionalities associated with it, and provision of finance, technology, and capacity building support by developed countries to developing countries.
- On the issue of finance, developed countries have been invited to provide clarity on reaching the US$ 100 billion goal by 2020, by way of enhanced information and greater transparency and predictability for scaling up climate finance. On the Green Climate Fund (GCF), pledges amounting to US$ 10.2 billion for initial capitalization of the Fund have been acknowledged. It was further decided to urge contributors to confirm these pledges in the form of fully executed contribution agreements so that at least 50 per cent of pledges made till November 2014 are reflected as fully executed contribution agreements by 30 April 2015.

which US$ 87.88 million is for climate change mitigation focal area. Till date, India has accessed US$ 477.3 million of GEF grant of which US$ 284.2 million is for climate change mitigation projects and US$ 10 million is for climate change adaptation projects. The GEF also manages two separate adaptation-focused funds under the UNFCCC— the Least Developed Countries Fund and the Special Climate Change Fund— which mobilize funding specifically earmarked for activities related to adaptation.

8.25 The GCF is also an operating entity of the financial mechanism of the Convention set up in 2011. The GCF is expected to become the major channel of mobilizing a significant share of the US$ 100 billion climate finance from developed to developing countries in the coming years, helping the latter in their efforts to combat climate change and adjust their development pathways to a more climate-friendly one. Significant progress has been made towards operationalizing the GCF. Some of the breakthrough decisions adopted include: 50:50 allocation for mitigation and adaptation over time; maximizing engagement with the private sector through a special Private Sector Facility of the Fund; and the intention of defining the Fund's gender action plan soon. As of date, US$ 10.2 billion in grants has been pledged to the GCF. The GCF is currently structured into two themes— mitigation and adaptation and one modality which is the Private Sector Facility. With this, the GCF is now ready for business.

Box 8.2 : Climate Change Issues: India's Stand

India has been following action-oriented policies to bring rapid development to its people while purposefully addressing climate change. India has been one of the foremost advocates of long-term global cooperation in combating climate change in accordance with the principles and provisions of the UNFCCC. Climate change impacts being witnessed today are a result of the total accumulated greenhouse emissions for which the major responsibility lies with the developed nations. Moreover, despite the fast growth registered by some of the developing countries, a large proportion of people in these countries still live in extreme poverty. The Indian stance in the climate change negotiations has been guided by the principle of CBDR. India thus believes that the climate change agreement of 2015 should take into consideration a whole gamut of issues including adaptation, finance, technology development and transfer, capacity building, transparency of action and support in a balanced manner, and loss and damage in addition to mitigation.

Mitigation: Historical responsibilities of developed countries and equity in access to global atmospheric resources should continue to be the basis of defining mitigation commitments. The 2015 agreement must ensure that the developing countries be given their fair share of carbon and development space. The contribution of developing countries to mitigation efforts is far greater than that of developed countries and could be further enhanced if developed countries effectively implement and significantly increase their commitments of providing finance, technology, and capacity building support to developing countries.

Adaptation: Equal weightage has to be given to adaptation as it is essential for reducing vulnerabilities of communities to climate change. This assumes more importance in view of the fact that the developing countries are the most vulnerable to climate change. However, both global action and finance flows have been biased in favour of mitigation. The developing countries are pushing hard to include adaptation in a comprehensive and balanced manner in the 2015 agreement.

Finance: The responsibility of providing financial assistance to the developing countries lies with the developed countries and this has been clearly articulated in the UNFCCC. India together with other developing countries continue to urge the developed countries to honour their obligation to provide new, additional, and predictable financial support to developing countries in a measurable, reportable, and verifiable manner. In this context ambitious capitalization of the GCF assumes significance. Developed countries have been urged to provide clear timelines and pathways to reach the US$ 100 billion annual commitment made by them in 2010.

Technology transfer: Technology forms a major component of any move towards combating climate change. The important issue in this regard is that while the developed countries are the frontrunners in clean technology, the developing countries do not possess either sufficient technical capability or the financial resources to develop clean technologies. Appropriate mechanisms for smooth transfer of technology from the developed to developing countries have to be agreed upon. The intellectual property rights price-tag should not come in the way of such technology transfer.

8.26 The GCF follows a 'country-driven approach', which envisages effective involvement of various stakeholders at all levels and also enables the developing countries to evolve their climate policy keeping in consideration their immediate development priorities like poverty reduction and improving standards of living for a large proportion of their population. The effectiveness with which a country is able to tap the resources from the GCF and use them effectively is dependent on how well the country's government and its various institutions have prepared themselves to access the Fund. The first step is building the institutional capacity of the country. India has moved forward in this regard by selecting the Ministry of Environment, Forests and Climate Change as India's Nationally Designated Authority (NDA) for the GCF, which will recommend to the Board of the GCF funding proposals in the context of national climate strategies. The next step is to select competent NIEs which will be accredited by the GCF Board and will oversee the implementation of the project by the Executing Entities. Given the country-driven approach of the GCF, the onus also lies on the recipient countries to decide how to use the resources accessed from the GCF. This calls for prioritizing the sectors and projects that will yield maximum sustainable development benefits for India. Currently efforts are under way by the

government to build India's institutional capacity including the selection of NIEs and an overall framework for effectively accessing resources from the GCF.

International Carbon Markets

8.27 India's participation in the carbon market is a story of success. India has been proactive in its approach to the carbon market and represents a significant component of the global market of the Clean Development Mechanism (CDM) established under the Kyoto Protocol. As on 1 December 2014, 1541 of the total 7589 projects registered by the CDM Executive Board are from India. This so far is the second highest in the world with China leading with 3763 registered projects. The total certified emission reductions (CER) issued so far are 1.52 billion units, and CERs issued to Indian projects are 191 million units (13.27 per cent). Also, as on 31 December 2014, the National CDM Authority in India has accorded approval to 2941 projects facilitating an investment of more than ₹ 5,79,306 crore in the country. These projects are in the sectors of energy efficiency, fuel switching, industrial processes, municipal solid waste, renewable energy, and forestry.

8.28 In the second commitment period of the Kyoto Protocol (2013-2020), the number of CDM projects has come down drastically. In 2012, there were 3227 projects registered with the UNFCCC and in 2013 only 307 projects were registered under the CDM. Interestingly, in 2013 India has registered 115 projects, which is the highest number by any country. In 2014, India registered 56 projects with the UNFCCC.

8.29 Although international dialogue continues to intensify focus on a robust and meaningful international climate change agreement in 2015, the lack of mitigation ambition in the pre-2020 period continued to slow down the momentum in the international market-based mechanisms. In fact, Parties participating in the second commitment period of the Kyoto Protocol represent only 12 per cent of global emissions. Some major players pulled out of the Kyoto Protocol, which has further suppressed the limited demand of Kyoto credits. As per a World Bank Group report, the current demand is estimated to be around 1120-1230 megatons of CO_2 equivalent ($MtCO_2e$), as against a supply of 3500-5400 $MtCO_2e$ for 2014-2020, around three to five times the expected demand.

8.30 Proposals to augment the demand for carbon credits and a price stabilization mechanism are being negotiated. This includes proposals to create new market mechanisms within and beyond the Kyoto Protocol within an appropriate framework. While the CDM will continue to function during the period from 2013 to 2020, the manner in which it will get subsumed within these new mechanisms for an effective carbon market is to be seen (Box 8.3).

SUSTAINABLE DEVELOPMENT

8.31 Planetary boundaries in terms of sustainable development can be understood in terms of ecological footprint which is suggestive of the pressure human activities put on ecosystems, which when compared to bio capacity (a measure of the capacity of ecosystems to produce useful biological materials and to absorb waste materials generated by humans) tells us if we are running in surplus or deficit. Data shows that the world is living in a situation of ecological overshoot. In 2010, the global ecological footprint was 18.1 billion global hectares (gha), or 2.6 gha per capita, and the earth's total bio capacity was 12 billion gha, or 1.7 gha per capita, as per the Living Planet Report 2014. Bio capacity is not spread evenly around the world. Unfortunately the low-income countries have the smallest footprint but suffer the greatest ecosystem losses. Moderate UN scenarios suggest that if current population and consumption trends continue, by the 2030s we will need the equivalent of two earths to support us.

8.32 As per a McKinsey report, India is at the threshold of an urban flare-up. The population of Indian cities will increase from 340 million in 2008 to 590 million by 2030. In the 2030s India's largest cities will be bigger than many major countries. As population increases, demand for every key service will increase five to sevenfold. These trends,

Box 8.3 : CDM and the Future of Carbon Markets

The CDM, a type of carbon market created multilaterally under the UNFCCC, has proved to be one of the most effective mitigation instruments. Though lack of mitigation ambition in the pre-2020 period has slowed down its momentum, efforts to harness the full potential of the CDM, the world's largest global carbon market, are picking up. Many developing countries including India have greatly benefited from and contributed to the emission reduction initiative through the CDM. While countries look for a new market mechanism, there are strong reasons to build on the powerful CDM tool for the reasons given in Table 1. The CDM Board has also agreed to a budget that will allow CDM operations to continue upto 2020.

