REPORT
Report of the Working Group on Savings during
the Twelfth Five-Year Plan (2012-13 to 2016-17)

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during the Twelfth Five-Year Plan
(2012-13 to 2016-17)**

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*   The Report was submitted to the Planning Commission on April 24, 2012

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Executive Summary

Key Assumptions during the Twelfth Plan

Real GDP Growth	8.5 per cent (Scenario I); 9.0 per cent (Scenario II); and 8.0 per cent (Scenario III)
Inflation Rate	5.0 per cent for Scenarios I and II and 6.0 per cent for Scenario III
Revenue Deficit of the Centre and the States	Taken as the binding target in the case of the Centre and the States
Centre's Revenue Deficit	To evolve in line with the Medium Term Fiscal Policy Statement (2011-12) till 2013-14 and thereafter, assumed to decline annually by 0.5 to 0.6 per cent of GDP till 2016-17
Extra-budgetary resources of Central Public Sector Undertakings	1.2 per cent of GDP
Internal resources of Public Sector Undertakings	4.0 per cent of GDP
Losses of State Electricity Boards	0.2 per cent of GDP
World Real GDP growth	3.3 - 4.9 per cent
World Inflation Rate	3.1 - 3.7 per cent
International crude oil price of the Indian basket	US$ 110 per barrel

Savings Projections during the Twelfth Plan

Scenario I (Real GDP growth of 8.5 per cent; Inflation of 5.0 per cent)								
							(per cent of GDP at current market prices)	
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12th Plan Average
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.3	8.4	8.5	8.6	8.6	8.7	8.6
Public	0.2	1.7	1.8	2.0	2.8	3.5	4.2	5.0	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.3**	**34.0**	**35.3**	**36.5**	**37.6**	**38.9**	**36.5**
CAD	-2.8	-2.7	-3.5	-4.1	-3.8	-3.3	-2.8	-2.5	-3.3
Scenario II (Real GDP growth of 9.0 per cent; Inflation of 5.0 per cent)								
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.5	8.6	8.9	9.1	9.3	9.4	9.1
Public	0.2	1.7	1.8	1.9	2.9	3.6	4.3	5.0	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.5**	**34.1**	**35.8**	**37.1**	**38.4**	**39.6**	**37.0**
CAD	-2.8	-2.7	-3.5	-4.3	-4.1	-3.8	-3.6	-3.6	-3.9
Scenario III (Real GDP growth of 8.0 per cent; Inflation of 6.0 per cent)								
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.5	8.3	8.3	8.4	8.4	8.4	8.4
Public	0.2	1.7	1.8	2.0	2.8	3.5	4.2	4.9	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.5**	**33.9**	**35.1**	**36.3**	**37.4**	**38.5**	**36.2**
CAD	-2.8	-2.7	-3.5	-3.9	-3.4	-2.7	-2.0	-1.5	-2.7

CAD denotes Current Account Deficit.

Risks to the Savings Projections

- The household savings rate could remain stagnant or even decline as financial liabilities increase with greater retail credit penetration.

- The projected increase in the public sector savings rate is contingent upon the continuance of the fiscal consolidation process.

- In respect of the private corporate sector, the sustainability of at least the current levels of efficiency would be important.

- Large shocks to growth and inflation could alter the savings scenario during the Twelfth Plan.

Memo: Savings Projections as per the Draft Approach Paper to the Twelfth Plan

	Twelfth Plan growth target	
	9.0 per cent	9.5 per cent
(per cent of GDP at current market prices)		
Household Savings	24.0	24.5
Private Corporate Sector Savings	8.5	9.2
Public Sector Savings	3.7	5.2
Gross Domestic Savings	36.2	38.9
Current Account Deficit	-2.5	-2.5

Other Projections during the Twelfth Plan

Flow of institutional credit to Agriculture	`42,08,000 crore	
Credit Supply to MSME Sector	(i)	`76,49,000 crore
	(ii)	`85,71,000 crore in an alternative scenario of higher assumed credit growth
Flow of Private Resources for Infrastructure	(i)	`17,94,000 crore
	(ii)	`26,67,000 crore, subject to the implementation of select measures. Total (budgetary and non-budgetary) projected flow of resources in this case, assuming USD/INR exchange rate of 50, is around USD one trillion.

Report of the Working Group on Savings during the Twelfth Five-Year Plan (2012-13 to 2016-17)

Introduction

1.1   The Planning Commission, Government of India, vide their Order No.3/2/2010-FR dated March 10, 2011 constituted a Working Group for the estimation of savings during the Twelfth Five-Year Plan (2012-13 to 2016-17), with the following members:

1.	Dr. Subir Gokarn Deputy Governor Reserve Bank of India	Chairman
2.	Dr. Kaushik Basu Chief Economic Adviser Government of India	Member
3.	Dr. Ashok Sahu Principal Adviser Planning Commission	Member
4.	Adviser (FR) or his representative Planning Commission	Member
5.	Smt. Sibani Swain Director, DPPP Planning Commission	Member
6.	Shri Ashish Kumar Additional Director General Central Statistics Office	Member
7.	Smt. T. Rajeswari Deputy Director General Central Statistics Office	Member
8.	Shri M.C. Singhi Economic Adviser Department of Industrial Policy and Promotion, Government of India	Member
9.	Shri D.K. Joshi Chief Economist CRISIL	Member
10.	Shri Shashanka Bhide NCAER	Member
11.	Prof. Pradeep Agrawal Institute of Economic Growth	Member
12.	Prof. R. Nagaraj IGIDR	Member
13.	Prof. C.P. Chandrasekhar JNU	Member
14.	Prof. N.R. Bhanumurthy NIPFP	Member
15.	Dr. Susan Thomas IGIDR	Member
16.	Shri Ramesh Kolli Expert (Ex. Additional Director General, CSO)	Member
17.	Chairman, NABARD or his representative	Member
18.	Chairman, State Bank of India or his representative	Member
19.	Chairman, SIDBI or his representative	Member
20.	Chairman, Life Insurance Corporation or his representative	Member
21.	Dr. Mathew Joseph Senior Consultant, ICRIER	Member
22.	Shri D.K. Mohanty Executive Director Reserve Bank of India	Member- Secretary

1.2   The Terms of Reference of the Working Group were as follows:

(i)   To estimate domestic private savings, physical and financial and their components in light of the policy and structural changes in the real and financial sectors and the demographic pattern;

(ii)   To estimate the flow of foreign savings, through foreign direct investment, portfolio investment, trade credit, non-resident deposits, ECB and in terms of types of flows (debt/equity) and maturity composition;

(iii) To estimate flow of external aid and its components (loan/grant);

(iv) To estimate the public sector draft on private savings keeping in view the evolution of the fiscal path envisaged by the Thirteenth Finance Commission, commitments under the Fiscal Responsibility Act and resource requirements related to infrastructure; and

(v) To estimate resources available for private investment including infrastructure and likely flows for SME and Agriculture.

1.3   The secretariat to the Working Group was provided by the National Accounts Analysis Division, Department of Economic and Policy Research (DEPR), Reserve Bank of India (RBI).

1.4   The Working Group held two meetings on April 8 and September 9, 2011.

1.5   In the first meeting of the Working Group, the trends in savings and investment in India were reviewed against the evolving macroeconomic and policy environment and the considerations that could impact on the savings trajectory going forward were discussed. Important among these considerations were the growth rate of the economy, the evolution of the fiscal path particularly in the context of the recommendations of the Thirteenth Finance Commission, demographic pattern, and productivity. It was also decided, in line with past practices, to set up Sub-Groups for estimation of savings in different sectors. Accordingly, the following six Sub-Groups were constituted:

1. Household Sector savings (Convenor: Smt. Balbir Kaur, Adviser, DEPR, RBI);

2. Private Corporate Sector Savings (Convenor: Dr. Goutam Chatterjee, Adviser, DSIM, RBI);

3. Public Sector Savings (Convenor: Dr. A. Sahu, Principal Adviser, Planning Commission);

4. Foreign Savings (Convenor: Shri Anil Bisen, Economic Adviser, Government of India);

5. Flow of Private Investment for MSME and Agriculture (Convenor: Shri S.K. Mitra, Executive Director, NABARD); and

6. Infrastructure Investment (Convenor: Shri Santosh Nayar, Deputy Managing Director, State Bank of India)

The composition and terms of reference of the Sub-Groups are given in Annex 1.

1.6   The Working Group also decided in its first meeting that all six Sub-Groups would adopt the following five scenarios of real GDP growth and WPI inflation as a common starting point for making projections of savings relating to their respective sectors over the Twelfth Plan:

Scenario	Real GDP growth	WPI Inflation	Implied growth rate of GDP at current market prices*
1	8.5	5.0	13.9
2	9.0	5.0	14.5
3	9.0	6.0	15.5
4	9.5	5.0	15.0
5	9.5	6.5	16.6

* Worked out as: [(1+real GDP growth rate)*(1+WPI inflation) -1]

It was subsequently decided to include an additional scenario of real GDP growth of 8.0 per cent and WPI inflation of 6.0 per cent for savings projections over the Twelfth Plan.

1.7   All the six Sub-Groups have submitted their Reports, which are appended in the supplementary volume to this Report. The Sub-Group Reports were discussed in the second meeting of the Working Group.

1.8   While framing its Report, the Working Group took note of the following. First, the Mid-term Appraisal of the Eleventh Plan had attributed India's superior growth performance and resilience to shocks, to strong macro-fundamentals including the high level of domestic savings, resulting from substantial household savings and the sharp improvement in public savings and private corporate sector savings in the recent past. Second, the draft Approach Paper to the Twelfth Plan, which was released in September 2011, envisages two alternative targets of real GDP growth during the Twelfth Plan *viz.*; 9 per cent and 9.5 per cent. While highlighting the healthy increase in aggregate savings and investment rates particularly in the private sector, the Approach Paper cautions that, *'...[t]he current situation of high inflation and tightening of monetary policy at the domestic level and uncertainty in the global financial markets require a careful appraisal of the saving investment prospects for the Twelfth Plan period…'.* The Approach Paper also underscores the

need to step-up investment rates, especially in areas where supply side bottlenecks could trigger inflation, in order to sustain high rates of growth of 9 per cent or higher, while maintaining moderate inflation. Third, the data gaps in the compilation of savings and investment in India, as highlighted by the observations of the High Level Committee on Estimation of Saving and Investment (Chairman: Dr. C. Rangarajan), 2009, need to be acknowledged for prognostications. Fourth, while noting that past empirical studies have not been unanimous on the effect of inflation on private savings, the Working Group took cognizance of recent evidence, as articulated in the RBI's Annual Report 2010-11, which shows the adverse impact of inflation on household financial savings. Fifth, the rapid changes in the macroeconomic and policy environment in the recent period and the structural breaks in the data on sector-wise savings in India pose challenges not only to technical projections of savings over the medium-term but also to judgements regarding the savings outlook.

1.9 The remainder of this Report is organized as follows. Section II discusses the savings performance of the Indian economy in a cross-country perspective and then analyses the trends in India's gross domestic savings and its composition in the light of the evolving macroeconomic and policy environment. The objective of this Section is to get an overview of the scope for further increases in the savings rate in India and the macroeconomic/policy setting required for actualisation. Next, drawing upon the Sub-Group Reports, in the subsequent four Sections *viz.*, III, IV, V and VI, the Working Group takes a view on the estimation methodologies and projections of household sector savings, private corporate sector savings, public sector savings and foreign savings, respectively, over the Twelfth Plan. In each of these Sections, projections are obtained for three scenarios *viz.*, real GDP growth of 8.5 per cent and inflation of 5.0 per cent; real GDP growth of 9.0 per cent and inflation of 5.0 per cent; and real GDP growth of 8.0 per cent and inflation of 6.0 per cent over the Twelfth Plan. Section VII consolidates the projections of sector-wise savings as obtained from the previous Sections to get the gross domestic savings over the Twelfth Plan. The next two Sections *viz.*, VIII and IX draw upon the Sub-Group reports to summarize the

methodology of estimation and projections of resources available for private investment in the MSME sector and agriculture, and infrastructure investment, respectively. Section X sums up the discussion.

Acknowledgments

Section II: Trends in Gross Domestic Savings

India's Savings Performance in an International Perspective

2.1 India's savings performance has been quite impressive in a cross-country context (Table 1). India's gross domestic savings rate in the recent period is comparable to Indonesia, Thailand and Korea, much lower than that of China, Malaysia and Singapore but much higher than that of many other emerging and advanced economies. The magnitude of increase in the domestic savings rate in India and China during the period 2000 to 2007 was among the highest in the world. In fact, the savings rates of many of the advanced countries and some of the Asian emerging market economies witnessed a decline during this period. India's savings rate declined sharply in 2008, as it did in many other countries, in the aftermath of the global financial crisis, but recovered, to some extent, in 2009.

Table 1: Gross Domestic Savings Rate

(per cent of GDP)

Country	1990	1995	2000	2005	2007	2008	2009
Asia - EMDEs							
India*	**22.8**	**24.4**	**23.7**	**33.5**	**36.9**	**32.0**	**33.8**
China	39.1	43.5	37.5	47.6	50.5	51.8	52.1
Indonesia	32.3	30.6	32.8	29.2	29.0	28.9	33.8
Malaysia	34.5	39.7	46.1	42.8	42.1	42.3	36.0
Pakistan	11.1	15.8	16.0	15.2	15.4	20.8	11.4
Sri Lanka	14.3	15.3	17.4	17.9	17.6	13.9	18.0
Thailand	33.8	35.4	31.5	30.3	34.8	31.5	32.4
Select Other EMEs							
Brazil	21.4	16.5	16.5	19.8	19.8	20.9	16.5
Mexico	22.0	22.6	21.9	22.3	24.2	24.9	20.9
Russian Federation	30.3	28.8	38.7	33.8	32.8	34.6	26.1
South Africa	23.2	18.9	18.9	17.5	18.3	18.9	18.6
Select Advanced Economies							
France	21.2	19.7	21.4	19.5	20.3	19.8	17.0
Germany	23.1	22.7	22.1	22.2	25.4	24.9	21.4
Japan	33.7	29.7	26.9	25.0	25.4	23.8	20.7
Korea, Rep.	36.4	36.6	33.4	32.4	30.9	30.0	29.8
Singapore	44.0	50.1	46.9	47.1	49.5	47.0	NA
United Kingdom	18.1	17.0	15.8	13.6	15.2	14.1	11.2
United States	16.3	16.9	16.7	14.1	14.0	12.5	11.4
Memo							
World	23.2	22.6	22.2	21.7	22.5	21.4	18.9

* Data for India are sourced from the national authorities.
Source: World Development Indicators 2011, World Bank.