Table 1 : CDM-related facts

Emissions reduced or avoided	-	1.5 Gt of CO_2eq
7700 + projects and programme of activities registered in less than 10 years	-	Average of over 2 projects per day
1 US$ of public money invested in the CDM on average leverages	-	10 US$ in private-sector investment
US$ 130 billion investment in GHG-reducing activities	>	Total annual ODA flow in 2011
Money saved by EU Emissions Trading Scheme installations from 2008 to 2012 through CER purchased	=	US$ 6 - 28 billion
155 countries involved in the CDM	=	Over three-fourths of the countries in the world

***Source*: UNFCCC; State and Trends on Carbon Pricing, World Bank 2014.**

Apart from the CDM, the reach of carbon pricing across the globe is steadily increasing. As per a World Bank Group report, a total of eight new carbon markets opened their doors in 2013 alone. With these new instruments, the world's emissions trading schemes are worth about US$30 billion.With a global climate deal set to be finalized in 2015 and substantial incremental finance required to tackle the climate problem, carbon markets and pricing are expected to play a key role in controlling emissions. New approaches to market-based mechanisms are being developed to help fast-track their deployment and maximize investment in low carbon technologies. These are being termed as reformed CDM, or New Market Mechanisms.

These developments are likely to help India, as till now limited options were available to Indian CDM project developers who had to sell at prevailing prices. With Indian-registered projects expected to generate substantial CERs by 2020, Indian CER holders are now looking forward to selling their CERs once the carbon markets pick up.

combined with the current challenges of poverty eradication, food and energy security, urban waste management, and water scarcity, will put further pressure on our limited resources which will add to greater energy needs and lead to increase in emissions if further decoupling doesn't take place. At the same time, hidden in this challenge are great opportunities. Unlike many countries, India has a young population and therefore can reap the fruits of its demographic dividend. With more than half of the India of 2030 yet to be built, we have an opportunity to avoid excessive dependence on fossil fuel-based energy systems and carbon lock-ins that many industrialized countries face today. A conscious policy framework which takes into account both development needs and environmental considerations could help in turning the challenges into opportunities.

8.33 There has been a growing political drive towards the post 2015 development agenda due for agreement in September 2015. In this direction, the thirty-member Open Working Group mandated by the Outcome Document—"The Future We Want"—of the UN Conference on Sustainable Development (Rio+20) held in June 2012 at Rio came out with a set of 17 SDGs in July 2014 (Box 8.4). The SDGs cover a broad range of sustainable development issues and also focus on means of implementation as one of the overarching goals to achieve the SDGs. These are expected to be integrated into the UN's post-2015 Development Agenda. At present, the post-2015 agenda and SDG processes are moving rapidly towards their conclusion this year.

Box 8.4 : SDGs

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable, and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient, and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

8.34 On the domestic front, India has been working towards environmental safety without compromising on the goal of rapid economic growth. Accordingly, India's development plans lay a balanced emphasis on economic development and the environment. The country has witnessed the introduction of landmark environmental measures for conservation of rivers, improvement of urban air quality, enhanced forestation, significant increase in installed capacity of renewable energy technologies, shift towards public transport, and enhancing rural and urban infrastructure. Recent key initiatives include: the Swachh Bharat Mission, Clean Ganga Plan, scaling up of the National Solar Mission fivefold from 20,000 MW to 1,00,000 MWwith an additional investment requirement of US$ 100 billion, development of 100 smart cities with integrated policies for sustainable development, and preparations for developing a National Air Quality Index and a National Air Quality Scheme.

8.35 To sum up, political awareness on the issue of climate change and sustainable development both in the international arena and on the domestic front has risen considerably. Many developing countries including India have made considerable progress in tackling climate change issues. The year 2015 is likely to witness a series of events in the run up to the Paris agreement. As we put our acts together towards a post-2015 agreement on climate change, it is absolutely critical to ensure that the new agreement is comprehensive, balanced, equitable, and pragmatic. It should address the genuine requirements of developing countries like India by providing them equitable carbon and development space to achieve sustainable development and eradicate poverty. To achieve this, adherence to the principles and provisions of the UNFCCC is critical. Importantly, global climate action rests heavily on the means of implementation, especially finance and technology, and the agreement should adequately address this. As India's Prime Minister Shri NarendraModi said in the UN General Assembly in September 2014, "We should be honest in shouldering our responsibilities in meeting the challenges. The world community has agreed on a beautiful balance of collective action—common but differentiated responsibilities. That should form the basis of continued action."

Social Infrastructure, Employment, and Human Development

09 CHAPTER

Growth with equity has been the focus of Indian economic policy since the 1960s. By 2020, India is projected to be the youngest nation in the world in terms of size. While this 'youth bulge' provides India great opportunities, it also poses challenges. These young people need to be healthy, suitably educated, and appropriately skilled to contribute optimally to the economy. Despite global shocks, India has not compromised on expenditures on welfare activities, especially for the vulnerable population. The success of programmes and policies of the government lies in the strength of institutional structures with strong public delivery systems as well as in the attitudes and mindset of the people. To ensure conversion of outlays into outcomes the role of Panchayati Raj institutions is crucial. Though significant outcomes have been achieved in the areas of poverty reduction, health, and education, more remains to be done. Government, along with civil society, media, and other stakeholders, must work towards changing the patriarchal mindset of society and empowering women to realize their untapped potential and fulfil their aspirations.

9.2 As per provisional results of Census 2011, 2001-11 is the first decade in independent India where in the population momentum coupled with declining fertility has dampened the pace of net additions to population. Thus, the net addition (between 2001-2011) is less than that of the pervious decade by 0.86 million. At present a little more than one out of every six persons in the world is an Indian. As per Sample Registration System (SRS) (2013) data, there has been a gradual decline in the share of population in the age group 0-14 from 41.2 to 38.1 per cent during 1971 to 1981 and from 36.3 to 28.4 per cent during 1991 to 2013. On the other hand, the proportion of economically active population (15-59 years) or, India's 'demographic dividend', has increased from 53.4 to 56.3 per cent during 1971 to 1981 and from 57.7 to 63.3 per cent during 1991 to 2013. On account of better education, health facilities, and increase in life expectancy, the percentage of elderly (60+) has gone up from 5.3 to 5.7 per cent and 6.0 to 8.3 per cent respectively in the same two periods.

9.3 The growth rate of the labour force will continue to be higher than that of the population until 2021. According to an Indian Labour Report (Time Lease, 2007), 300 million youth will enter the labour force by 2025, and 25 per cent of the world's workers in the next three years will be Indians. Population projections indicate that in 2020 the average age of India's population will be the lowest in the world—around 29 years compared to 37 years in China and the United States of America, 45 years in West Europe, and 48 years in Japan. Consequently, while the global economy is expected to witness a shortage of

young population of around 56 million by 2020, India will be the only country with a youth surplus of 47 million (Report on Education, Skill Development and Labour Force (2013-14) Volume III, Labour Bureau, 2014).

9.4 The main issue to address then is not just providing employment but increasing the employability of the labour force in India. Employability is contingent upon knowledge and skills developed through quality education and training. Thus any solution to the problem lies in a well-designed education and training regime that sets out to meet these objectives. The problem of low employability levels owing to poor quality of education is accentuated by the fact that fewer students opt for higher education.

Educational Challenges

9.5 While only 73 per cent literacy has been achieved as per Census 2011, there has been marked improvement in female literacy. Male literacy at 80.9 per cent is still higher than female literacy at 64.6 per cent but the latter has increased by 10.9 percentage points compared to 5.6 percentage points for the former. The Right of Children to Free and Compulsory Education (RTE) Act 2009 was enacted by the centre to increase the quality as well as accessibility of elementary education in India in April 2010. Sarva Shiksha Abhiyan (SSA) is the designated scheme for implementation of the RTE Act. The framework of the SSA has been revised to include reimbursement for expenditure incurred for at least 25 per cent admissions of children belonging to disadvantaged and weaker sections in private unaided schools from the academic year 2014-15. Between 2007-08 and 2013-14, according to the DISE (District Information System for Education), total enrolment in primary schools increased from 134 million to 137 million in 2011-12 and then declined to 132 million in 2013-14 while upper primary enrolment grew from 51 million to about 67 million. This is in line with the changing demographic age structure. India has achieved near universal enrolment and enhanced hard and soft infrastructure (schools, teachers, and academic support staff).

9.6 However, the overall standard of education is well below global standards: that PISA (Programme for International Student Assessment) 2009+ results ranked Tamil Nadu and Himachal Pradesh 72 and 73 out of 74 participants, higher only than Kyrgyzstan, exposes the gaps in our education system. PISA, which measures the knowledge and skills of 15-year-olds with questions designed to assess their problem-solving capabilities, rates these two states at the bottom, with the scores in mathematics and science falling way behind the OECD (Organisation for Economic Cooperation and Development) average. Shanghai-China tops the rankings followed by Singapore, while the Russian Federation is ranked at thirty-eighth position. "Countries where students near the end of compulsory schooling perform at high levels tend to maintain their lead after these students transition from school into young adulthood…There is considerable scope for post-secondary education and training systems, as well as workplaces, to intervene to improve the proficiency of young people who leave school with poor literacy and numeracy skills." Clearly, the policy prescription lies in shifting attention away from inputs to outcomes and focusing on building quality education and skill development infrastructure (Box: 9.1). India did not participate in PISA 2012.

9.7 ASER (Annual Status of Education Report) findings have been reporting low levels of learning amongst the 5 to 16 age group in rural India since 2005. The worrying fact is that these are floor-level tests (basic 2-digit carry-forward subtraction and division skills), without which one cannot progress in the school system.

9.8 With the changing demography and declining child population, the inadequacy of human capital at the base of the pyramid leading to a huge backlog in basic skills could become a big impediment in India's growth. The Padhe Bharat Badhe Bharat initiative to create a base for reading, writing, and math fluency is a good step. However,

Box 9.1 : School Education Outcomes : Critical Inputs for tapping the Demographic Dividend

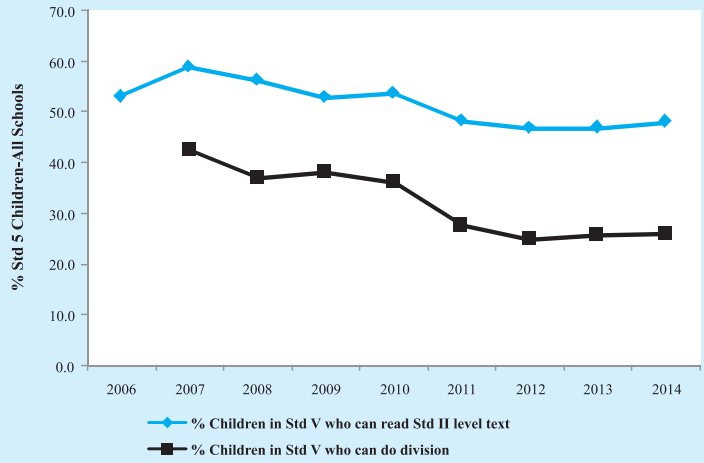
i. The single most significant ASER finding is that learning levels across the country, whether in public or private school, have not improved (Figure 9.1).

ii. Another important finding is regarding school enrolment—from only 16 per cent children enrolled in private schools in 2005, enrolment has gone up to nearly 30 per cent. Present trends indicate that this number will increase to 50 per cent by the end of the current decade. During 2007-08 and 2013-14, enrolment in government schools (both primary and upper primary) declined by about 11.7 million, from 133.7 million to 121 million, while enrolment in private schools increased by 27 million, from 51 million to 78 million. It is a moot point whether the poor learning levels in government schools have contributed to this. Paradoxically this trend is observed in rural areas, which receive funding under the SSA and other programmes.

iii. Some highlights of the survey of rural children conducted in 16,497 villages in 557 districts (569,229 children surveyed), are listed below:

- **Marginal improvement in basic reading levels:** The percentage of children in Standard V who are able to read a Standard II-level text increased from 47.0 per cent in 2013 to 48.1 per cent in 2014.
- **Decline in arithmetic levels:** The percentage of Standard III children able to solve simple two-digit subtraction problems fell from 26.1 per cent in 2013 to 25.3 per cent in 2014. The percentage of children in Standard II who cannot recognize numbers up to 9 has increased over time, from 11.3 per cent in 2009 to 19.5 per cent in 2014.
- **Better provision of girls toilets:** The proportion of schools without toilets (girls + boys) declined from 7.2 per cent in 2013 to 6.3 per cent in 2014. The proportion of separate girls toilets (unlocked and useable) in schools has improved from 32.9 per cent in 2010 to 53.3 per cent in 2013 and further to 55.7 per cent in 2014.
- **Increase in libraries in schools:** The proportion of schools without libraries has declined only one percentage point from 22.9 per cent during 2013 to 21.9 per cent during 2014.
- **Compliance on pupil-teacher ratio:** There has been a consistent rise in the proportion of schools complying with RTE norms on pupil-teacher ratio, from 45.3 per cent in 2013 to 49.3 per cent in 2014.
- **Improvement in drinking water facility:** The proportion of schools with no provision for drinking water declined from 17.0 per cent in 2010 to 15.2 per cent in 2013 and further to 13.9 per cent in 2014 but the proportion of schools with useable drinking water facility improved only marginally from 73.8 per cent in 2013 to 75.6 per cent in 2014.
- **Stagnant enrolment in rural India:** Over one year the enrolment of 6-14-year old children in rural India remained dormant at 96.8 per cent, with the proportion not enrolled also unchanged at 3.3 per cent.
- **Rising private school enrolment:** Private school enrolment of 6-14-year olds has risen marginally from 29.0 per cent in 2013 to 30.8 per cent in 2014. Among the major States which have higher private enrolment are Kerala followed by Haryana, UP, Punjab, and Rajasthan.
- **Decline in classroom-teacher ratio (CTR):** The steady decline in the percentage of schools meeting the RTE norm for CTR continued; from 73.8 per cent in 2013 the ratio further declined to 72.8 per cent in 2014.
- **Decline in attendance:** Children's attendance in both primary and upper primary schools shows a steady downward trend. In 2009, attendance was at 74.3 per cent in primary schools and 77 per cent in upper primary schools as compared to 71.4 per cent and 71.1 per cent respectively in 2014.
- **Same classroom for different classes:** In 2014, Standard II students in about 63 per cent of schools and Standard IV students in about 57 per cent of schools were reported to be sitting with one or more other classes; the percentages have been increasing over the years.

Figure 9.1: Reading and Arithmetic Abilities of Children in Standard V ASER 2007-2014: All India Rural



***Source*: Annual Status of Education Report (Rural) 2014 – Provisional Results**

for it to be fruitful, it is critical that the local administration is fully involved and sensitized.

9.9 While the RTE Act and the Juvenile Justice Act 2000 were promulgated to bring children into education rather than employment, they have allowed youth in the 15-18 age-group to slip through the cracks. India has about 100 million young people who fall in this category. Since there are educational and age requirements for entry into most vocational skilling programmes, and job placements are not possible before age 18, the vast majority of this population could land up in the unorganized sector. There is need for research into the type of knowledge or skills required to address the opportunity gaps and to improve productive capacity in the unorganized sector.

9.10 Concurrently, to build capacity in secondary schools on par with expanded primary enrolments, several schemes like the Mid-Day Meal (MDM) scheme, Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Model School Scheme (MSS), and Saakshar Bharat (SB)/ Adult Education have also been implemented. The focus of SB is female literacy. Inter alia, the lack of trained teachers compounds the problem. To strengthen the cadre of teacher educators by providing early career choice to prospective teachers and to fill the vacancies in teacher education institutions, a new four-year integrated programme, i.e. BA/BEd. and BSc./BEd. has been introduced.

9.11 The Indian higher education system is one of the largest in the world in terms of the number of colleges and universities. From 350 universities and 16,982 colleges in 2005-06, the numbers have gone up to 713 universities, 36,739 colleges, and 11,343 diploma-level institutions in 2013-14. There is need to match the supply with demand and to dovetail education policy to employment opportunities. Therefore, higher education needs to be futuristic and envision areas that will generate future employment opportunities and accordingly offer suitable courses for students. The gross enrolment ratio (GER) in higher education has nearly doubled from around 11.6 per cent in 2005-06 to 21.1 per cent in 2012-13 (Provisional), with 29.6 million students enrolled in 2012-13 as compared to 14.3 million in 2005-06. However, the lower penetration into higher levels of education leads to higher dropouts, especially among the secondary and upper primary students, consequently to accumulation of less educated and less skilled job seekers at the bottom of the pyramid. The percentage educated also falls progressively with higher levels of education.

Employment Matters

Skilling the Youth

9.12 There is a dual challenge here of developing skills on the one hand and using skills on the other since skills that are not used are lost. As per the Labour Bureau Report 2014, the current size of India's formally skilled workforce is small, approximately 2 per cent. This number contrasts poorly with smaller countries like South Korea and Japan that report figures of 96 and 80 per cent respectively. At all-India level around 6.8 per cent persons aged 15 years and above are reported to have received/ be receiving vocational training.

9.13 As per studies conducted by National Skill Development Corporation (NSDC) for the period between 2013 and 2022, there is an incremental requirement of 120 million skilled people in the non-farm sector. The current capacity for skilling is grossly inadequate and needs to be speedily scaled up to meet immediate skill needs of the country. The poor skill levels among India's workforce are attributed to dearth of a formal vocational education framework, with wide variation in quality, high school dropout rates, inadequate skills training capacity, negative perception towards skilling, and lack of 'industry-ready' skills even in professional courses (Labour Bureau Report 2014). Some recent initiatives that aim to enhance access, equality, quality, innovation, etc. in the area of higher and vocational education are the Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Technical Education Quality Improvement Programme (TEQIP), and National Skill Qualification Framework (NSQF).