Even though India's savings rate in 2009 remained lower than that in 2007, in contrast to that in China and Indonesia for instance, the extent of decline in India's savings rate was much lower than those in many of the advanced and emerging market economies. More importantly, the gross domestic savings rates of India, China and Singapore continue to show an upward trend, even as those of many other emerging and advanced countries have either stabilised at much lower levels or are on a declining trend.

2.2   The Working Group recognized the significance of general as well as country-specific factors underlying the differential savings performance. For instance, in the case of China, Ma and Yi (2010)[1] have highlighted that the increase in savings rate was reflected across the three sectors - household, corporate and government.

Apart from rapid economic growth, a number of factors facilitated the increase in savings in the three sectors such as tough corporate restructuring (including pension and home ownership reforms), large-scale migration of labour from rural to urban areas which helped to restrain wage increases (and hence boost corporate profits), sharp decline in the youth dependency, the persistence of the saving habit among the households, rising government income and a clear preference for government investment over consumption. The high savings rate of Singapore, on the other hand, has been attributed to rapid economic growth and the institution of the Central Provident Fund which is a compulsory and comprehensive savings plan. Similarly, rapid economic growth, favourable demographics and mandatory contributions to the Employee Provident Fund are some of the major factors underlying the high rate of savings in Malaysia.

India's Savings Performance over the Five-Year Plans

2.3   Over the Eighth to the Eleventh Plan so far - an 18-year period that coincided with the structural reforms process - the average rate of Gross Domestic Savings (GDS) increased by around 14 percentage points (Table 2). This was higher than the increase of around 11 percentage points in the GDS rate that occurred over the First to the Seventh Plans, a period of around 40

Table 2: India's Average Savings Rates over the Five-Year Plans

Five-Year Plan	Gross Domestic Savings Rate (per cent)	Average annual rate of change in the savings rate (percentage points)
First Plan (1951-56)	9.2	
Second Plan (1956-61)	10.6	0.3
Third Plan (1961-66)	12.1	0.3
Fourth Plan (1969-74)	14.7	0.5
Fifth Plan (1974-79)	18.5	0.8
Sixth Plan (1980-85)	17.9	-0.1
Seventh Plan (1985-90)	20.0	0.4
Eighth Plan (1992-1997)	22.9	0.6
Ninth Plan (1997-2002)	23.6	0.1
Tenth Plan (2002-2007)	31.3	1.5
Eleventh Plan so far (2007-2011)	33.7	0.6

Source: Central Statistics Office

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[1]   Ma, Guonan and Wang Yi (2010), 'China's High Saving Rate: Myth and Reality', BIS Working Paper No.312, June.

years. The maximum increase (of around 8 percentage points) in the average GDS rate occurred over the Tenth Plan (2002-2007).

Evolving Macroeconomic and Policy Environment

2.4   Against this backdrop, it may be apposite to briefly recall the broad but significant changes in the macroeconomic and policy environment over the past four decades that have impacted India's savings performance. The 1980s broke the 'jinx' of the 3.5 per cent annual growth rate of real GDP that had characterized the previous three decades, enabled by some reforms in the trade and industrial sectors, good agricultural performance and fiscal activism. The decade of the 1990s marked the initiation of wide-ranging structural reforms and financial liberalization, in response to the unprecedented external payments crisis of 1990-91 that was wrought by the unsustainable macroeconomic policies of the previous decade(s). The decade of the 2000s was characterized by a build-up to over 9 per cent real GDP growth during three consecutive years ended 2007-08, a period that coincided with the enactment and implementation of fiscal responsibility legislation and an upsurge in capital inflows, even as the rapid improvement in corporate sector performance marked more or less the entire decade. This was followed by a sharp decline in the growth rate and increased financial market volatility in 2008-09 in the face of the knock-on effects of the global financial crisis, and then, a quick recovery to the pre-crisis trend rate of growth, facilitated by coordinated fiscal and monetary policy actions. As the economy emerged from the shadows of the global financial crisis, it faced an upsurge of inflationary pressures engendered by sharp increases in commodity prices and later by the strengthening of domestic demand. In this context, a series of hikes in policy interest rates were effected by the Reserve Bank with a view to arresting inflationary pressures. The uncertainty in the global economy has refused to fade.

Trend and Composition of Gross Domestic Savings

2.5   The Gross Domestic Savings (GDS) rate has exhibited a generally upward trend since the 1950s,

with some intermittent sharp escalations, notably over the period 2002-03 to 2007-08 (Chart 1). The composition of GDS shows the continued predominance of household sector savings (at around 70 per cent), notwithstanding a reduction in its share from the peak attained in 2001-02 (over 94 per cent).

After the 1990-91, the share of the private corporate sector in GDS has exceeded that of the public sector, in contrast to the trends prevailing earlier. These trends are explained in subsequent sub-sections.

Contrasting Movements in the Savings of the Household, Private Corporate and Public Sectors

2.6   The rapidly evolving macroeconomic and policy environment has been associated with contrasting movements in the rates of savings of the household, private corporate and public sectors. As evident from Chart 2, the years 2002-04 could be viewed as a break point in the trends in the savings rates of the three sectors. While household savings has continued to account for the predominant share of gross domestic savings over the years, the households' savings rate which had generally moved upwards at an increasing pace till 2003-04, generally levelled off thereafter at around 23 per cent. In contrast, the private corporate sector savings rate which had remained nearly stable at around 2 per cent upto the 1980s, picked up

Chart 1: Gross Domestic Savings and its Composition
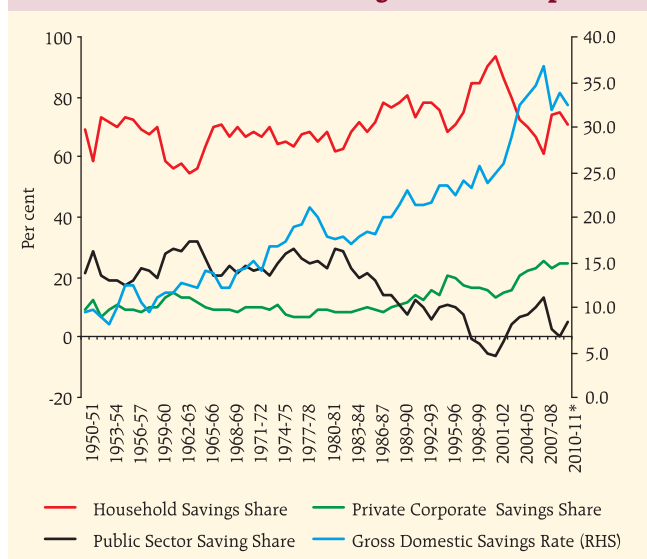
subsequently and increased sharply after 2002-03 to over 9 per cent by 2007-08, on the back of improved corporate profitability; the private corporate sector savings rate has hovered around 8 per cent since then.

2.7 The private corporate sector has remained vibrant and has benefitted from increasing consumption and investment demand arising out of consistently high economic growth. With robust sales growth, improved productivity and healthy profit margin, corporates recorded good growth in profits which translated into higher saving.

2.8 The public sector savings rate declined steadily from around 5 per cent in the early 1980s and turned negative in the late 1990s and remained so for the next few years. This largely reflected the fiscal profligacy of the 1980s and the waning of the fiscal consolidation process in the late 1990s. The public savings rate turned positive once again in 2003-04 and peaked at around 5 per cent in 2007-08 largely reflecting the enactment of fiscal responsibility legislation and improvement in the finances of public sector enterprises. A sharp decline in public sector savings occurred in 2008-09 largely on account of the Sixth Pay Commission arrear payouts and fiscal stimulus measures, which persisted in 2009-10 with the public sector savings rate declining further to 0.2 per cent.
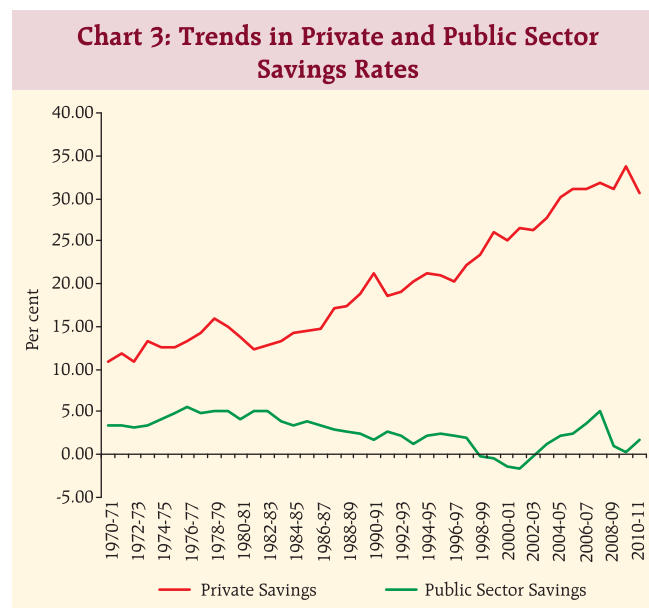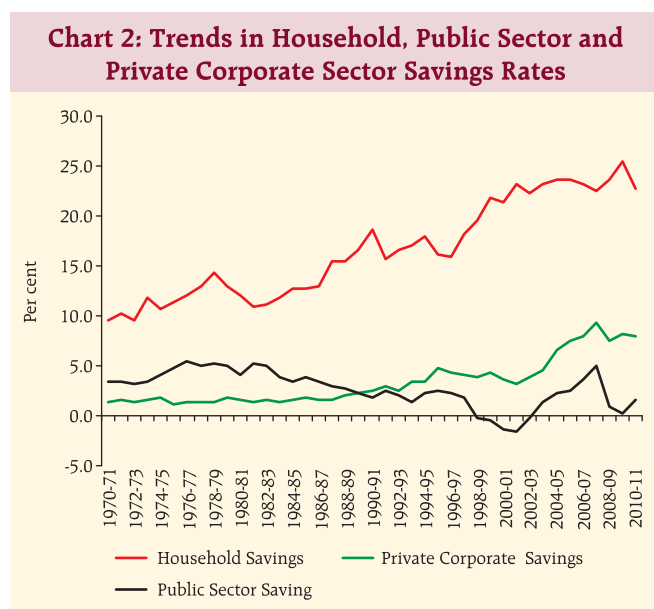
2.9 It is also evident that the contrasting movements in the savings rates of the private (*i.e.* household plus

private corporate) sector and the public sector that were observed during the 1980s and 1990s - indicative of a form of Ricardian equivalence[2] - were not discernable during 2000s (Chart 3). It is noteworthy in this context that both public sector savings and private corporate sector savings improved substantially during 2000s, even as household savings rate plateaued somewhat.

Trends in Household Sector Savings – Rate and Composition

2.10 A striking feature of the 2000s is the general leveling off of the household savings rate at about 23 per cent from around the middle of the decade in contrast to the upward movement in the previous years (Table 3 and Chart 4). Moreover, this leveling off occurred even as the economy generally cruised along a high growth trajectory (barring a brief hiccup in 2008-09). The factors underlying the stability in the household savings rate are discussed next.

2.11 Total saving of the households comprises financial savings and physical savings. Financial savings are treated on a net basis *i.e.* households' (change in gross) financial assets *less* their (change in gross) financial liabilities. It is evident from Table 3 and Chart 4 that while physical savings of the households increased

Chart 2: Trends in Household, Public Sector and Private Corporate Sector Savings Rates

Chart 3: Trends in Private and Public Sector Savings Rates

[2] In its strict form, the Ricardian equivalence proposition implies that reductions in public savings are offset one-for-one by increases in the savings of the private sector in anticipation of future increases in the tax burden.

Table 3: Trends in Household Savings (Averages)

(as per cent of GDP at current market prices)

Period	Changes in Gross Financial Assets (GFA)	Changes in Gross Financial Liabilities (GFL)	Changes in Net Financial Assets (NFA) (2-3)	Changes in Physical Assets (HPA)	Total Household Savings (4+5)
1	2	3	4	5	6
1970s	6.0	1.5	4.5	7.3	11.8
1980s	8.9	2.4	6.5	7.2	13.7
1990s	11.2	1.6	9.6	8.2	17.9
2000s	14.2	3.4	10.8	12.3	23.2
2000-05	12.8	2.4	10.3	12.9	23.1
2005-11	15.5	4.2	11.3	12.2	23.5

sharply during the first half of 2000s, the pace of increase in gross financial assets as well as gross financial liabilities slowed down. With the net financial savings rate resultantly showing a modest increase, most of the overall increase in the households' savings during the first half of the 2000s was on account of physical savings. The household sector's preference for savings in the form of physical assets since 2000-01 could be attributed partly to the robust economic growth as well as rising availability of credit to meet financing needs of the household sector.

2.12 During the second half of the decade, even though the gross financial savings (assets) and gross financial liabilities of the households increased sharply, the increase in net financial savings rate remained modest.

At the same time, the rate of physical savings declined partly in response to the tightening in credit norms, offsetting the increase in the financial savings rate. Consequently, the households' overall savings rate remained largely unchanged (at around 23 per cent) since mid-2000s.

2.13 Since the 1970s, the allocation of household savings between financial assets and physical assets had been progressively moving in favour of the former, with the notable exception of the first half of the 2000s. The allocation became almost evenly balanced during the second half of the 2000s.

2.14 The extent to which household physical assets were funded through loans and advances increased sharply during 2004-05 to 2006-07, coinciding with the high growth phase and real estate boom. Subsequently, this ratio has declined.

Evolving Structure of Households' Gross Financial Savings

2.15 The composition of (changes in) the gross financial assets of households has also changed substantially over the years (Table 4).

- The share of currency has declined to around 11 per cent during 2005-10 as compared with 14 per cent in the 1970s, reflective of the spread of banking facilities, the declining share of agriculture in GDP and moderation in inflation.

Chart 4: Trends in the Household Savings Rate: 1970-71 to 2010-11
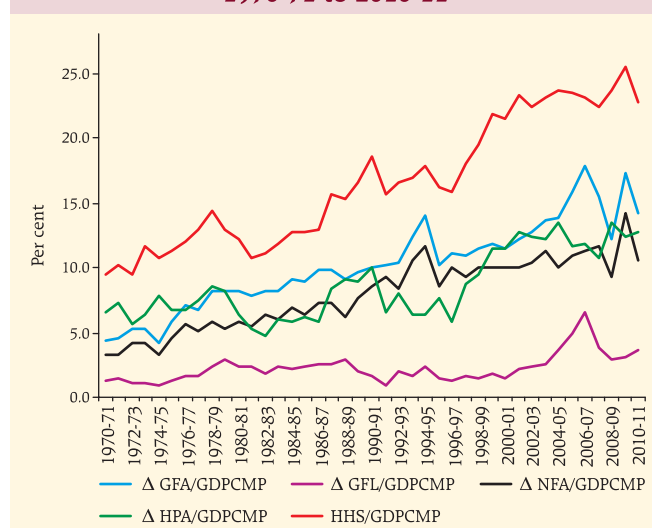
Chart 5: Ratio of (changes in) Gross Financial Liabilities to Physical Assets

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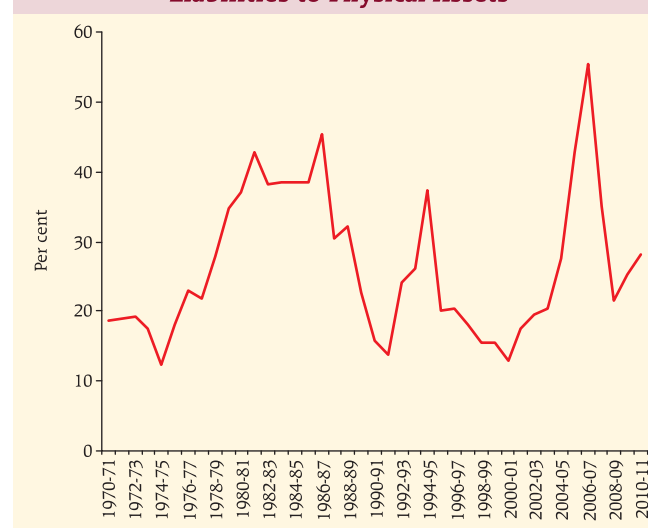
Table 4: Composition of (Changes in) Gross Financial Assets
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(per cent)

Period	Currency	Bank Deposits	Non-banking deposits	Life insurance fund	Provident and pension fund	Claims on Government	Shares & debentures	Units of UTI	Trade Debt (Net)	Gross Financial Assets
1	2	3	4	5	6					
1970s	13.9	45.6	3.0	9.0	19.6	4.2	1.5	0.5	2.7	100.0
1980s	11.9	40.3	4.6	7.5	17.5	11.1	3.9	2.2	0.9	100.0
1990s	10.3	34.7	6.8	10.1	18.8	9.5	7.0	3.8	-1.0	100.0
2000s	9.6	44.7	1.3	17.4	12.4	11.1	4.1	-0.5	0.0	100.0
(i) 2000-05	8.9	37.8	2.0	14.7	15.1	19.5	2.8	-0.9	0.0	100.0
(ii) 2005-11	10.7	49.9	1.7	19.9	10.3	3.5	4.3	-0.2	0.4	100.0

- Bank deposits continue to account for the predominant share of gross financial assets, with their share increasing sharply in the second half of 2000s in contrast to the declining trend in the previous years; part of the recent increase in the share of bank deposits could be attributable to the increase in deposit rates and aggressive deposit mobilization by banks.

- The share of life insurance funds continued to increase during 2000s, in line with higher insurance penetration and robust economic growth. As indicated in the Economic Survey 2010-11, Life insurance penetration[3] in the year 2000 when the sector was opened up to the private sector was 1.77 and it has increased to 4.73 in 2009. The increase in levels of insurance penetration has to be assessed against the average growth of over 8 per cent in the GDP in the last five years.

- The share of provident and pension funds has progressively declined over the years; this has been attributable to a number of factors viz.;

  ▪ The EPF and MP Act, 1952 covers mandatorily those employees of organised sector whose salary is below ` 6500/- per month. This statutory limit is stagnant since 2002 while there has been a phenomenal growth in wage structure in industry over the years.

  ▪ While the new enrolment of members has become difficult as mentioned above, the exit of members by way of retirement, retrenchment and death are keeping normal pace.

  ▪ The increasing job avenues in global age economy have stirred the job dynamics and owing to this there is a brisk movement of labour amongst the companies offering better rewards. This has also resulted in settlement of accounts rapidly and giving way to outflow of contributions, as many of exiting members do not come back under coverage profile due to low statutory ceiling of wages.

  ▪ The Employees' Provident Fund Organization (EPFO), of late, has taken a decision not to allow interest on those accounts in which no contributions have been received for last 36 months. This has been done with a view to dissuade the ex-members to consider this social security scheme as Investment Avenue. With obvious exit of such members, this may further erode the deposit base.

  ▪ Reflecting the impact of the above factors, the contributions received in the Employees' Provident Funds Scheme, 1952, Employees' Pension Scheme, 1995 and Employees' Deposit-Linked Insurance Scheme, 1976 framed under the EPF & MP Act, 1952, have been decelerating over the years as evident from the table below:

(` Crore)

Name of Scheme	2005-06	2006-07	2007-08	2008-09	2009-10
EPF , 1952	11,793	14,414	18,782	23,247	26,558
EPS , 1995	6,885	8,051	9,012	10,488	10,925
EDLI, 1976	221	251	308	368	423

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[3] Insurance penetration is defined as the ratio of premium underwritten in a given year to the GDP.

- The share of claims on Government, which largely reflect Small Savings, which had picked up over the years, particularly during the first half of 2000s, declined during the second half largely in response to the unchanged (administered) interest rates on Small Savings since 2003-04. In fact, households disinvested their holdings of Small Savings during 2007-08 and 2008-09.

- The share of shares and debentures in the gross financial assets of households has remained quite small (less than 10 per cent, on an average), even though it increased sharply during the (early) 1990s, spurred by the reforms in the capital market. Subsequently, the share of shares and debentures started declining ---- largely reflecting stock market conditions impacted by irregularities and the downturn in industrial activity ---- and was placed at less than 3 per cent in the first half of 2000s. The share of 'shares & debentures' picked up very sharply during 2005-06 to 2007-08 largely coinciding with the high growth phase and buoyant stock market trends, but then plummeted in 2008-09 in the face of knock-on effects of the global financial crisis; on the average, however, the share of shares and debentures improved during the second half of 2000s.

- Contrasting movements were observed in the shares of bank deposits and shares and debentures in the households' gross financial assets till around the first half of 2000s, indicative of households' perception of substitutability between the two instruments in the allocation of their financial savings. In the second half of 2000s, however, the average shares of *both* the instruments *increased* sharply in response to the very buoyant economic conditions, pick up in primary market activity (in the case of shares and debentures) and increase in deposit rates (in the case of bank deposits), and disinvestment of Small Savings holdings by households during 2007-09.

- The share of Units of UTI, Mutual Funds, etc has generally been small and these turned negative during 2000s. Trade debt (net) has been negligible.

- In sum, bank deposits continue to account for the predominant share of gross financial savings of

the households and their share has increased sharply during the second half of 2000s. The share of Life Insurance Funds has also increased progressively over the years. Provident and Pension Funds, non-banking deposits, claims on Government and currency have lost momentum over the years. Shares and debentures constitute a relatively small portion of household financial savings, even though their share has picked up in the recent period.

Gross Financial Liabilities of the Households

2.16 Advances from banks have remained the largest component of the financial liabilities of households; their share had dipped during the 1990s, but picked up subsequently (Table 5). The shares of loans from other financial institutions, Government and cooperative non-credit societies have, on the other hand, declined in recent years; in fact, the shares of loans from the latter two institutions have become negligible.

2.17 The Central Statistics Office released the Quick Estimates of national income aggregates for 2010-11 on end-January 2011; data for some of the past years were also revised. As per the updated information, the household savings rate touched a record high of 25.4 per cent in 2009-10, largely reflecting substantial increase in life insurance funds (under the financial savings component). The attainment of the record household savings rate in 2009-10 occurred despite a sharp fall in the rate of physical savings. The household savings rate, however, declined to 22.8 per cent in the following year *i.e.* 2010-11. In this context, based on

Table 5: Composition of Gross Financial Liabilities

(per cent)

Period	Advances from Banks	Loan& Advances from Other FIs	Loan& Advances from Govern-ment	Loan & Advances from Cooperative Non-Credit Societies	Change in GFL
1	2	3	4	5	6
1970s	81.6	8.2	8.4	1.8	100.0
1980s	86.2	7.4	4.2	2.1	100.0
1990s	79.1	15.5	3.6	1.9	100.0
2000s	90.6	8.4	0.8	0.2	100.0
2000-05	85.8	12.3	1.4	0.5	100.0
2005-11	95.5	4.2	-0.1	0.1	100.0

preliminary estimates, the RBI's Annual Report for 2010-11 that was released in August 2011, had explained, '*……The decline in the net financial savings rate of the household sector reflected the slower growth in households' savings in bank deposits and life insurance fund as well as an absolute decline in investment in shares and debentures, mainly driven by redemption of mutual fund units. Even so, there was a shift in favour of small savings and currency during the year. Households' financial liabilities, however, increased reflecting higher borrowings from commercial banks. Notwithstanding the pick-up in the real GDP growth rate during 2010-11, persistently high inflation, relatively slower adjustment of bank deposit rates and the volatility in the Indian equity market impacted by global macroeconomic uncertainties, affected the level and composition of net financial savings of the household sector.*" (Para II.1.7)

2.18 Tentative estimates, based on data available upto early August 2011, indicated that household financial savings in 2011-12 are likely to be around one percentage point higher than that in the previous year. The expected increase in the household savings rate is largely on account of the increase in deposit rates and the robust turnaround in mutual funds. With the increase in bank deposits rates, the growth rate of bank deposits has also increased while that of currency has declined. At the same time, the moderation in the growth rate of the construction sector during the first half of 2011-12, is perhaps early indication of a decline in the savings of the households in physical assets. On the whole, therefore, the household savings rate may change marginally.

Outlook for Select Instruments of Household Sector Savings

Bank Deposits

2.19 In recent years, banks have moved to the Core Banking platform which has enabled them to offer a range of value-added products to customers across geographies and across all sections, on a real time basis 24x7, which has enhanced the attractiveness of bank deposits. Moreover, against the backdrop of financial sector reforms and financial inclusion, supported by

favourable demographic pattern, bank deposits would continue to be one of the key drivers of the household financial savings during the Twelfth Five Year Plan period.

Life Insurance Funds

2.20 Given the changes in policy with regard to ULIP, there has been a sharp fall in the life fund segment in 2010-11. The progressive withdrawal of tax incentives have also impacted on the overall insurance segment. Going forward, however, the increasing penetration of insurance activity could increase the share of life insurance in total financial savings of households.

Provident Funds

2.21 Since contributions to Employees' Provident Fund is mandatory only with respect to monthly incomes below ` 6,500, the recent trends in terms of number of participants and their contributions indicated the prospects in respect of this instrument are dim, notwithstanding a very high rate of tax-free return. Prospects are likely to improve only after a couple of years once the proposal to increase the monthly income ceiling for mandatory contributions to `15,000 is accepted and implemented.

Shares and Debentures

2.22 The Indian Securities market is growing rapidly with introduction of new products and processes. During the first five years of the current decade, resource mobilisation from the primary market has increased. In the next five years, the tempo continued at a faster pace until the global financial crisis affected the market. However, the trend in resource mobilisation in the post-crisis period signals a quick recovery. Gross resource mobilisation in mutual funds has also gone up at an accelerated rate in the current decade, though net resource mobilisation has shown a volatile trend. Asset under management has also increased during this period, except the fall in the crisis-affected year 2008-09 and in 2010-11. The number of investors in the country has also increased manifold. At present, India is the second fastest growing country in the world next to China. With increase in per capita income, the households are left with more investible resources. The

increase in number of investors is reflected in the increase in the value of shares settled in demat format. Besides, the Securities and Exchange Board of India (SEBI) is trying to improve the transparency in the market with better regulations, efficient surveillance of the market and better availability of information to the investors. Investor education workshops are being conducted all over the country. Looking at the past trend of Indian securities market, which has witnessed remarkable growth in the last two decades, it may be conjectured that in next five years the expansion will continue at a faster pace with more investors participating in the securities market in India.

Physical Savings

2.23 The trend particularly since the late 1990s is that households are investing substantially in the acquisition of physical assets. Within physical assets, households are now investing more in construction activities. These trends are expected to continue.

Section III: Household Sector Savings

3.1 Against the backdrop of the review of the trends in the level and composition of household savings as well the outlook for select instruments of household savings, this Section discusses the estimation methodology and projection of household saving over the Twelfth Plan.

Considerations Underlying the Estimation Methodology

3.2 The Working Group first considered the different estimation methodologies and projections of household savings contained in the Sub-Group Report. It was noted that the Sub-Group had decided to pool (*i.e.* take the average of) the projections generated by (a) regression-based estimates of elasticities of broad categories of household savings (*i.e.* Gross Financial Assets, Physical Assets and Gross Financial Liabilities); (b) an estimated household savings function with real GDP growth and inflation as determinants and (c) an ARIMA model on the household savings rate. The Sub-Group had, however, not taken into account the projections that were obtained from regression-based estimates of elasticities of individual instruments of household savings in the computed average. This was because this

approach implicitly assumed the persistence of past (long-term) trends for *each* instrument over the projection period. Given the limitations in the household savings data as well as the sharp year-to-year changes that have occurred in the composition of household financial savings, the Sub-Group felt that the instrument-wise elasticity approach was unlikely to appropriately capture the evolving medium term scenario; this was endorsed by the Working Group.