9.14 A dedicated Department of Skill Development and Entrepreneurship has been created under the Ministry of Skill Development, Entrepreneurship, Youth Affairs and Sports to accord focused attention in this area. In addition, the skilling programme for rural youth has been refocused and reprioritized to build the capacity of poor rural youth to address domestic and global skill requirements. The Deen Dayal Upadhyaya Grameen Koushalya Yojana (DDU-GKY) is a placement-linked skill development scheme for poor rural youth. A total of 51,956 candidates have been skilled under the DDU-GKY, of which 28,995 have been placed till November during 2014-15.

9.15 Other new programmes that aim at bringing minorities into mainstream development include Nai Manzil for education and skill development of dropouts; USTTAD (Upgrading Skills and Training in Traditional Arts/Crafts for Development) to conserve traditional arts/crafts and build capacity of traditional artisans and craftsmen belonging to minority communities; Nai Roshni, a leadership training programme for women; and MANAS for upgrading entrepreneurial skills of minority youths.

Sluggish employment growth

9.16 A cause for concern is the deceleration in the compound annual growth rate (CAGR) of employment during 2004-05 to 2011-12 to 0.5 per cent from 2.8 per cent during 1999-2000 to 2004-05 as against CAGRs of 2.9 per cent and 0.4 per cent respectively in the labour force for the same periods. As per the National Sample Survey Office (NSSO) data during 1999-2000 to 2004-05, employment on usual status (US) basis increased by 59.9 million persons from 398.0 million to 457.9 million as against the increase in labour force by 62.0 million persons from 407.0 million to 469.0 million. After a period of slow progress during 2004-05 to 2009-10, employment generation picked up during 2009-10 to 2011-12, adding 13.9 million persons to the workforce, but not keeping pace with the increase in labour force (14.9 million persons) (Table 9.1). Based on current daily status (CDS), CAGR in employment was 1.2 per cent and 2.6 per cent against 2.8 per cent and 0.8 per cent in the labour force respectively for the same periods.

Table 9.1 : Employment and Unemployment Scenario in India

Method	1999-2000	2004-05	2009-10	2011-12
Persons in the labour force (in millions)				
US	407.0	469.0	468.8	483.7
CDS	363.3	417.2	428.9	440.4
Persons and person days employed (in millions)				
US	398.0	457.9	459.0	472.9
CDS	336.9	382.8	400.8	415.7
Unemployment rate (in per cent)				
US	2.2	2.3	2.0	2.2
CDS	7.3	8.2	6.6	5.6

Source : Various survey rounds of the NSSO on employment and unemployment in India.

Note : US (principal + subsidiary) measures employment in persons, CDS measures employment in person days.

9.17 There have also been structural changes: for the first time, the share of the primary sector in total employment has dipped below the halfway mark (declined from 58.5 per cent in 2004-05 to 48.9 per cent in 2011-12), while employment in the secondary and tertiary sectors increased to 24.3 per cent and 26.8 per cent respectively in 2011-12 from 18.1 per cent and 23.4 per cent respectively in 2004-05. Self-employment continues to dominate, with a 52.2 per cent share in total employment. What is critical is the significant share of workers engaged in low-income-generating activities.

9.18 There are other issues of concern like poor employment growth in rural areas, particularly among females. Though employment of rural males is slightly better than that of females, long-term trends indicate a low and stagnant growth. Such trends call for diversification of livelihood in rural areas from agriculture to non-agriculture activities. In order to improve generation of productive employment under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the Intensive and Participatory Planning Exercise (IPPE) has been initiated to prepare the labour

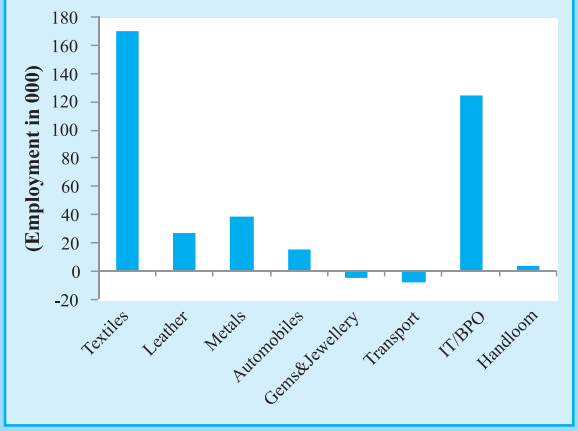
budget for financial year 2015-16 in selected 2500 backward blocks using participatory rural appraisal technique. Emphasis has been laid on agriculture and allied activities to ensure that at least 60 per cent of the works in a district in terms of cost is for creation of productive assets linked to agriculture and allied activities through development of land, water, and trees.

9.19 A major impediment to the pace of quality employment generation in India is the small share of manufacturing in total employment. However data from the sixty-eighth NSSO round (2011-12) indicates a revival in employment growth in manufacturing from 11 per cent in 2009-10 to 12.6 per cent in 2011-12. This is significant given that the National Manufacturing Policy 2011 has set a target of creating 100 million jobs by 2022. Promoting growth of micro, small, and medium enterprises (MSME) is critical from the perspective of job creation which has been recognized as a prime mover of the development agenda in India. Although total informal employment increased by 9.5 million to 435.7 million between 2004-05 and 2011-12, it is significant that informal unorganized-sector employment declined by 5.8 million to 390.9 million, leading to an increase in informal organized-sector employment by 15.2 million. Consequently the share of unorganized labour has declined from 87 per cent to 82.7 per cent (Table 9.2).

Box 9.2 : Quarterly Survey Report on Employment in India

The twenty-second Quarterly Quick Employment Survey for the period April-June 2014 was conducted in the month of July 2014. A total of 2200 sample units were covered for the quarter ending June 2014. Comparing the result of last four surveys over the period June 2013 to June 2014 in the eight selected sectors, employment has increased by about 0.4 million (Figure 9.2). At overall level, employment increased by 182,000 (close to 0.2 million) during the quarter ended June 2014 over the quarter ended March 2014. At industry level, the highest jump in employment is observed in the textile including apparel sector, where employment has increased by 69,000 during June 2014 over March 2014, followed by 51,000 in IT/BPOs, 47,000 in metals, 7000 each in leather and gems & jewellery and 1000 in the automobiles sector.

Figure 9.2: Employment Generation (in 000) in Eight Selected Sectors (June 2013- June 2014)



***Source* : Labour Bureau.**

Table 9.2 : Share of Formal-Informal Employment across Organized –Unorganized Sectors in 2011-12 and 2004-05 (in per cent)

	Organized	Unorganized	Total
Formal	45.4 (52)	0.4 (0.3)	8.1 (7.3)
Informal	54.6 (48)	99.6 (99.7)	91.9 (92.7)
Total	**17.3 (13)**	**82.7 (87)**	**100**

***Source* : Niti Aayog.**

***Note* : Population projected for year 2004-05 and 2011-12 using decadal population growth rate between Census 2001 and 2011. Figures in brackets pertain to 2004-05**

9.20 NSSO rounds are quinquennial and therefore information on the employment/unemployment situation in the country is available only after a gap of five years. To make available data in the interregnum, the Labour Bureau conducts household employment-unemployment surveys on annual basis and has also been bringing out quarterly survey reports on the effects of the economic slowdown on employment in select sectors in India since 2009. The results of the latest quarterly summary on employment, July 2014 (Box 9.2), indicate an increase in employment by 3.5 million since the first survey.

9.21 The US unemployment rate is generally regarded as the measure of chronic open unemployment during the reference year; while the CDS is considered a comprehensive measure of unemployment, including both chronic and invisible unemployment. Thus, while chronic open unemployment rate in India hovers around a low

of 2 per cent, it is significant in absolute terms. The number of unemployed people (under US) declined from 11.3 million during 2004-05 to 9.8 million in 2009-10 but again increased to 10.8 million in 2011-12. However, based on the CDS the number of unemployed person days declined from 34.3 million in 2004-05 to 28.0 million in 2009-10 and further to 24.7 million in 2011-12. Thus there has been a significant reduction in chronic and invisible unemployment from 8.2 per cent in 2004-05 to 5.6 per cent in 2011-12 (Table 9.1). Despite only a marginal growth in employment between 2009-10 and 2011-12, the reason for the decline in unemployment levels could be that an increasing proportion of the young population opts for education rather than participating in the labour market. This is reflected in the rise in enrolment growth in higher education from 4.9 million in 1990-91 to 29.6 million in 2012-13 (Provisional).