3.3 The Working Group, however, felt that even the afore-mentioned pooling of the projections of the household savings rate obtained through the three approaches was likely to have some upward bias. This was primarily because econometric estimation underlying approaches (a), (b) and (c) above were each based on long period (30-year *i.e.* from 1980-81 to 2009-10) data on different variables, which is considered to be a minimum requirement for statistical tests of significance. The Working Group noted in this context that the Sub-Group had also worked out rolling regressions over different time periods under approach (a), so as to capture changes in elasticities, but in each case, the time span of estimation was thirty years. It was felt that projections based on such long period data, notwithstanding their statistical robustness, were unlikely to fully capture the dynamics of more recent and evolving trends, being as these were, weighted by the 'memory' of past data. In essence, a good statistical fit may not necessarily generate good out-of-sample forecasts, particularly when recent or evolving tendencies diverge from the long-term trend.

3.4 Accordingly, the Working Group adopted a different approach for the projection of household savings. In this context, annual and three-year moving averages thereof of the elasticity of household savings with respect to GDP at current market prices were obtained from 1981-82 onwards (Chart 6).

3.5 It is evident from the Chart above that the annual and the three-year moving average of the elasticity of household savings have not shown a stable trend over the years. In fact, the three-year moving average of the elasticity has generally declined after 2000-01, coinciding with the near-stability in the household savings rate, notwithstanding fairly high real GDP

Chart 6: Trend in the Elasticity of Household Savings
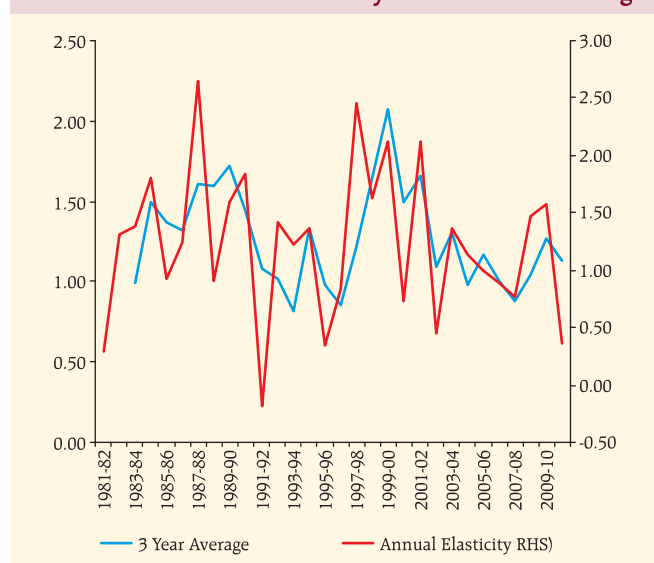
growth rates over this period[4]. The general reduction
in the elasticity of household savings over the past
decade or so seems to reflect the tendency of increases
in income to be progressively associated with the
entrenchment of lifestyles/household consumption
levels, facilitated, in part, by the easier availability of
credit and improvement in domestic macroeconomic
conditions. Furthermore, persistently high inflation, as
was evident recently, has tended to pull down the
savings rate, as households attempt to maintain their
real consumption levels. Moreover, as alluded to in
Section II in the context of the year 2010-11, if nominal
interest rates on some financial assets do not keep pace
with inflation, households may reallocate their savings
towards other assets, such as, physical assets or
valuables such as gold (which is not part of household
savings).

Projections during the Twelfth Plan

3.6   Against this backdrop, the Working Group decided
to use the latest three- year moving average (2008-09
to 2010-11) of the elasticity of household savings for
obtaining projections over the Twelfth Plan; this average
worked out to 1.14. The projections of household

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[4] The growth rate of real GDP exceeded 9.0 per cent during 2005-06 to
2007-08. During 2008-09 (the global crisis-affected year), the real GDP growth
declined to 6.7 per cent, which was impressive by international standards.
The real GDP growth rate then recovered rapidly to 8.4 per cent in 2009-10
and 2010-11. The average growth rate during 2002-03 to 2010-11 was around
7.9 per cent.

**Table 6: Projections of Household savings Rate
(in per cent of GDP)**

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12th Plan Average
Household savings rate	23.2	23.6	24.0	24.4	24.8	25.2	**24.4**

savings for the three scenarios of real GDP growth and
inflation (and the implied growth rate of GDP at current
market prices) turn out to be near-identical and thus
the common set of projections is set out in Table 6.

3.7   It is evident that the projected household savings
rate increases from 23.2 per cent in 2011-12 to 25.2 per
cent in 2016-17, giving an average of 24.4 per cent
during the Twelfth Plan.

3.8   The Working Group considered the impact of
demographic factors on household savings. One
approach was to assess the possible effect of the
differential savings propensity across the age-profile of
the chief earner of the household. In this context, an
NCAER-Max New York Life Study (2007) [henceforth,
the NCAER Survey (2007)] provided some insights. The
Study showed, on the basis of a survey conducted in
2005 that the average savings per household in India
increased with the age of its chief earner, till the latter
attained the age of 65 years (Table A). This increase in

Table A: Average Annual Saving per Household

Age of Chief Earner of Household (in years)	Average Annual Savings per Household (in Rupees)
Less than 25	8,515
26-35	13,465
36-45	15,522
46-55	20,444
56-65	21,196
More than 65	17,011
Average	16,139[5]

Source: Max Life New York - NCAER Survey (2007)

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[5] The NCAER Survey states that the number of households in 2004-05 was
205.9 million and accordingly, total household savings (financial and
physical) in that year worked out to `3,323 billion. As per CSO data,
household financial savings alone was `3,280 billion, whereas household
physical saving was `4,357 billion. Thus, the average household savings as
per the NCAER Survey appears to have been underestimated. It may be
mentioned in this regard that household physical saving as compiled by
CSO includes unincorporated entities apart from pure households. The
NCAER survey did not cover unincorporated enterprises.

Table B: Projected Age-structure of Population in India							
Age-Group (in years)	Percentage of population in that age-group						Variation of 2016 over 2011 (percentage points)
	2011	2012	2013	2014	2015	2016	
Less than 25	48.9	48.9	48.4	47.9	47.4	46.9	-2.1
25-34	16.2	16.2	16.3	16.3	16.4	16.4	+0.2
35-44	12.8	12.8	12.9	13.0	13.1	13.2	+0.4
45-54	9.8	9.8	9.9	10.0	10.1	10.2	+0.4
55-64	6.6	6.6	6.8	6.9	7.1	7.2	+0.6
Above 64	5.7	5.7	5.8	5.9	6.0	6.1	+0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	

Source: UNSTAT

savings was attributed to the growing need for old-age financial security, apart from the general increase in savings with (working) age.

3.9 The results of the NCAER Survey imply that if the composition of the Indian population shifts in favour of higher (working) age groups, household savings would increase. The projected age-structure of India's population over the Twelfth Plan period, as given by the United Nations database, is set out in Table B.

3.10 It may be observed that the age-groupings in the UN database are almost identical to that of the NCAER Survey. Furthermore, over the period 2011-2016, the share of population in the 'less than 25 years' age group is estimated to decline by 2.1 percentage points, while it would increase in the case of each of the other age-groups. The maximum increase of 0.6 percentage points occurs in the case of the age-group 55-64 years, which coincides with the age group of the chief earner of the households whose average savings was found to be the highest in the NCAER Survey. Thus, the impact of the projected age structure of the Indian population over the Twelfth Plan is expected to be positive on overall household savings.

3.11 While the direction of the impact of the projected age structure of population on household savings is evident, quantifying the impact would require assumptions about the evolution of income and the number of households across each age group. But, in any case, the impact of demographic factors would have been captured under the real GDP growth rate. Moreover, as the Sub-Group on Household sector savings has observed, the dependency ratio is likely to be negatively correlated with the income variables and,

thus, the inclusion of both dependency ratio and income variables as determinants of household savings in the same equation would entail multicollinearity problems. The Sub-Group, in fact, found that when real GDP growth was regressed on the dependency ratio for the period 1980-81 to 2009-10, the coefficient of the dependency ratio turned out to be (-) 0.47, which was statistically significant. Thus, the Working Group concluded that the positive impact of demography was already captured in the growth rate of real GDP which was taken as one of the major determinants of household savings rate in India.

3.12 The Working Group was also required to provide estimates of the components of household savings, in accordance with its Terms of Reference. Taking the projections of household savings as set out in Table 6, the components of household savings are worked out by applying their respective average shares during the period 2005-06 to 2007-08 *i.e.* period of over 9 per cent real GDP growth just prior to the onset of the global financial crisis. These projections are presented in the Table 7.

Section IV: Private Corporate Sector Savings

4.1 The private corporate sector comprises (i) non-government non-financial companies, (ii) non-banking financial companies in the private sector (iii) commercial banks and insurance companies working in private sector, (iv) co-operative banks, credit societies and non-credit societies, and (v) non-profit corporate institutions. The first three groups are also together referred to as joint stock companies.

Table 7: Baseline Projection of the Components of Household Savings over the Twelfth Plan

(As per cent of GDP at current market prices)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Average XII Plan
1 Currency	1.6	1.6	1.6	1.7	1.7	1.7	**1.7**
2 Bank deposits	8.6	8.8	8.9	9.1	9.2	9.4	**9.1**
3 Non- banking deposits	0.1	0.1	0.1	0.1	0.1	0.1	**0.1**
4 Life insurance fund	2.9	2.9	3.0	3.0	3.1	3.1	**3.0**
5 Provident and pension fund	1.7	1.7	1.7	1.8	1.8	1.8	**1.8**
6 Claims on Government	0.8	0.8	0.8	0.9	0.9	0.9	**0.9**
7 Shares & debentures	1.2	1.3	1.3	1.3	1.3	1.3	**1.3**
8 Gross Financial Assets (1 to 7)	16.8	17.1	17.4	17.6	17.9	18.2	**17.6**
9 Gross Financial Liabilities	5.1	5.2	5.3	5.4	5.5	5.5	**5.4**
10 Net Financial Savings (8 – 9)	11.7	11.9	12.1	12.3	12.5	12.7	**12.3**
11 Physical Savings	11.5	11.7	11.9	12.1	12.3	12.5	**12.1**
12 **Household total Savings (10+11)**	23.2	23.6	24.0	24.4	24.8	25.2	**24.4**

4.2 Retained profits of the private corporate sector adjusted for non-operating surplus/ deficit is considered as its net saving. Retained profits are those which are ploughed back into business after making commitments to depreciation provision for various fixed assets, debts (in the form of interest payments), government (tax provisions) and to share-holders (dividends). Non-operating surplus/ deficit (NOP) comprises (a) profit/loss on account of sale of fixed assets and investments, (b) provisions no longer required written back, (c) insurance claims realized and (d) income or expenditure relating to the previous years and such other items of non-current nature. Depreciation provision (DEP) at book value, as provided in the profit/loss account, is added to the net saving to obtain the gross saving (GS).

4.3 Among the constituents of the private corporate sector, joint stock companies (financial and non-financial) accounted for more than 90 per cent of the private corporate sector saving in the current decade and their share reached about 95 per cent in the latter half of the decade. Correspondingly, share of the cooperative banks and societies including a few non-profit corporate institutions steadily decreased from 7.8 per cent in 2004-05 to 6.3 per cent in 2006-07 and further to 5.0 per cent in 2009-10. Within joint stock companies, the share of non-financial companies remained at the level of 95 per cent while the financial companies, covering private banks and insurance companies, and non-banking financial companies accounted for the remaining 5 per cent.

Methodology of estimation

4.4 The saving estimates of the private corporate sector were worked out using (a) ratio and (b) regression approaches. Under the ratio approach, savings were estimated for the three broad segments of the sector separately: For (i) non-financial companies, sales growth, the most important determinant of their saving, was estimated first and assuming certain ratios, retained profits out of generated sales were worked out. For (ii) NBFCs and (iii) banks, insurance companies, cooperative banks/societies and other quasi-corporate bodies, the past trends in growth and ratios were applied. On the other hand, in the regression approach, a gross savings function for the private corporate sector was estimated and then used for projections. Within this approach, two variants were used *viz.*, (i) simple linear regression and (ii) linear spline trend regression.

(A) Ratio Approach

(i) Non-Financial Companies

4.5 The sales growth of *sample* non-financial companies as a group was first regressed on real GDP growth and inflation over the period 1980-81 to 2009-10. The estimation revealed that the coefficients of real GDP growth and inflation were positive and statistically significant. The different scenarios for real GDP growth and inflation during the Twelfth Plan were then used to obtain the projected sales growth for sample non-financial companies as a group. The projected gross and net savings of sample non-financial companies were

then obtained by applying the assumed ratios set out in Table 8.

4.6 The implied annual growth rates of gross/net saving of the sample non-financial companies over the Twelfth Plan were then applied to the actual 'population' of the gross/net saving of non-financial companies for 2009-10 (*i.e.* data for the latest available year), to obtain projected overall saving of non-financial joint stock companies.

4.7 A similar exercise was conducted by differentiating between manufacturing and non-manufacturing companies within non-financial joint stock companies. Accordingly, the sales growth of *sample* manufacturing and non-manufacturing companies were separately regressed on real GDP growth and inflation. As in the case of all companies, the estimated coefficients of real GDP growth and inflation were found to be positive and statistically significant for both manufacturing and non-manufacturing companies. The projected growth rates of sales of manufacturing and non-manufacturing companies over the Twelfth Plan were obtained across the different scenarios. Then, the assumed ratios (as set out in the previous Table) were applied to obtain the gross/net savings of the sample manufacturing and non-manufacturing companies. Finally, the gross saving of sample manufacturing and non-manufacturing companies were aggregated to obtain the implied annual growth rates which were applied to the latest available aggregate saving of non-financial joint stock companies, as before.

(ii) Non- Bank Financial Companies

4.8 It was observed that the gross savings of this segment had fluctuated substantially, from more than

100 per cent to a negative of 50 per cent in different years. Based on a conservative estimate, the annual rate of growth of savings of the NBFC sector was assumed at 25 per cent during the Twelfth Plan period.