Box 9.3 : Labour reform measures

(1) The Apprentice Act 1961 was amended on 18.12.2014 to make it more responsive to industry and youth. The Apprentice Protsahan Yojana was also launched to support MSMEs in the manufacturing sector in engaging apprentices. Government is also working affirmatively to bring a single uniform law for the MSME sector to ensure operational efficiency and improve productivity while ensuring job creation on a large scale.

(2) A unified labour portal scheme called ShramSuvidha Portal has been launched for timely redressal of grievances and for creating a conducive environment for industrial development. Its main features are: (i) Unique Labour Identification Number (LIN) allotted to around 0.7 million units facilitating online registration; (ii) filing of self-certified, simplified single online return instead of 16 separate returns by industry; (iii) transparent labour inspection scheme via computerized system as per risk-based criteria and uploading of inspection reports within 72 hours by labour inspectors.

(3) **Under Employees' State Insurance Corporation (ESIC) Project Panchdeep**: Digitization of internal and external processes to ensure efficiency in operations, especially services to employers and insured persons. The portal enables employers to file monthly contributions, generate temporary identity cards and create monthly contribution challans online, issue of pehchan card for insured persons for fast and convenient delivery of services. Through the IP Portal, insured persons can check contributions paid/payable by employers, family details, entitlement to various benefits, and status of claims. Integration of its services will promote ease of business and curb transaction costs.

(4) **Under Employees Provident Fund (EPF)**: Digitization of complete database of 42.3 million EPF subscribers and allotment of universal account number (UAN) to each member, which facilitates portability of member accounts. UAN is being seeded with bank account, Aadhar Card and other KYC details to promote financial inclusion. Direct access to EPF accounts will enable members to access and consolidate previous accounts. Online pensioners can view their account and disbursement details online. The statutory wage ceiling under the Employees Provident Fund and Miscellaneous Provisions (EPF&MP) Act was enhanced to Rs. 15000 per month from 01.09.2014. A minimum pension of Rs.1000 has been introduced for pensioners under the Employees' Pension Scheme 1995 w.e.f 01.09.2014.

(5) **For Unorganized Workers:** The Rashtriya Swasthya Bima Yojana (RSBY) is a scheme under the Unorganized Workers' Social Security Act 2008. It is a smart card-based cashless health insurance scheme, including maternity benefit, which provides a cover of Rs 30,000 per family per annum on a family floater basis to below poverty line (BPL) families in the unorganized sector. It is proposed to extend the RSBY to all unorganized workers in a phased manner.

(6) A **National Council for Vocational Training-Management Information System (NCVT-MIS)** portal has been developed for streamlining the functioning of Industrial Training Institutes (ITI), Apprenticeship Scheme, and assessment/certification of all NCVT training courses.

(7) **The National Career Service(NCS)** is being implemented as a mission mode project to transform the National Employment Service and provide various job-related services such as online registration of job seekers and job vacancies, career counselling, vocational guidance, and information on skills development courses, internships, and apprenticeship.

Source **: Ministry of Labour and Employment.**

Labour Reforms

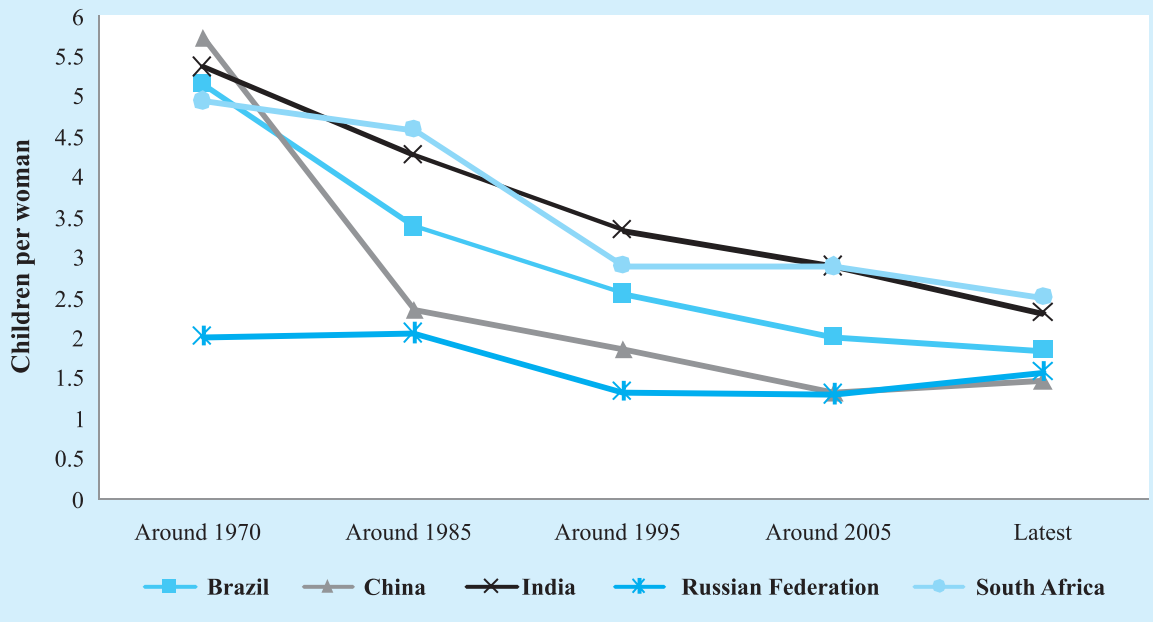
9.22 Significant improvement in industrial harmony in India is evident from the fact that mandays lost on account of strikes and lockout have been steadily declining: from 17.6 million in 2009 to 14.46 million in 2011, and further to 3.65 million (Provisional) during 2013 and 1.79 million (Provisional) from January 2014 to 9 December 2014.

9.23 The multiplicity of labour laws and difficulty in complying with them has always been cited as an impediment to industrial development in India. In a major initiative for ensuring compliance and promoting ease of doing business, the government has initiated a number of labour reform measures (Box 9.3). Thus amendments have been proposed to labour laws to align them with the demands of a changing labour market. Individually, states like Rajasthan have also introduced major reforms in three labour legislations: the Industrial Disputes Act, Factories Act, and Contract Labour Act.

Towards a Healthy India

9.24 It is noteworthy that India's total fertility rate (TFR) has been steadily declining and is now at 2.3; while state-wise disparities exist, a declining trend is recorded across states, explaining the declining growth rate of population. Figure 9.3 gives the comparative trends in TFR across BRICS nations (Brazil, Russia, India, China and South Africa). India is set to reach the UN Millennium Development Goals (MDG) with respect to maternal and child survival. The MDG for maternal mortality ratio (MMR) is 140 per 100,000 live births, while India had achieved 178 by 2010-12 and is estimated to reach 141 by 2015. The under-5 mortality rate (U5MR) MDG is 42, while India has an U5MR of 52 and is expected to reach 42 by 2015. This is particularly creditable as in 1990 India's MMR and U5MR were 47 per cent and 40 per cent above the international average respectively. However, significant effort is required to improve the rate of decline of still-births and neonatal mortality, which have been lower/ stagnant in some states. While overall death rates have been

Figure 9.3: TFR among BRICS Nations



Source : **World Fertility Data 2012, United Nations, Department of Economic and Social Affairs Population Division, Fertility and Family Planning Section; Census of India 2011.**

Note : **The reference year for the latest data varies – it is 2006 for South Africa, 2008 for Brazil and China, 2010 for the Russian Federation, and 2011 for India taken from Census data.**

declining, owing to improvement in health accessibility and facilities, SRS (2013) reports that a significant 30 per cent of all deaths occur in the age group 0-4 years; the percentages are higher for girl children in both rural and urban areas.

9.25 A direct relationship exists between water, sanitation, health, nutrition, and human well- being. Consumption of contaminated drinking water, improper disposal of human excreta, lack of personal and food hygiene, and improper disposal of solid and liquid waste are major causes of diseases in developing countries like India. The Swachh Bharat Mission (Gramin) launched on 2 October 2014 aims at attaining an open defecation free (ODF) India by 2 October 2019, by providing access to toilet facilities to all rural households and initiating Solid and Liquid Waste Management activities in all gram panchayats to promote cleanliness. **Box 9.4** provides examples of good practices that have replication potential. Together with capacity building efforts by multiple agencies including Panchayati Raj institutions (PRIs), field-level implementers, organizations of high repute identified as key resource centres (KRCs), self-help groups, women's groups, convergence with other state departments like Health, Women & Child Development, and Panchayati Raj, provision has been made for incentivizing accredited social health activists (ASHAs) and anganwadi workers to promote sanitation. Guidelines are also in place to involve corporates in the sanitation sector through corporate social responsibility.

9.26 In order to improve the availability of drinking water in rural areas, 20,000 solar power based water supply schemes have been approved under the National Rural Drinking Water Programme (NRDWP) across all the states for their habitations located in far-flung / hilly areas or where availability of electricity is a constraint.