(iii) Commercial Banks, Insurance Companies, Cooperative Banks/ Societies and Other Quasi-Corporate Bodies

4.9 The contribution of private commercial banks, non-life insurance companies, cooperative banks/ societies and other quasi-corporate bodies in gross saving of the private corporate sector is quite small. Accordingly, the projections of savings of this segment over the Twelfth Plan period were based on recent trends. In this connection, it was noted that (a) as per the latest data released by CSO for the period up to 2009-10, the gross saving of private commercial banks increased at an annual average rate of about 40 per cent between 2005-06 and 2007-08 but then decelerated in the next two years; (b) some more banks may be licensed in the private sector in the near future; and (c) the private insurance sector has immense growth potential. Accordingly, the growth rates of gross savings of the different constituents of this segment that were assumed for the Twelfth Plan period are set out in the Table 9.

4.10 It may be, however, mentioned that the overall saving of the private corporate sector has very low sensitivity towards the assumed growth rates of this segment.

(B) Regression Approach

(i) Simple Linear Regression

4.11 The private corporate sector savings rate was regressed on a number of explanatory variables such as real GDP growth, inflation and capital market

Table 8: Assumptions regarding Financial Ratios of Non-Financial Companies

Ratios	All Companies	Manufacturing Companies	Non-manufacturing Companies
Profit Before Tax (PBT)-to- Sales	11%	10%	11.5%
Tax Provision-to-PBT	25% (same as in the first four years of the Eleventh Plan)		
Dividend Payout Ratio	25%	25%	25%
Non-Operating Surplus-to-Sales	0.9%	0.9%	1.0%
Depreciation-to-Sales		4%	5%

Table 9: Assumptions regarding Rates of growth of Gross Savings of Financial Companies

Constituents	Annual Growth Rates of Gross Savings
1. Commercial Banks, Insurance Companies	25 per cent
2. Cooperative Banks/Societies and Other Quasi-Corporate Bodies	12 per cent
3. Financial and Investment Companies	25 per cent

development for the period 1980-81 to 2009-10. The sharp jump in the private corporate saving rate after 2004-05 was captured through a time dummy.

Explanatory variables	Estimate
Constant	1.60*
Inflation	-0.08*
Real GDP Growth (Previous Year)	0.12*
Capital Market Development Index	0.06*
Year dummy (which takes value 1 from the year 2004-05 onwards)	1.36*
* Denotes significance.	

4.12 The results showed that all the explanatory variables were statistically significant. The coefficient of inflation was found to be negative which reflected its adverse impact on the savings of the private corporate sector. The estimated equation was used to obtain projections of the private corporate savings rate over the Twelfth Plan. In this context, besides the alternative scenarios on growth rates of real GDP and inflation rates, market capitalization was assumed to grow at annual rates of 15 per cent for real GDP growth rates of 8.0 per cent and 8.5 per cent and at 18 per cent for real GDP growth of 9.0 per cent during the Twelfth Plan period.

(ii) Linear Spline Regression

4.13 In this approach, the sharp jump ('acceleration') in the savings rate of the private corporate sector from 2004-05 was captured by specifying differential slope coefficients (instead of a time dummy). The results of the regression indeed find a statistically significant higher slope coefficient after 2003-04. The coefficient of inflation, though negative, is not found to be statistically significant. Projections of the private corporate savings rate were obtained accordingly.

Explanatory variables	Estimate
Constant	0.29
Basic Trend	0.10*
Acceleration	0.22*
Inflation	-0.03
Growth (Previous Year)	0.14*
Capital Market Development Index	0.04*
* Denotes significance.	

Projections during the Twelfth Plan

4.14 The projections of the private corporate savings rate over the Twelfth Plan based on the four approaches under the three alternative scenarios are set out in the Table 10.

4.15 The following are evident from the above Table:

- Within the ratio approach, the disaggregated method provides marginally higher savings rates;

- Within the regression approach, the linear spline method provides higher savings rates; these projections are also higher than those obtained under the ratio approach;

- The lowest savings rate is obtained in the linear regression approach, under scenario III; and

- The highest savings rate is obtained in the linear spline approach under all the three

Table 10: Projections of Private Corporate Savings (as per cent of GDP)

Model	Scenario	I	II	III
Model	Growth	8.5%	9.0%	8.0%
	Inflation	5.0%	5.0%	6.0%
	Year			
Ratio Approach – Sales Growth for All Companies	2012-13	8.4	8.4	8.4
	2013-14	8.6	8.7	8.6
	2014-15	8.9	9.0	8.8
	2015-16	9.1	9.3	9.0
	2016-17	9.4	9.7	9.2
Ratio Approach – Sales Growth for Manf and non-Manf Companies	2012-13	8.4	8.4	8.4
	2013-14	8.7	8.7	8.6
	2014-15	9.0	9.1	8.9
	2015-16	9.3	9.5	9.1
	2016-17	9.6	9.9	9.4
Model	**Scenario**	**I**	**II**	**III**
Regression Approach – Least Squares Method	2012-13	8.4	8.6	8.3
	2013-14	8.5	8.9	8.3
	2014-15	8.6	9.1	8.4
	2015-16	8.6	9.3	8.4
	2016-17	8.7	9.4	8.4
Regression Approach – Spline Regression Method	2012-13	9.8	10.0	9.7
	2013-14	10.2	10.5	10.1
	2014-15	10.6	11.0	10.4
	2015-16	10.9	11.4	10.7
	2016-17	11.3	11.8	11.1

scenarios. This is contingent on the persistence of 'acceleration' during the Twelfth Plan period.

4.16 The Working Group considered the projections obtained via all the four approaches and felt that the simple linear regression approach is likely to best capture the evolution of private corporate savings during the Twelfth Plan. The year dummy in simple linear regression model appropriately portrays the sharp jump in private corporate savings after 2003-04. Moreover, the signs and statistical significance of the estimated coefficients of the explanatory variables in the model corroborate the trends in the private corporate savings rate in recent years in line with high real GDP growth rate and declining or stable inflation rate (Chart 7). In the ratio approach, on the other hand, while the impact of real GDP growth on the private corporate savings rate was stronger than in the simple linear regression model, the inflation rate was also found to be a positive contributory factor. The spline regression also captured the sharp jump in the corporate savings rate after 2003-04, but the drag of the inflation rate was not found to be statistically significant.

4.17 Thus, the simple linear regression model seems to best encapsulate the impact of different factors. The projections of this model indicate that the private

Chart 7: Private Corporate Savings Rate, Real GDP growth and Inflation

corporate savings rate would range between 8.3 per cent and 9.4 per cent under alternative scenarios in the terminal year of the Twelfth Plan.

Section V: Public Sector Savings

5.1 In accordance with its terms of reference, the Working Group made projections of public sector's draft on private savings and public sector's savings over the Twelfth Plan period. The public sector comprises the Central Government, State Governments, Central Public Sector Undertakings (CPSUs) and State Level Public Enterprises (SLPEs). Public sector's draft on private savings comprises (a) Gross Fiscal deficit (GFD) of Central Government and Governments of States/UTs taken together, (b) Extra Budgetary Resources (EBR) of CPSUs and SLPEs and (c) Disinvestments. Of these, the Gross fiscal Deficit (GFD) is the major component. The public sector's savings comprise: (i) (Central and State) Government savings and (ii) savings generated by the public sector undertakings in the form of internal resources (IR).

Considerations on the evolving fiscal path

5.2 The Working Group noted that the annual average combined (Centre and States) fiscal deficit during the first four years of the Eleventh Plan is estimated at 7.3 per cent of the GDP; of this, the GFD of the Centre is placed at 5 per cent of GDP and that of the States at 2.4 per cent of GDP (Table 11). The average revenue deficit of the Centre and States are placed at 3.5 per cent of GDP and -0.04 per cent of GDP, respectively. While the revenue account of the States as a whole has improved substantially, the Centre's revenue deficit continues to be an area of concern.

5.3 Going forward, the Working Group considered (a) the fiscal roadmap envisaged by the Thirteenth Finance Commission, particularly because the first three years (2012-13 to 2014-15) of the Twelfth Plan overlap with the last three years of the award period of the Thirteenth Finance Commission; and (b) the targets for fiscal and revenue deficits of the Central Government for 2012-13 and 2013-14 (*i.e.* the first two years of the Twelfth Plan) as set in the Medium Term Fiscal Policy Statement (MTFPS) presented along with the Union Budget 2011-12.
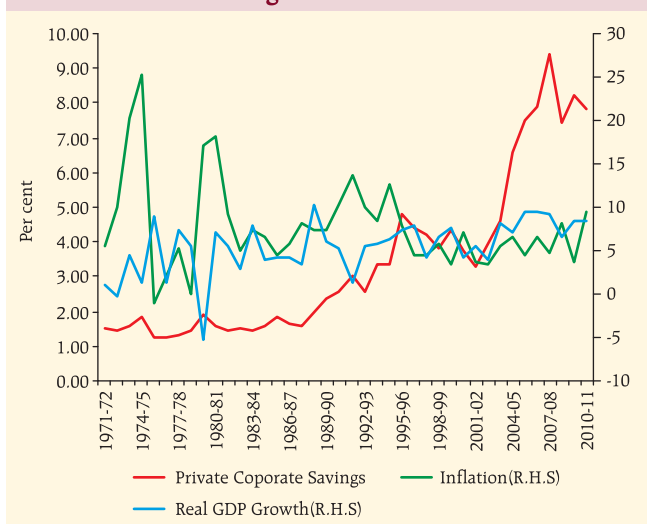
Table 11: Key Deficit Indicators during Eleventh Five Year Plan – (2007-12)

(as per cent of GDP)

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Average (2008-11)
Centre							
Gross Fiscal Deficit	3.3	2.5	6.0	6.4	5.1	4.6	5.0
Revenue deficit	1.9	1.1	4.5	5.2	3.4	3.4	3.5
States							
Gross Fiscal Deficit	1.8	1.5	2.4	3.3	2.5	2.0	2.4
Revenue deficit	- 0.4	-1.0	-0.2	0.7	0.3	-0.3	-0.04
Combined							
Gross Fiscal Deficit	5.0	3.9	8.3	9.6	7.6	6.5	7.3
Revenue deficit	1.5	0.1	4.3	5.9	3.7	3.1	3.5

5.4 According to the Thirteenth Finance Commission the fiscal deficit of the Central Government should be brought down to 3 per cent of GDP by 2013-14 and maintained at that level in the subsequent year and the Centre's revenue deficit (RD) should be progressively reduced and eliminated, followed by the emergence of revenue surplus by 2014-15. As far as the fiscal path of the State Governments is concerned, the Thirteenth Finance Commission made the following recommendations:

(a) States that incurred zero revenue deficit or achieved revenue surplus in 2007-08 should eliminate revenue deficit by 2011-12 and maintain revenue balance or attain a surplus thereafter. Other States to eliminate revenue deficit by 2014-15;

(b) The general category States that attained a zero revenue deficit or a revenue surplus in 2007-08 should achieve a fiscal deficit of 3 per cent of GSDP by 2011-12 and maintain such thereafter. Other general category States to achieve 3 per cent fiscal deficit by 2013-14;

(c) All special category States with base fiscal deficit of less than 3 per cent of GSDP in 2007-08 could incur a fiscal deficit of 3 per cent in 2011-12 and maintain thereafter. Manipur, Nagaland, Sikkim and Uttarakhand to reduce their fiscal deficit to 3 per cent of GSDP by 2013-14; and

(d) Jammu & Kashmir and Mizoram should limit their fiscal deficit to 3 per cent of GSDP by 2014-15.

5.5 For the consolidated position of the State Governments, the Thirteenth Finance Commission's recommendation translates into a fiscal deficit target of 2.4 per cent of GDP in 2013-14 and 2014-15, given the difference between the sum of GSDPs on the one hand and GDP on the other. The Commission's envisaged roadmap for the revenue and fiscal deficits of the Central and State Governments is set out below:

(per cent of GDP)

	2011-12	2012-13	2013-14	2014-15
Centre's Revenue Deficit	2.3	1.2	0.0	-0.5
Centre's GFD	4.8	4.2	3.0	3.0
States' GFD	2.5	2.5	2.4	2.4

5.6 On the other hand, the rolling targets of the revenue and fiscal deficits of the Centre as set out in the MTFPS 2011-12 are as follows:

(per cent of GDP)

	2011-12 (BE)	2012-13	2013-14
Centre's Revenue Deficit	3.4	2.7	2.1
Centre's Effective Revenue Deficit	1.8	1.1	0.5
Centre's GFD	4.6	4.1	3.5

5.7 It is evident that the MTFPS target for the Centre's revenue deficit for the years 2012-13 and 2013-14 are higher than those envisaged by the Thirteenth Finance Commission. In this context, the Centre's Fiscal Policy Strategy Statement 2011-12 acknowledged the difficulties in achieving a revenue surplus for the Centre within the time frame envisaged by the

Thirteenth Finance Commission. These difficulties arise due to the fact that a substantial portion of the Centre's revenue expenditure includes releases (*i.e.* grants, mainly under Plan heads) made to States and other implementing agencies for implementing Government schemes are largely for the creation of durable assets even though such assets are not owned by the Centre[6]. Accounting for such grants that are made for the creation of capital assets and recognizing the importance of such expenditures for the growth of the economy, the MTFPS envisaged the elimination of the Centre's *effective revenue deficit* (rather than the revenue deficit) in the medium term.

5.8   The MTFPS target for the Centre's fiscal deficit is lower than that of the Finance Commission for 2012-13 but higher in 2013-14, reflecting different assumptions regarding disinvestment proceeds.

5.9   The Working Group acknowledged the difficulties highlighted by the MTFPS in reducing the revenue deficit at the pace envisaged by the Thirteenth Finance Commission, keeping in mind the overall growth objectives in the medium term. Apart from the fact that following the cessation of Central loans to States since 2005-06, Central assistance to States for Plan purposes has a predominant revenue component, a sizable part of Centre's Plan expenditure is revenue-loaded. Within Non-Plan expenditure, interest payments, the salary outgo in respect of both civil and defence employees and 'maintenance' expenditures in respect of projects/ schemes initiated under the previous Plans, impart downward rigidity to the Centre's overall revenue expenditure.

5.10 The Working Group noted that the difference between the Centre's fiscal deficit and revenue deficit, as ratios to GDP, had hovered around 1.5 percentage points since 2004-05 (*i.e.* since the enactment and implementation of the Fiscal Responsibility and Budget Management Act). Assuming that the entrenched relationship between the Centre's revenue deficit and fiscal deficit persists over the Twelfth Plan would imply

that only one of the two deficit measures could be taken as the binding target. In case the revenue deficit is taken as the binding target such that it declines to zero in 2013-14 in line with the Thirteenth Finance Commission's roadmap, the fiscal deficit would be placed as low as 1.5 per cent of GDP in that year (and not at 3.0 per cent). On the other hand, if the fiscal deficit were to be taken as the binding target such that it declines to 3.0 per cent of GDP in 2013-14 as per the Thirteenth Finance Commission's roadmap, the revenue deficit would be placed at 1.5 per cent of GDP in that year (and not be eliminated). The Working Group, thus, noted that the Centre's revenue and fiscal deficit targets would be mutually consistent under the MTFPS 2011-12, but not in the case of the roadmap envisaged by the Thirteenth Finance Commission.

5.11 As far as the consolidated position of the State Governments was concerned, the Working Group noted that 28 State Governments had already enacted Fiscal Responsibility Legislation. The consolidated GFD of the State Governments had hovered around 2.5 per cent of GDP in recent years (which was close to the target set by the Thirteenth Finance Commission). In addition, a revenue surplus was recorded for three consecutive years *i.e.* 2006-07 to 2008-09 and the revenue deficit for the following two years *i.e.* 2009-10 and 2010-11(RE) was less than 0.5 per cent of GDP. Moreover, a revenue surplus has been budgeted in 2011-12. In effect, the fiscal roadmap envisaged by the Thirteenth Finance Commission did not pose issues as far as the consolidated position of the State Governments was concerned.

Estimation Methodology

5.12 The Working Group adopted component-wise projections of Central and State Government finances, under different scenarios of real GDP growth and inflation. The assumptions regarding the evolution of budgetary variables are set out in the Table 12.

5.13 Acknowledging the structural relationship between the fiscal deficit and the revenue deficit, the revenue deficit was taken as the binding target for both the Centre and the States. The Centre's revenue deficit is assumed to evolve in line with the MTFPS till 2013-14 and thereafter, assumed to decline annually

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[6] The Thirteenth Finance Commission, however, had argued against the classification of revenue expenditures (including grants) that are made for the creation of capital assets, as capital expenditures, but had urged some thinking on this issue in the medium term.

Item	Assumptions	Remarks
Table 12: Assumptions regarding the evolution of budgetary variables over the Twelfth Plan		
Centre's Gross Tax Revenue	Tax Buoyancy = 1.25	This would increase the Centre's gross tax revenue which had declined from 11.9 per cent in 2007-08 to 9.5 per cent in 2011-12 to 12 per cent by the end of the Twelfth Plan.
States' share in Central tax revenue	29.5 per cent of Central gross tax revenue	This is in line with the budget estimates of 2010-11 and 2011-12. The Thirteenth Finance Commission had recommended a share of 32 per cent of the Centre's *net* tax proceeds *i.e.* gross tax revenue less cost of collection, but this ratio could not be applied in the absence of data on net tax proceeds.
States' own tax revenue	Tax Buoyancy = 1.15	This does not seem infeasible keeping in view the planned introduction of GST and anticipated acceleration in economic activity. This is likely to raise States' own tax revenue to GDP (ratio) to the pre-crisis level of 6 per cent.
Centre's non tax revenue	Little higher than the trend growth rate of 9.0 per cent during the Eleventh Plan	
States' own non-tax revenue	Trend growth rate of 10 per cent.	
Centre's recovery of loans	Kept at the base year level of `15,020 crore	In the absence of significant fresh loans from the Centre to States and CPSUs, it is only the past loans which have been consolidated and need to be repaid to the Centre as suggested by the Twelfth Finance Commission. The Thirteenth Finance Commission had recommended the writing off of loans from Centre to States and administered by the Ministries/ departments other than MOF outstanding at the end of 2009-10.
States' recovery of loans	Kept at the base year level of `4,500 crore	
Disinvestment by the Centre	0.35 per cent of GDP	In the absence of directions regarding the future, this has been kept close to the Eleventh Plan realization including the budgeted amount for 2011-12. No disinvestment has been assumed in the case of State PSUs.
Interest Payments	Centre's interest rate = 6.5 to 8.0 per cent, under different scenarios; States' interest rate = 8.0 to 9.0 per cent, under different scenarios	Interest rate on Government's borrowing is assumed to vary with inflation. Interest payments were assumed to evolve as follows: $Int_t = I_{t-1} + GFD_{t-1} * r$, where r = marginal nominal interest rate
Defence Expenditure (Centre)	$Dft = \mu * Y_0 * (1+g) * (1+p)$ where μ is the ratio of defence expenditure to GDP determined by historical ratios, g is real GDP growth rate and p is the inflation rate.	
Wages and Salaries	$WSt = WS_{t-1} * (1+p)*(1+inc)$, assuming no pay revision and no addition to employees' number, and 'inc' is the rate of annual increase on base salary	
Pensions	$Pnt = Pn_{t-1} * (1+p) * (1+n)$, where 'n' is the rate of growth of number of pensioners	
Centre's Non-Plan grants to States	The first three years of the Twelfth Plan are covered by the recommendation of the Thirteenth Finance Commission. A marginal increase over 2014-15 is assumed for the last two years of the Plan	
Centre's Subsidies	1.5 per cent of GDP	This is the base year figure. While the policy imperatives require gradual withdrawal of non-targeted subsidies, the ensuing food security bill is expected to put additional burden on the central finances.
Centre's other Non-Plan expenditure	Annual growth rate of 10 per cent	
States' other Non-Plan expenditure	For the first year of Twelfth Plan, 30 per cent of the Plan revenue expenditure of the States estimated to be incurred in the year 2011-12 has been included in their other non-plan expenditure. Thereafter, this expenditure is maintained at the same level in real terms. The assumption regarding the first year of the Twelfth Plan is in line with the recommendation of the Thirteenth Finance Commission	

by 0.5 to 0.6 per cent of GDP till 2016-17, the terminal year of the Twelfth Plan; accordingly, in the terminal year, the Centre's revenue deficit is placed at 0.6-0.7 per cent of GDP.

5.14 With the revenue deficit taken as the binding target, plan expenditure (or gross budgetary support to the Plan) is obtained as a residual in the case of both Centre and States. The capital component of plan expenditure is assumed to be fixed at 20 per cent during the Twelfth Plan, which is higher than the average of 17 per cent during the Eleventh Plan. This is in conformity with the recommendation of the Thirteenth Finance Commission regarding an indicative ceiling on overall transfer to States on the revenue account to be set at 39.5 per cent of gross revenue receipts of the Centre.

5.15 An important issue regarding State Plan financing is that most of the Plan schemes and programmes at the State level follow some non-flexible guidelines under which it may be difficult for the States to change the revenue capital mix of the Plan programmes. If the States continue to be constrained with a fixed revenue capital mix of 55:45 of Plan outlay (as in the Eleventh Plan) during the Twelfth Plan then the GFD and RD of the States would maintain a stable ratio. However, State finances have improved substantially during the Eleventh Plan with a realised surplus in the revenue account. During the Twelfth Plan, the State finances are expected to remain comfortable partly due to higher resource transfer from the Centre due to implementation of Thirteenth Finance Commission award. Therefore, it is expected that States would be in a much better position to mobilise higher Plan resources relative to that of the Centre. All States together are expected to mobilize at least 2 percentage points higher resources than that realised during the Eleventh Plan.

5.16 Another issue relates to the impact of the losses of State Electricity Boards (SEBs). The SEBs operate as Departmental Undertakings in most of the States and, therefore, their losses should form part of the budgets of those State Governments. The State Government budgets, however, do not include the SEB losses in their Annual Financial Statements and, therefore, it is not feasible to incorporate these losses into the budget numbers to make any future projection of Government finances. In this context, the report of the High Level Panel on Financial Position of Distribution Utilities (Chairman: Shri V.K. Shunglu), provides some insight. The report provides an assessment of year-wise net

losses that would be incurred over the period 2012-17 by SEBs of 15 States that account for 91 per cent of the power consumption in the country. The net losses aggregate around `27,000 crore in 2012-13 (0.3 per cent of GDP) and are expected to decline gradually to about `22,000 crore (0.1 per cent of GDP) in 2016-17. Even if these losses are not reflected in the budget, these form a definite liability of the State Governments and can potentially reduce government savings. The year-wise estimates of SEB losses, as per cent of GDP, over the Twelfth Plan period are as under:

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12th Plan Average
Losses of SEBs (as per cent of GDP)	-0.3	-0.3	-0.2	-0.2	-0.2	-0.1	-0.2

Extra-budgetary Resources (EBR) of PSUs

5.17 During the Eleventh Plan, the realised EBR of CPSUs, as per the Union Budget documents, worked out to be around 1.2 per cent of GDP. The same figure is adopted for the Twelfth Plan projection.

Internal Resources of PSUs

5.18 Internal resources (IR) of PSUs increased more or less steadily from around 3 per cent of GDP in 1990-91 to 4.1 per cent of GDP in 2004-05 and remained at about 4 per cent of GDP up to 2007-08. IR declined in 2008-09 and 2009-10 in the context of the global financial crisis-led economic slowdown. It is assumed that IR would remain at the pre-crisis level of 4 per cent of GDP during the Twelfth Plan.

Projections of Public Sector Savings and Public Sector's Draft on Private Savings

5.19 The results of the component-wise projections exercise (for the terminal year of the Twelfth Plan) are set out in the Table 13.

5.20 It can be seen from Table 13 that:

(i) The GFD and RD do not vary much across the three scenarios mainly because the RD is set to evolve in line with the MTFPS (for the Centre) and the GFD and the RD are intrinsically related, as explained earlier. The fiscal position of the States is more comfortable than that of the Centre.

**Table 13: Centre and States Combined Projections
for Terminal Year of the Twelfth Plan***

(per cent of GDP)

Growth Rate Inflation rate		Scenario I 8.5 5.0	Scenario II 9.0 5.0	Scenario III 8.0 6.0
	2011-12	2016-17	2016-17	2016-17
Centre				
GBS to Plan	4.9	4.4	4.5	4.3
Fiscal Deficit	4.6	2.0	2.0	2.0
Revenue Deficit	3.4	0.7	0.7	0.7
States				
GBS to Plan	4.9	6.9	7.1	6.7
Fiscal Deficit	2.0	2.7	2.7	2.7
Revenue Deficit	-0.3	-0.6	-0.7	-0.6
Combined				
GBS to Plan	8.2	9.9	10.3	9.7
Fiscal Deficit	6.4	4.6	4.6	4.5
Revenue Deficit	3.1	0.1	0.0	0.1

* Excluding the impact of SEB losses.

(ii)   The projected combined budgetary position seems to be quite comfortable in the sense that Government would be in position to mobilise larger resources for the Twelfth Plan while containing the fiscal balance and revenue balance position in line with the MTFPS targets. There would be about 2 to 2.2 percentage point gain in the resource mobilization in the terminal year compared to the base year (2011-12).

Public Sector's Draft on Private Savings

5.21 It may be recalled that public sector's draft on private savings is the sum of (a) Combined GFD, (b) EBR of CPSUs and SLPEs and (c) Disinvestments. The evolution of combined GFD over the Twelfth Plan is given in the previous Table. EBR of PSUs is assumed at 1.2 per cent of GDP and disinvestment is assumed at 0.35 per cent of GDP. Taking into account SEB losses, public sector's draft on private savings during the Twelfth Plan is, thus, estimated to be around 7.35 per cent of GDP, on average.

Public Sector Savings

5.22 In the absence of an exact relationship between the combined revenue deficit of the Government and the Government savings, the latter could be estimated

**Table 14: Public Sector's Draft on Private Savings
for Twelfth Plan Under Alternative Growth Rate and
Inflation Scenarios**

(Annual average as percent of GDP)

	Scenario I	Scenario II	Scenario III
Growth Rate	8.5%	9.0%	8.0%
Inflation rate	5.0%	5.0%	6.0%
Combined GFD	5.6	5.6	5.6
Disinvestment	0.35	0.35	0.35
EBR of PSUs	1.2	1.2	1.2
Losses of SEBs	0.2	0.2	0.2
Total Draft	7.35	7.35	7.35

through the observed relationship between the two variables over the past few years. On the basis of data for the past few years, the gap between Government savings and combined revenue deficit as percentage of GDP at market prices is estimated as 1.2 percentage points, on average. Government savings, unadjusted for SEB losses, thus, works out to 1.1 per cent to 1.2 per cent of the GDP in the terminal year of the Twelfth Plan under the three scenarios. The average Government savings for the Twelfth Plan period could be marginally negative at around (-) 0.3 per cent of GDP in all the three scenarios. However, SEB losses also need to be factored in, which implies a downward revision of average Government savings for the Twelfth Plan to around (-) 0.5 per cent of GDP.

5.23 Public sector savings is given by the sum of Government savings and the internal resources (IR) of PSUs. It is assumed that IR of PSUs would remain at the pre-crisis level of 4 per cent of GDP during the Twelfth Plan. Accordingly, public sector savings are projected to increase from around 1.8 per cent of GDP in 2012-13 to around 5.0 per cent of GDP in 2016-17; the average public sector savings during the Twelfth Plan works out to around 3.5 per cent of GDP.

Table 15: Public Sector Savings

(per cent of GDP)

Scenario	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Plan Average
I	1.8	2.0	2.8	3.5	4.2	5.0	3.5
II	1.8	1.9	2.9	3.6	4.3	5.0	3.5
III	1.8	2.0	2.8	3.5	4.2	4.9	3.5

Section VI: Foreign Savings

6.1   The projection of foreign savings over the Twelfth Plan period was approached in two different ways. First, the Current Account Balance (CAB) was obtained by estimating its major components - merchandise exports and imports as well as the invisibles - via regression. Second, the components of net capital flows - Foreign Direct Investment (FDI), Foreign Institutional Investment (FII), NRI deposits, External Commercial Borrowings (ECB), external assistance, etc - which would finance/supplement the CAB were estimated through regressions or on the basis of past trends. The explanatory variables considered for the estimation of different components of the current account and capital flows are summarized in the Table 16. All (non-rate) variables were taken in US dollar terms.