9.27 Mission Indradhanush was launched on 25 December 2014 with the aim of covering all those children 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 by 2020. The intensification of immunization activities will be carried out in 201 high focus districts in the first phase and 297 districts will be targeted for the second phase in 2015.

Box 9.4 : Examples of Good Practices

Mundla Village of Icchawar Block in Sehore district – 100 per cent sanitized village

Before the launch of the Global Water, Sanitation and Hygiene for All (WASH) campaign in Mundla village on in February 2014, there were four functional toilets in the village. As of 2 October 2014, the village has been declared an ODF village. The efforts of villagers have converted it into a hygienic and 100 per cent sanitized village.

Asia's Cleanest Village

Mawlynnong in Meghalaya is a model that showcases how collective effort can help a village find a place on the tourism map. The village has 80 households, of which 29 are below poverty line (BPL). Being awarded the Asia's Cleanest Village award has resulted in an increase in the number of tourists to this village. The villagers have also constructed two tree houses with eco-friendly materials such as bamboo, which provide a magnificent bird's-eye view of the beautiful and clean village and a panoramic view of Bangladesh villages, a few miles away.

***Source* : Ministry of Drinking Water and Sanitation.**

9.28 With the goal of providing holistic health solutions, the erstwhile Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) has been elevated to a full-fledged ministry from 9 November 2014. The basic objective of the National AYUSH Mission (NAM) is to promote AYUSH medical systems through cost-effective AYUSH services and strengthening of educational systems. Steps are also underway for including yoga in the regular education curriculum. Paying heed to the Prime Minister's exhortation during his address to the UN General Assembly in September 2014, the UN has declared 21 June International Yoga Day.

9.29 Given the multiple determinants of health, it is clear that a prevention agenda that addresses the social and economic environment requires cross-sectoral, multi-level interventions that involve

Table 9.3 : Number and Percentage of Poor*

Year	Poverty line (in ₹)		Number of poor (million)			Poverty ratio (per cent)		
	Rural	Urban	Rural	Urban	Total	Rural	Urban	Total
2004-05	446.68	578.80	326.3	80.8	407.1	41.8	25.7	37.2
2011-12	816.00	1000.00	216.5	52.8	269.3	25.7	13.7	21.9

***Source*: Neeti Aayog, * Estimated by Tendulkar Method.**

sectors such as food and nutrition, education, drinking water and sanitation, housing, employment, industrial and occupational safety, welfare including social protection, family and community services, tribal affairs, and communications.

Poverty

9.30 The latest estimates of poverty are available for the year 2011-12. These estimates have been made following Tendulkar Committee methodology using household consumption expenditure survey data collected by the NSSO in its sixty-eighth round (2011-12). Over a span of seven years the incidence of poverty declined from 37.2 per cent to 21.9 per cent in 2011-12 for the country as a whole, with a sharper decline in the number of rural poor (Table 9.3).

Human Development: International Comparison

9.31 The 2014 Human Development Report (HDR) presents the Human Development Index (HDI) values and ranks for 187 countries in terms of three basic parameters: to live a long and healthy life, to be educated and knowledgeable, and to enjoy a decent standard of living. India's HDI value for 2013 is 0.586, positioning the country at 135 out of 187 countries and territories—the lowest among the BRICS countries, with Russia at 57, Brazil at 79, China at 91, and South Africa at118, and slightly ahead of Bangladesh and Pakistan. Significantly, while China improved its ranking by ten places between 2008 and 2013, India's position improved by just one rank (Table 9.4). Thus a lot remains to be done to bridge the gap.

Table 9.4 : Trends and India's Position in Global HDI 2013

Country	HDI 2013		Change in rank		GNI per capita 2013($)	LEB (years) 2013	Mean year of schooling (years) 2012 a	Expected year of schooling (years) 2012 a	Income Inequality		GII 2013	
	Value	Rank	over 2012-13	Between 2008 & 2013					Quintile income ratio 2003-12	Gini-co-efficient 2003-12	Value	Rank
Norway	0.944	1	0	0	63,909	81.5	12.6	17.6	…	25.8	0.068	9
US	0.914	5	0	-2	52,308	78.9	12.9	16.5	…	40.8	0.262	47
Germany	0.911	6	0	-1	43,049	80.7	12.9	16.3	…	28.3	0.046	3
UK	0.892	14	0	-2	35,002	80.5	12.3	16.2	7.2	36.0	0.193	35
Russian Fed.	0.778	57	0	0	22,617	68.0	11.7	14.0	7.3	40.1	0.314	52
Sri Lanka	0.750	73	2	5	9,250	74.3	10.8	13.6	5.8	36.4	0.383	75
Brazil	0.744	79	1	-4	14,275	73.9	7.2	15.2	20.6	54.7	0.441	85
China	0.719	91	2	10	11,477	75.3	7.5	12.9	10.1	42.1	0.202	37
South Africa	0.658	118	1	2	11,788	56.9	9.9	13.1	25.3	63.1	0.461	94
India	**0.586**	**135**	**0**	**1**	**5,150**	**66.4**	**4.4**	**11.7**	**5.0**	**33.9**	**0.563**	**127**
Bangladesh	0.558	142	1	2	2,713	70.7	5.1	10.0	4.7	32.1	0.529	115
Pakistan	0.537	146	0	-1	4,652	66.6	4.7	7.7	4.2	30.0	0.563	127
World	**0.702**	-	-		**13,723**	**70.8**	**7.7**	**12.2**			0.451	-

***Source* : HDR 2014.**

***Notes* : $: GNI (gross national income) is based on 2011 dollar purchasing power parity (PPP).**
GII is Gender Inequality Index. LEB is life expectancy at birth : Data refers to 2012 or the most recent year available.

9.32 India's HDI is also below the average of countries in both the medium human development group (0.614) and in South Asia (0.588). Between 1980 and 2013, India's life expectancy at birth (LEB) increased by 11.0 years, mean years of schooling increased by 2.5 years, and expected years of schooling increased by 5.3 years while gross national income (GNI) per capita increased by about 306.2 per cent. As compared to BRICS nations and some neighbouring countries, India reports the least mean years of schooling and an LEB that is just above that of South Africa. Bangladesh, with less GNI per capita than India, has a much higher LEB and mean years of schooling. China, which recorded a slightly higher HDI than India in 1980, has widened the margin in 2013 (Table 9.5). The existing gap in health and education indicators between India and developed countries and also many developing countries highlights the need for much faster and wider spread of basic health and education, as reflected by China and Sri Lanka.

9.33 In terms of gender equality, the HDR ranks India 127 out of 152 countries with a Gender Inequality Index (GII) of 0.563. The GII for 149 countries reveals the extent to which gender inequality erodes national achievements in reproductive health, empowerment and labour market participation . A comparison with India's developing country peers in the G20 grouping also shows India in poor light on gender equality issues. Unlike the HDI, a higher GII value indicates poor performance (Table 9.6).

9.34 The Gender Development Index (GDI), defined as a ratio of the female to male HDI measures gender inequality according to three basic parameters of human development: health (LEB),

Table 9.5 : HDI Component Indices of Select Countries 2013 and 1980

Country	HDI 2013					HDI 1980				
	LEB (years)	Expected years of schooling (years)	Mean years of schooling (years)	GNI per capita ($)	HDI Value	LEB (years)	Expected years of schooling (years)	Mean years of schooling (years)	GNI per capita ($)	HDI Value
Russian Fed.	68.0	14.0	11.7	22,617	0.778	67.4	12.2	7.1		
Sri Lanka	74.3	13.6	10.8	9,250	0.750	68.2	10.0	7.1	2,475	0.569
Brazil	73.9	15.2	7.2	14,275	0.744	62.7	9.9	2.6	9,154	0.545
China	75.3	12.9	7.5	11,477	0.719	67.0	8.4	3.7	690	0.423
South Africa	56.9	13.1	9.9	11,788	0.658	56.9	11.1	4.8	9,756	0.569
India	**66.4**	**11.7**	**4.4**	**5,150**	**0.586**	**55.4**	**6.4**	**1.9**	**1,268**	**0.369**
Bangladesh	70.7	10.0	5.1	2,713	0.558	54.9	4.9	2.0	1,021	0.336
Pakistan	66.6	7.7	4.7	4,652	0.537	58.0	3.7	1.8	2,376	0.356

Source **: HDR 2014.**

Notes **:$: GNI (gross national income) is based on 2011 dollar purchasing power parity (PPP). LEB is life expectancy at birth : Data refers to 2012 or the most recent year available.**

Table 9.6 : GII Component Indices of Select Countries 2013

Country	Gender Inequality Index		MMR 2010 (death per 1 lakh life birth)	Adolescent birth rate 2010-2015 (per 1000 women ages 15-19)	Share of women seats in parliament 2013 (%)	25+, female population with at least some secondary education 2005-2012 (%)	25+, male population with at least some secondary education 2005-2012 (%)	15+,female labour force participation rate 2012 (%)	15+, male labour force participation rate 2012 (%)
	value 2013	rank 2013							
Argentina	0.381	74	77	54.4	37.7	57.0	54.9	47.3	75.0
Russian Federation	0.314	52	34	25.7	12.1	89.6	92.5	57.0	71.4
Brazil	0.441	85	56	70.8	9.6	51.9	49.0	59.5	80.9
China	0.202	37	37	8.6	23.4	58.7	71.9	63.8	78.1
Indonesia	0.500	103	220	48.3	18.6	39.9	49.2	51.3	84.4
South Africa	0.461	94	300	50.9	41.1	72.7	75.9	44.2	60.0
India	**0.563**	**127**	**200**	**32.8**	**10.9**	**26.6**	**50.4**	**28.8**	**80.9**

Source **: HDR 2014.**

education (expected years of schooling for children and mean years for adults aged 25 years and older); and command over economic resources (estimated GNI per capita). Country rankings are based on absolute deviation from gender parity in HDI. The GDI is calculated for 148 countries. The female HDI value for India is 0.52 as compared to 0.63 for males, resulting in a GDI value of 0.828. In comparison, Bangladesh and China are ranked higher with values of 0.908 and 0.939 respectively (Table 9.7).