Table 16: List of Dependent and Explanatory Variables with respect to External Sector

	Dependent Variable	Explanatory Variables
Current Account Balance = (1) - {(2) + (3)} +(4) + {(5) - (6)} +{(7) - (8)}		
1	Exports	World GDP, REER
2	Non-oil Imports	GDP, REER
3	Net Oil Imports	GDP, Crude oil prices
4	Net Private Transfers	World GDP, Growth differential, Trend
5	Services Receipts	World GDP, REER
6	Services Payments	GDP, REER
7	Investment Income Receipts	Foreign Currency Assets of RBI, Interest Rate on medium-term US Government bonds
8	Investment Income Payments	External Debt, GDP growth
Net Capital Flows = {(9) – (10)} + 11 + 12 + 13 (net) + 14 (net)		
9	Inward FDI	Growth differential, International Investment Position/GDP, Gross Fiscal Deficit/GDP, Exchange rate, Time taken to start a business in India
10	Outward FDI	Openness, lagged outward FDI
11	Net FII Flows	*Based on Past trends*
12	NRI Deposits	Interest rate differential World GDP, Exchange rate
13	Inward ECB	Imports, Interest rate differential
14	Other components of capital flows (such as Outward ECB, External Assistance, ADRs/GDRs and short-term trade credit)	*Based on Past trends*

6.2   The assumptions regarding the explanatory variables and the results of the regression are set out in Annex 2 and 3, respectively.

6.3   The projections of the CAB and net capital flows during the Twelfth Plan are set out in Table 17; the detailed projections are given in Annex 4.

6.4   It may be observed that the average current account deficit during the Twelfth Plan is expected to range between 2.7 per cent (scenario III) and 3.9 per cent (scenario II) of GDP. On the other hand, the average net capital flows during the Twelfth Plan is projected to range between 3.6 per cent (scenario III) and 3.8 per cent (scenarios I and II) of GDP. Net capital flows in scenarios I and III, besides financing the current account deficit, would moderately add to the reserves.

6.5   From the policy perspective, it is essential to assess the different scenarios from the view point of a sustainable current account deficit. Conceptually, sustainability refers to the ability of a nation to finance its current account deficit on an ongoing basis *i.e.* without resulting in any external payment difficulties. Generally, the sustainable level of current account deficit (CAD) is measured in terms of net external liabilities relative to the size of the economy. The level of Current Account Balance that stabilises the net external assets/liabilities in relation to the size of the economy is considered as sustainable. Based on the empirical exercise, CAD in the range of 2.7 to 3.0 per cent is considered to be sustainable.

6.6   From sustainability perspective, capital flows should be enough to meet financing requirements and to maintain an adequate import cover. Under each

Table 17: Projections of the Current Account Balance and Net Capital Flows During the Twelfth Plan (2012-13 to 2016-17) - Annual Average

(per cent)

Scenario	CAB/GDP	Net Capital Flows/GDP
I. GDP - 8.5 Inflation - 5.0	-3.3	3.8
II. GDP – 9.0 Inflation – 5.0	-3.9	3.8
III. GDP - 8.0 Inflation - 6.0	-2.7	3.6

scenario, an import cover of at least 4-5 months would be maintained, which is considered to be minimum.

6.7 Further, it would be desirable to continue the current policy of restraining debt creating capital flows. Historically, during the last ten years on an average 58 per cent of the net capital flows was non-debt variety. Non-debt creating flows moderate the net negative spread of average return on external assets over the average interest payments on external liabilities as debt flows are contractual and non-debt flows are pro-cyclical.

6.8 Thus, the need for concerted efforts to raise the share of long-term stable flows is underscored. In sum, there are limits to the recourse to foreign savings as a source for financing higher investment rates in the economy in view of their implications for external sector sustainability.

Section VII: Consolidation of Sector-wise Savings

7.1 The projections of the sector-wise savings rate for the three scenarios of real GDP growth and inflation are set out in the Tables 18, 19 & 20.

7.2 The average Gross Domestic Savings (GDS) rate for the Twelfth Plan ranges between 36.2 per cent under Scenario 3 and 37.0 per cent under Scenario 2. In all the three scenarios, there is the assumption of turnaround in public sector saving which is expected to contribute significantly to the increase in the GDS rate over the Twelfth Plan. The increase in private corporate savings rate is the highest in Scenario 2, even as the projected household savings rate remains identical in all the scenarios. The average estimated Current Account Deficit (CAD) for the three scenarios ranges between 2.7 per cent and 3.9 per cent of GDP.

7.3 The average GDS rate of 37.0 per cent and CAD of 3.9 per cent of GDP under Scenario 2 is consistent with the overall investment rate implicit in an average growth rate of 9.0 per cent and ICOR of 4.5 (a little above the present level) during the Twelfth Plan. The ICOR is likely to increase slightly, on average, due to the expected special thrust on (a) infrastructure investment (which have relatively long gestation lags); (b) the manufacturing sector during the Twelfth Plan; and (c) resource intensive initiatives in agriculture to address supply side concerns.

Table 18: Scenario 1 (Real GDP growth of 8.5 per cent; Inflation of 5.0 per cent)								
								(per cent of GDP at current market prices)
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12th Plan Average
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.3	8.4	8.5	8.6	8.6	8.7	8.6
Public	0.2	1.7	1.8	2.0	2.8	3.5	4.2	5.0	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.3**	**34.0**	**35.3**	**36.5**	**37.6**	**38.9**	**36.5**
CAD	-2.8	-2.7	-3.5	-4.1	-3.8	-3.3	-2.8	-2.5	-3.3
Table 19: Scenario 2 (Real GDP growth of 9.0 per cent; Inflation of 5.0 per cent)								
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.5	8.6	8.9	9.1	9.3	9.4	9.1
Public	0.2	1.7	1.8	1.9	2.9	3.6	4.3	5.0	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.5**	**34.1**	**35.8**	**37.1**	**38.4**	**39.6**	**37.0**
CAD	-2.8	-2.7	-3.5	-4.3	-4.1	-3.8	-3.6	-3.6	-3.9
Table 20: Scenario 3 (Real GDP growth of 8.0 per cent; Inflation of 6.0 per cent)								
Household	25.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	24.4
Private Corporate	8.2	7.9	8.5	8.3	8.3	8.4	8.4	8.4	8.4
Public	0.2	1.7	1.8	2.0	2.8	3.5	4.2	4.9	3.5
Gross Domestic Savings Rate	**33.8**	**32.3**	**33.5**	**33.9**	**35.1**	**36.3**	**37.4**	**38.5**	**36.2**
CAD	-2.8	-2.7	-3.5	-3.9	-3.4	-2.7	-2.0	-1.5	-2.7

Section VIII: Credit Flow to Agriculture and MSME Sector

A. Agriculture Sector

8.1 Credit plays a crucial role in maintaining agricultural production by allowing producers to meet their cash needs during the entire cycle of production as well as for financing investment. The ground level credit flow (GLC) from institutional sources to agriculture has shown an increasing trend over the years, the growth being substantial during 2003-2006, which also coincided with the Special farm package announced by the Government of India, which envisaged the doubling of credit in three years starting 2004-05 (Table 21).

Estimation Methodology

8.2 GLC is composed of production (or short-term) credit and investment (or long-term) credit. Cooperatives, Regional Rural Banks and scheduled commercial banks provide both production credit and investment credit. Three approaches were adopted for projecting the flow of Ground Level Credit (GLC) flow in agriculture. In each case, the existing capacity of the various agencies to meet the targets was taken into account.

1. *Projections based on Linear Trend*

   - The trend rate of growth of GLC in the first four years of the Eleventh Plan worked out to 15.5 per cent.

Table 21: Ground Level Credit Flow to Agriculture and Allied Activities

Year	` Crore	Year-on-Year Growth Rate (per cent)
2002-03	69,560	
2003-04	86,981	25.0
2004-05	1,25,309	44.1
2005-06	1,80,486	44.0
2006-07	2,29,400	27.1
2007-08	2,54,658	11.0
2008-09	3,01,908	18.6
2009-10	3,84,514	27.4
2010-11	4,47,513	16.4

Source: NABARD, Annual Report (Various Issues)

2. *Projections based on target rates of growth of GDP*

   - Two scenarios of agricultural growth are assumed during the Twelfth Plan:

Assumed rate of growth of real GDP during the 12th Plan (per cent)	Corresponding rate of real growth of Agriculture (per cent)
8.0-8.5	3.0
9.0-9.5	4.0

   - In respect of each of two scenarios, ICOR in agriculture is assumed to take two different values *viz.*; 4 and 4.5[7]. Thus, there are four scenarios with different combinations of agricultural growth rates and ICOR in agriculture. Multiplying the real growth rate in agriculture with the ICOR in agriculture provides the required total real investment in agriculture. Furthermore, in each scenario, (a) the share of private sector in total investment in agriculture is assumed at the existing level of 80 per cent; (b) the share of institutional sources of credit to finance private sector investment in agriculture is also assumed at the existing level of 80 per cent; and (c) the inflation rate is assumed to be 6.0 per cent.

3. *Projections based on trend in ratio of GLC to GDP in Agriculture*

   - This ratio increased from 10 per cent in 1999-00 to 24 per cent in 2005-06 and is estimated at 37 per cent by the end of the Eleventh Plan. Based on this trend, and assuming an annual agricultural growth rate of 4.0 per cent and an inflation rate of 6.0 per cent, the GLC during the Twelfth Plan is worked out.

8.3 Additional assumptions in each of the above three approaches were as follows:

   - The shares of production and investment credit in GLC would progressively change from (the existing) 70 per cent and 30 per cent, respectively,

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[7] The ICOR for agriculture is based on Gross Capital Formation, as is usually the case for other sectors of the economy.

in 2012-13 to 66 per cent and 34 per cent, respectively, in 2016-17.

- Within production credit, the shares of cooperatives, Regional Rural Banks and scheduled commercial banks would progressively change from (the existing) 27.0 per cent, 11.5 per cent and 61.5 per cent, respectively, in 2012-13 to 30.0-31.0 per cent, 13.5 per cent and 55.5-56.5 per cent, respectively in 2016-17.

- Within investment credit, the shares of cooperatives, Regional Rural Banks and scheduled commercial banks would remain unchanged at (the existing) 7.0 per cent, 4.5 per cent and 88.5 per cent, respectively, in each year of the Twelfth Plan.

Projections during the Twelfth Plan

8.4 While the first and the third approaches were supply-side projections, the second approach was based on demand-side projections. The projected GLC during the Twelfth Plan as obtained from the three approaches is summarized in the Table 22.

8.5 The Working Group concurs with the Sub-Group's recommendation that the projected GLC be placed at ` 42,08,454 crore during the Twelfth Five Year Plan (2012-17), assuming a growth of 4 per cent in agriculture and an ICOR of 4.5. The higher ICOR than that of 3.96 during the Eleventh Five Year Plan, is considered to be necessary in view of the shift in the cropping pattern

from low-value maintenance crops to high value cash crops, transition to commercial agriculture and mechanisation on account of growing shortage of agricultural labour.

B. Micro, Small and Medium Enterprises (MSME) Sector

8.6 The MSME sector is an important pillar of the Indian economy with a vast network of around 30 million units, generating employment of about 70 million, manufacturing more than 6000 products, contributing about 45 per cent of manufacturing output and about 40 per cent of exports, directly and indirectly. This sector assumes greater importance as the country moves towards a faster and inclusive growth agenda. Moreover, it is the MSME sector which can help realize the objective of the proposed National Manufacturing Policy of raising the share of manufacturing sector in GDP from 16 per cent at present to 25 per cent by the end of 2022.

8.7 Despite the significant contributions of the MSME sector, the sector continues to face certain constraints like, as pointed out in PM's Task Force Report, 2010, non-availability of adequate and timely credit, high cost of credit, collateral requirements, inadequate access to equity capital and rehabilitation of sick enterprises, *etc.* It thus emerges that adequate, timely and affordable credit is one of the bigger challenges for the MSME sector. The projection of the credit supply towards the MSME sector during the Twelfth Plan may be viewed against this backdrop.

Estimation Methodology

8.8 The supply of credit for (i) working capital and (ii) terms loans of the MSME sector were separately estimated.

(i) Working Capital

8.9 Working capital is largely provided by Scheduled Commercial Banks (SCBs), RRBs and Urban Cooperative Banks (UCBs) and, to some extent, by factoring companies. For the estimation of supply of working capital to MSME sector from these sources during the Twelfth Plan, the following assumptions were made (Table 23):

Approach			Projected GLC during the 12th Plan (` crore)
1	Trend-based		37,39,022
2	Target growth rate		
	Growth Rate of Agriculture	ICOR in Agriculture	
	(i) 3 per cent	4	33,89,261
	(ii) 3 per cent	4.5	40,41,694
	(iii) 4 per cent	4	35,29,102
	(iv) 4 per cent	4.5	42,08,454
3	Ratio of GLC to GDP in Agriculture		31,24,624

Table 22: Projection of Ground Level Credit during the Twelfth Plan

Table 23: Assumptions regarding Supply of Working Capital		
Source of Credit	**Assumed annual growth rate during the 12th Plan**	**Remarks**
Total Credit to Micro Enterprises by SCBs	20 per cent	The RBI has advised SCBs to achieve 20 per cent annual growth in credit to Micro Enterprises
Total Credit to Medium Enterprises by SCBs	10 per cent	Credit by public sector banks to Medium Enterprises increased by 10 per cent in FY 2011
Working Capital supply of SCBs to MSME Sector	70 per cent of total credit to MSME Sector by SCBs (Remaining 30 per cent is Term Loan)	As per estimates during the Eleventh Plan
Working Capital supply by RRBs	20 per cent	The last three-year average growth rate was 18 per cent
Working Capital supply by UCBs	35 per cent	As per the last three-year average growth rate
Financial Support by Factoring Companies	20 per cent	It is assumed that 25 per cent of total factoring turnover flows to the MSME Sector

(ii) Terms Loans

8.10 Terms loans to the MSME sector are largely provided by SCBs, SIDBI, State Finance Corporations (SFCs) and NBFCs. For the projection of supply of terms loans to the MSME sector during the Twelfth Plan, the following assumptions were made (Table 24):

Table 24: Assumptions regarding Supply of Term Loans		
Source of Term Loans	**Assumed annual growth rate during the 12th Plan**	**Remarks**
SCBs	30 per cent of total credit to MSME by SCBs, which indicates an annual growth of around 18 per cent	Total credit supplied by SCBs to MSME sector, as obtained earlier for estimating working capital supply
SIDBI	25 per cent	Based on the performance of the previous three years
SFCs	0 per cent	Outstanding amount is assumed to remain constant at ` 8,596 crore from 2011-12 to 2016-17
NBFCs	20 per cent	Select sample data indicate that NBFC credit to MSME sector ranges between 22 and 28 per cent

Projections during the Twelfth Plan

8.15 The projections of the supply of working capital and term loans are set out in the Table 25.

8.16 It is evident from the above Table that the credit supply to the MSME sector would increase at an annual average rate of 19.4 per cent to `21,24,644 crore in 2016-17, the terminal year of the Twelfth Plan.