9.35 Thus, while India is in the bottom 25 per cent of all countries on the HDI, it ranks in the bottom 20 per cent on the GII. These statistics reflect the high levels of gender inequality in India and the poor status of women and girls in Indian society. India is a signatory to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which is often described as an international bill of rights for women. It defines discrimination against women and sets the agenda for national action to end violations of women's rights. An important element of CEDAW is its affirmation of women's reproductive rights, including the right to determine the number and spacing of children and equal access to family planning. Unfortunately in India there is an increasingly disproportionate emphasis on women's sterilization; thus tubectomies account for a whooping 97.5 per cent of all sterilization operations in 2013-14 (a massive jump from 78.6 per cent in the 1980s). This runs counter to our goals of achieving gender equality and women's empowerment. Sterilization constitutes 75 per cent of India's contraceptive use. It is unparalleled in any country in the world today. The closest is Latin America where it forms 40 per cent of all contraceptive methods.

9.36 Another concern is the secular decline in the child sex ratio (CSR– girls per 1000 boys aged 0-4 or 0-6) in India from 976 in 1961 to 918 in 2011; the SRS (2013) reports a figure of 909 for 2011-13. Globally CSR is calculated as boys per 100 girls. Comparatively, in Asia and the Pacific, the CSR (boys per 100 girls aged 0-14) was 110 in 2012, much higher than the sex ratio under natural conditions (105). While China's CSR declied from 121 in 2010 to 117 in 2012, India's CSR increased from 109 to 111 over the same period. Figure 9.4 gives the trends in CSR in select countries in Asia between 1990 and 2012.

9.37 The UN General Assembly in 1993 defined violence against women as "any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women." Consequently, apart from violence against married/adult women, excess female child mortality, female infanticide, and child marriage are also considered violence against the female gender. The implementation of the Protection of Women from Domestic Violence Act 2005 (PWDVA) is weak, as nineteen states have no planned schemes.

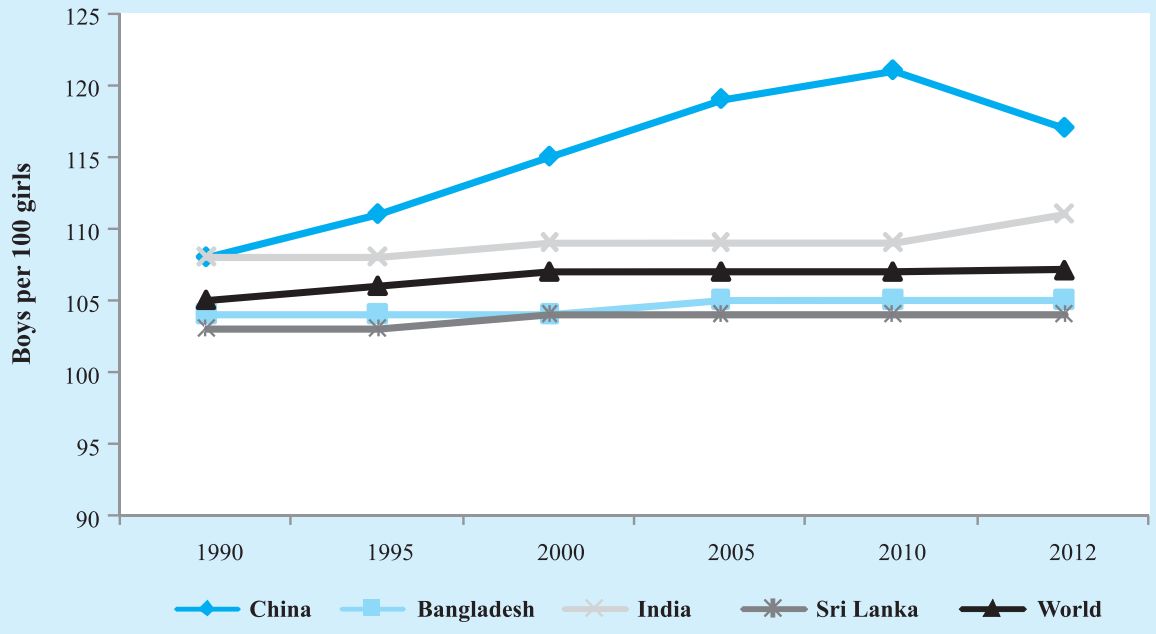
Table 9.7 : GDI Component Indices of Select Ccountries 2013

Country	GDI 2013		HDI value 2013		LEB (years) 2013		Mean years of schooling 2002-2012		Expected years of schooling 2000-2012		Estimated GNI per captia ($) 2013	
	Ratio of Female to male HDI 2013	Rank	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Sri Lanka	0.961	66	0.72	0.75	77.4	71.2	10.7	9.4	13.9	13.4	5078	13616
China	0.939	88	0.70	0.74	76.7	74.1	6.9	8.2	13.0	12.8	9288	13512
India	**0.828**	**132**	**0.52**	**0.63**	**68.3**	**64.7**	**3.2**	**5.6**	**11.3**	**11.8**	**2277**	**7833**
Bangladesh	0.908	107	0.53	0.58	71.5	69.9	4.6	5.6	10.3	9.7	1928	3480
Pakistan	0.750	145	0.45	0.60	67.5	65.7	3.3	6.1	6.9	8.4	1707	7439

Source **: HDR 2014.**

Notes **: $: GNI (gross national income) is based on 2011 dollar purchasing power parity (PPP).**
GDI is Gender Deveopment Index. LEB is life expectancy at birth : Data refers to 2012 or the most recent year available.

Figure 9.4: Trends in Child Sex Ratio in Select Asian Countries



Source **: Statistical Yearbook for Asia and the Pacific 2013.**

9.38 Appropriately a new scheme, Beti Bachao Beti Padhao (BBBP) Programme, for promoting survival, protection, and education of the girl child was launched on 22 January 2015 at Panipat, Haryana, a state that is noted for the lowest CSR – 835 (SRS 2013). It aims to address declining CSR through a mass campaign targeted at changing social mind set and creating awareness about the criticality of the issue. The overall goal of the BBBP programme is to celebrate the girl child and facilitate her education with the objectives of preventing gender-biased sex-selective elimination, ensuring survival and protection, and education of the girl child.

9.39 Comparison of select socio-economic development indicators of states is given in Appendix Table 9.8.

Fostering Inclusive Growth

9.40 Indian development planning has focused on formulation of programmes and policies aimed at bringing the marginalized and poor sections of society into the main stream. The government has been implementing many such programmes for social and financial inclusion. The disbursement of benefits needs a systematic channel which will provide for financial empowerment and make monitoring easier and the local bodies more accountable. The Pradhan Mantri Jan Dhan Yojna (PMJDY) launched on 28 August 2014 and the RuPay Card, which is a payment solution, are important schemes in this regard. These two schemes are complementary and will enable achievement of multiple objectives such as financial inclusion, insurance penetration, and digitalization.

9.41 Government has restructured and fine-tuned a number of ongoing programmes based on the field experience to make them need based. These are listed in Appendix Page A141-A145. To facilitate coordinated functioning of various social infrastructure and human development programmes, the government has launched the Sansad Adarsh Gram Yojna (SAGY) which will be implemented through the convergence and implementation of existing government programmes. In addition, the Vanbandhu Kalyan Yojna will be implemented in one block each of ten states that have Fifth Schedule areas.

9.42 Given the multiple schemes implemented to foster inclusive growth, the role of Panchayati

Box 9.5 : Need to Strengthen Village Panchayats and ULGs

The 73rd and 74th Constitutional Amendments marked a watershed in the history of decentralized governance, planning, and development in India as these made panchayats and ULGs the third tier of government with reasonable power and authority in addition to creating space for women and marginalized groups in the federal set-up. Decentralized democracy was also extended to Fifth Schedule areas through the provisions of another Panchayat (Extension to the Scheduled Areas) Act 1996 known as the Extension Act which not only made the gram sabha a strong body, but also put *'jal, jungle, and jamin'* (water, forest, and land) under its control. These central acts, however, instead of clearly specifying the powers and functions of panchayats and municipalities, have left it to the discretion of state governments. Articles 243 G and 243 W of these acts decree that the legislature of a state may, by law, endow the panchayats/municipalities with such powers and authority as may be necessary to enable them to function as institutions of self-government. Such law may also contain provisions for devolution of powers and responsibilities upon panchayats/ municipalities, subject to such conditions as may be specified therein, with respect to the preparation of plans and implementation of such schemes for economic development and social justice as may be entrusted to them. These may include inter alia schemes and plans in relation to socio-economic development and providing basic services as listed in the Eleventh and Twelfth Schedules of the constitution.

Article 243 ZD of the 74th Amendment Act providing for constitution of district planning committees (DPC) by the state government in every district is a milestone in decentralized planning with people's participation. These committees are expected to consolidate the plans prepared by the panchayats and municipalities in the district and prepare a draft development plan for the district as a whole. DPCs have been set up in most of the states. Much of implementation of these panchayat acts, i.e. power-sharing with panchayats / ULGs, is left to the states. Over the years panchayats and ULGs have not been strengthened in terms of functions, finances and functionaries (triple Fs) with regard to preparation of plans and the listed subjects.

These amendment acts have the potential of becoming true vehicles for carrying out the government's slogan of less government–more governance if an atmosphere of general consensus to adopt it is created among all the states. In order to convert outlays of the panchayat /municipality-centric programmes into outcomes, these institutions need greater awareness, responsibility, and accountability, which will also enable better connect of these programmes with the common man. There needs to be greater devolution of powers to the panchayats and municipalities in respect of the triple Fs in a phased manner. The majority of panchayat/municipality-centric programmes do have earmarked funds for awareness generation and capacity building. These funds across ministries need to be pooled together under the Panchayati Raj Ministry and Ministry of Urban Development to make infrastructure and capacity building of panchayats and municipalities a continuous and regular process. This will enable panchayats and municipalities to understand not only their role and rights but also their responsibilities and will make them accountable, bringing about qualitative improvement in governance at decentralized level. Such facilitation by the government will transform panchayats and municipalities into vibrant institutions and enable them to perform their envisaged role in participatory planning, implementation, execution, monitoring, and supervision and also carry out social audit of all panchayat/ municipality-centric programmes including the Swachh Bharat Mission.

Raj institutions and urban local governments (ULG) is critical (**Box 9.5**).

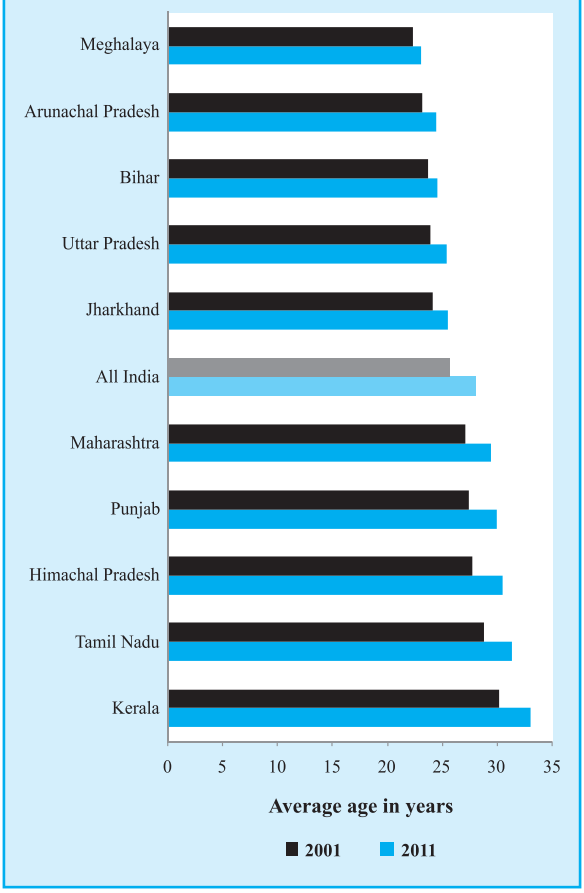
Demographic Dividend and Related Policy Interventions

9.43 A declining 0-14 population will impact both elementary (5-14 age group) and higher education (15-29 age group). Elementary education can be further subdivided into primary (5-9 age group) and middle/upper primary (10-14 age group). The first stage of impact will be felt in declining enrolment in primary schools. As stated earlier, total enrolment in primary schools has fallen in 2013-14 while upper primary enrolment has grown. The dependency ratio for India is expected to fall from 54 per cent in 2010 to 49 per cent in 2020. In this scenario, given interstate disparities, states that are already facing this situation need to adopt specific policy measures in the field of education, wherein, instead of expanding the number of primary schools, focus should be on (i)

improving access to education considering the high dropout rates among senior students; (ii) removing gender disparity especially in the higher age group and in rural areas; and (iii) improving quality of education, including pupil-teacher ratios and provision of amenities in schools, especially in view of the declining learning levels.

9.44 The lag in demographic transition between different states that necessitates state-specific policies to optimally garner the benefits of the demographic dividend. Owing to substantial fertility decline in the south during the last two decades, the south is ahead in the demographic transition compared to the north, thereby the window is already wide open in the south compared to the north. For instance, the projected average age of 29 years in 2020 has already been surpassed in some states like Kerala (33 years), Goa (32.3), Tamil Nadu (31.3), Himachal Pradesh (30.4), Punjab (29.9), Andhra Pradesh (29.3), and West Bengal (29.1). Comparative picture of five states each with lowest and highest average age is shown in Figure 9.5.

Figure 9.5: Comparison of Average Ages across top 5 Youngest and Oldest States in India 2001 and 2011



Source **: Based on census 2001 and 2011.**

9.45 This lag in demographic transition among states in India could turn out to be a great blessing from the point of view of coping with the problem of declining population. India is better placed in this respect than most other countries. Thus states already well into the demographic window should actively pursue policies for employment generation to the already bulging labour force, while states just entering the window period have some time to plan and must pursue policies simultaneously in several areas like education, health (including reproductive health), gender issues, and employment generation from now on so that they can fully utilize the opportunity.

TRENDS IN INDIA'S SOCIAL-SECTOR EXPENDITURE

9.46 Reserve Bank of India (RBI) data on expenditure on social services by the general government (centre and states) as a proportion of total expenditure has also been showing a mixed trend. It had declined to 22.9 per cent in 2012-13 from 24.7 per cent in 2010-11 but increased to 24.1 per cent in 2013-14 (RE) and declined again to 22.3 per cent in 2014-15 (BE). As a percentage of the GDP, expenditure on social services has declined from 6.9 per cent in 2009-10 to 6.7 per cent in 2014-15 (BE), with expenditure on education increasing from 3.0 per cent to 3.1 per cent and on health declining from 1.4 per cent to 1.2 per cent. There was a consistent rise in absolute social-sector expenditure by the general government (centre+state) even during the global crisis of 2008-09 and Euro area crisis of 2011-12, from ₹ 3,80,628 crore during 2008-09 to ₹ 5,80,868 crore in 2011-12 and further to ₹ 8,68,476 crore (BE) during 2014-15 (Appendix Table 9.9).

9.47 Government spending on healthcare in India is only 1.2 per cent of GDP which is about 4 per cent of total government expenditure, less than

30 per cent of total health spending. The failure to reach minimum levels of public health expenditure remains the single most important constraint to attaining desired health outcomes. While it is important to recognize the growth and potential of a rapidly expanding private sector, international experience shows that health outcomes and financial protection are closely related to absolute and relative levels of public health expenditure.

Conclusion

9.48 With women accounting for nearly 48 per cent of India's population (Census 2011), there is need to ensure and safeguard their place in the socio-economic milieu. Since this requires a change in the patriarchal mindset of the larger population, government has to continue to be a proactive facilitator of this change through consistent policies. India aims to be in the top 50 countries of the Doing Business ranking; it must at the same time endeavour to be in the top 50 countries in HDI and GII rankings. Low levels of education and skill deficit are responsible for low income levels of a large majority of the labour force, thereby perpetuating inequality. Consequently, the government's thrust on skill development as well as 'Make in India' aims at improving employability and generating employment avenues. Since demographic predictions warn that the promise of the demographic dividend will not last long, in any case not beyond 2050, India needs to take advantage of this demographic window in the next couple of decades. The challenge for the country now is in planning and acting towards converting its demographic 'burden' into enhanced opportunities for growth by dovetailing the quality of manpower to the requirements of employers (off-farm, industry, and services sectors), both domestic and international. For this intention to translate into reality, a 'bottom-up' approach using Panchayati Raj institutions and ULBs as agents of change is the need of the hour.