Table 25: Estimated Credit Supply to MSMEs			
As at end	**Projected supply of credit flow to MSME sector (` Crore)**		
	Working Capital	**Term Loan**	**Total Supply**
2010-11	5,04,492	2,32,669	7,37,161
2011-12	6,00,255	2,74,227	8,74,482
2012-13	7,16,139	3,22,810	10,38,948
2013-14	8,56,783	3,80,756	12,37,539
2014-15	10,28,000	4,49,928	14,77,928
2015-16	12,37,094	5,32,566	17,69,659
2016-17	14,93,278	6,31,365	21,24,644

8.17 If the year-on-year credit growth to MSME sector by SCBs and all other sources is enhanced by a minimum of 22 per cent per annum during the first two years of the Twelfth Plan (2012-14) and by 25 per cent per annum during the remaining three years (2014-17), then the credit supply would increase to `25,42,145 crore in 2016-17 (Table 26).

Table 26: An Alternative Scenario for Credit Supply to the MSME Sector						
						(` Crore)
2010-11	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**
7,37,161	8,74,482	10,66,868	13,01,578	16,26,973	20,33,716	25,42,145

Section IX: Resources for Infrastructure Investment[8]

9.1 During the first three years of the Eleventh Five-Year Plan, infrastructure investment was financed

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[8] As per the draft Approach Paper to the Twelfth Plan, the infrastructure sector includes roads, railways, ports, airports, electricity, telecommunications, oil gas pipelines and irrigation.

predominantly through Government budgetary support.

Projections of Resources during the Twelfth Plan

Commercial Banks

9.2 The share of infrastructure in gross bank credit increased from 6 per cent (`1,44,531 crore) as at end-March 2007 to 11 per cent (`5,40,390 crore) as at end-March 2011. The rapid growth in bank credit to infrastructure has resulted in a greater concentration of risks in banks due to ALM mismatch and exhaustion of exposure limits. Banks have prudential exposure caps for infrastructure sector lending as a whole as well as for individual sectors[9]; most of the banks have almost reached the prudential caps for the power sector; exposure limits in respect of other sectors such as roads are also likely to be reached.

9.3 Going forward, credit growth will be mainly determined by retained earnings and increase in banks' capital. However, as most of the infrastructure lending is by public sector banks, raising capital can only take place if the Government dilutes its shareholding or infuses capital into the PSBs. For the purposes of projections over the Twelfth Plan, it is assumed that

infrastructure credit growth would be determined exclusively by retained earnings. Additionally, drawing upon an IDFC study of 21 public sector banks and 5 private sector banks, the following assumptions are made (Table 27):

Table 27: Assumptions regarding Commercial Bank Parameters during the Twelfth Plan

	Public Sector Banks	Private Sector Banks
Annual rate of growth of retained earnings (per cent)	20.0	25.0
Incremental Debt/Retained earnings	17.2	8.8
Incremental Total Advances as per cent of Incremental Balance Sheet total	60.5	51.7
Incremental Infrastructure Advances as per cent of Incremental Total Advances	15.0	12.0

9.4 Based on the above assumptions, the projections of commercial bank credit for infrastructure are set out in the Table 28.

9.5 As pointed out earlier, the power and road sectors will, however, face significant constraints as the exposure is already high even though some of the smaller sectors will be able to get adequate funding subject to availability of commercially viable and bankable projects.

Table 28: Projections of Commercial Bank Lending to Infrastructure Sector

(` Crore)

	Public Sector Banks					
	2012-13	2013-14	2014-15	2015-16	2016-17	Total during 12th Plan
1 Retained earnings	53,613	64,336	77,203	92,643	1,11,172	
2 Incremental Debt	9,20,170	11,04,204	13,25,044	15,90,053	19,08,064	
3 Incremental Balance Sheet (1 + 2)	9,73,783	11,68,539	14,02,247	16,82,697	20,19,236	
4 Incremental Advances	5,89,031	7,06,837	8,48,205	10,17,845	12,21,415	
5 Incremental Infrastructure Advances (A)	**88,355**	**1,06,026**	**1,27,231**	**1,52,677**	**1,83,212**	**6,57,500**
	Private Sector Banks					
6 Retained earnings	17,268	21,585	26,981	33,726	42,157	
7 Incremental Debt	1,52,722	1,90,903	2,38,628	2,98,285	3,72,857	
8 Incremental Balance Sheet Total (6+7)	1,69,990	2,12,487	2,65,609	3,32,011	4,15,014	
9 Incremental Advances	87,838	1,09,797	1,37,246	1,71,558	2,14,447	
10 Incremental Infrastructure Advances (B)	**10,541**	**13,176**	**16,470**	**20,587**	**25,734**	**86,506**
11 Incremental Infrastructure Advances by Commercial Banks (A+B)	**98,895**	**1,19,201**	**1,43,700**	**1,73,264**	**2,08,946**	**7,44,006**

[9] As per the current RBI instructions, 'exposure' shall include credit (funded working capital, term loans *etc.*) and non-funded investments including underwriting & similar commitments, and off balance sheet exposures like forex forward contracts & other derivative products.

Table 29: Projections for NBFC lending to Infrastructure Sector

(` Crore)

	2010- 11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	12th Plan Total
Infrastructure Credit Outstanding	2,17,658	2,60,883	3,12,692	3,74,790	4,49,221	5,38,432	6,45,361	
Incremental Infrastructure Credit		43,225	51,809	62,098	74,430	89,212	1,06,928	**3,84,477**

Non Banking Finance Companies (NBFCs)

9.6 Non-bank finance companies (NBFCs) also increased their lending sharply as the credit demand for power, telecoms and roads expanded. Outstanding credit from major infrastructure finance companies (IFCs) [such as Power Finance Corporation (PFC), Rural Electrification Corporation (REC), India Infrastructure Finance Company Limited (IIFCL), L&T Infrastructure Finance Company, Industrial Finance Corporation of India (IFCI) and Infrastructure Development Finance Company (IDFC)] to the infrastructure sector increased from ` 1,10,549 crore as at end-March 2008 to ` 1,81,595 crore as at end-March 2010, implying a compound annual rate of growth (CAGR) of 28 per cent. The outstanding credit of PFC and REC which together constitute around 80 per cent of the lending by IFCs, in fact, had increased at an annual rate of 27 per cent.

9.7 Going forward, the high historical growth rates may not be feasible. Hence, for the purpose of projections, the growth rate for infrastructure credit by NBFCs has been assumed at 20 per cent per annum. The projected lending of NBFCs towards infrastructure is set out in the Table 29.

9.8 It may be reiterated, however, that the IFCs like PFC and REC will largely fund only power sector projects.

Insurance Companies

9.9 The Assets under Management (AUM) of life insurers (Life Fund) increased at a CAGR of 16.3 per cent over the period end-March 2007 to end-March 2010 (Table 30). However, infrastructure investments out of these assets during the same period increased only marginally at a CAGR of around 1.25 per cent per annum. As a result, the share of infrastructure investments in the total AUM declined from 15 per

cent to 10 per cent over this period. On the other hand, the AUM of non-life insurers increased at a CAGR of 9.6 per cent and the share of infrastructure investment in the AUM increased steadily from 12 per cent to 16 per cent over the same period.

9.10 Going forward, insurance penetration is expected to continue to rise, with the insurance premium increasing from 4.1 per cent of GDP in 2010-11 to 6.4 per cent of GDP by the end of the Twelfth Plan. Total investment by the insurance sector is assumed to account for 63.3 per cent of premium income, which is based on the average of the past few years, after deducting commissions and expenses. Infrastructure investment is assumed to account for 6.1 per cent of total investment by the insurance sector. Thus, total funds available for infrastructure investment from the insurance sector during the Twelfth Plan is projected at ` 1,47,960 crore (Table 31). It may be, however, mentioned that prudential and regulatory constraints impact on the larger availability of funds from the insurance sector for infrastructure investment.

Table 30: Insurance Sector - Investment in Infrastructure during 2007 to 2010

(` Crore)

	End-March 2007	End-March 2008	End-March 2009	End-March 2010
Life Insurers (Life Fund)				
Asset Under Management as on	4,65,555	5,41,630	6,29,650	7,32,613
Infrastructure Investments (per cent share)	69,837 (15%)	63,262 (12%)	66,673 (11%)	72,439 (10%)
Non Life Insurers				
Asset Under Management as on	50,383	56,280	58,893	66,372
Infrastructure Investments (per cent share)	6,102 (12%)	7,660 (14%)	8,980 (15%)	10,373 (16%)

Source: IRDA

Table 31: Insurance Sector - Projections for Infrastructure Financing

(` Crore)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
GDP at current market prices	76,74,148	89,12,179	1,01,99,989	1,16,73,887	1,33,60,764	1,52,91,394	1,75,01,001
Premium as per cent of GDP	4.10%	4.40%	4.70%	5.10%	5.50%	5.90%	6.40%
Total premium	3,14,640	3,92,136	4,79,399	5,95,368	7,34,842	9,02,192	1,120,064
Total Investment (63.3% of Premium)	1,99,167	2,48,222	3,03,460	3,76,868	4,65,155	5,71,088	7,09,001
Infrastructure Investment (6.1% of Investment)	12,149	15,142	18,511	22,989	28,374	34,836	43,249

External Commercial Borrowings

9.11 Infrastructure companies also tapped external credit markets. A significant amount of the external commercial borrowings (ECBs) in the Eleventh Plan was for infrastructure, particularly air transport (airplanes), telecom, and power equipment, although it declined during 2008-09 and data available for the first half of 2009-10 does not show any sharp pick-up. The share of infrastructure investments in overall ECB borrowings has gradually declined from 33 per cent in 2007-08 to 26 per cent in 2009-10 (Table 32).

9.12 Over the Twelfth Plan, ECBs are projected at the average of the actual inflows during 2006-07 to 2010-11, which works out to USD 24,426 million per year. Most of the infrastructure funding is of long tenor, whereas ECBs are of shorter tenor. Therefore, for the purpose of projections, it is assumed that 10 per cent of the total amount of ECBs would be channelled towards infrastructure investment. Taking a USD/INR rate of 50, which is close to the present rate, total ECB/FCCB borrowings work out to `6,10,650 crore during the Twelfth Plan and, of this, funds for infrastructure are placed at `61,065 crore.

Table 32: ECB Inflows to Infrastructure during 2006-07 to 2009-10

(USD Million)

	2006-07	2007-08	2008-09	2009-10	2010-11
Total ECB inflow (USD Mn)	25,353	30,967	18,363	21,669	25,776
ECB flow to infrastructure (USD Mn)	6,211	10,156	5,223	2735@	NA
ECB flow to infrastructure as % of total ECB	(24%)	(33%)	(28%)	(26%#)	NA

@ data available only for first half of FY10
# Half-yearly data annualized for estimating yearly % share
Source: RBI; Economic Survey 2010,

Equity and FDI

9.13 Funding through equity/FDI during the first three years of the Eleventh Plan accounted for approximately 14 per cent of the total infrastructure investment whereas the overall debt contribution was 41 per cent; this implied a debt-equity ratio of 2.93:1. The total debt funding available, through commercial banks, NBFCs, insurance sector and ECBs, for infrastructure investment during the Twelfth Plan is projected (as above) at `13,37,508 crore. Assuming that the same-debt equity-ratio prevails, equity/FDI available for infrastructure works out to `4,56,487 crore during the Twelfth Plan. Equity funding will be a key constraint going forward – possibly even more binding than the availability of debt funds. In this context, regulatory changes which will make projects commercially attractive are urgently needed to draw adequate equity capital to infrastructure sectors. Other changes like amendment in pension/PF regulations to allow investments in equity markets will also be critical.

Total Non-Budgetary Funds available for Infrastructure Investment

9.14 Based on the above analysis, the total funds available from different sources, apart from Government budgetary support, for infrastructure investment during the Twelfth Plan are projected at ` 17,93,995 crore (Table 33).

Measures for Additional Funding

9.15 According to an independent study carried out by IDFC in February 2011, diluting government stakes in all major PSBs to 51 per cent by raising capital in 2013 could yield additional funds amounting to

Table 33: Total Non-Budgetary Resources available for Infrastructure during the Twelfth Plan

(` Crore)

Source	2012-13	2013-14	2014-15	2015-16	2016-17	Total
1 Commercial Banks	98,895	1,19,201	1,43,700	1,73,264	2,08,946	7,44,006
2 NBFCs	51,809	62,098	74,430	89,212	1,06,928	3,84,477
3 Insurance Sector	18,511	22,989	28,374	34,836	43,249	1,47,960
4 ECB	12,213	12,213	12,213	12,213	12,213	61,065
5 Total Debt (1 to 4)	1,81,428	2,16,501	2,58,717	3,09,525	3,71,336	13,37,508
6 Equity and FDI	61,921	73,891	88,299	1,05,640	1,26,736	4,56,487
7 **Total Funds (5+6)**	**2,43,349**	**2,90,392**	**3,47,017**	**4,15,165**	**4,98,072**	**17,93,995**

`1.45 lakh crore[10]. The study assumes that the equity raised by dilution of government stakes to 51 per cent in 21 PSBs would allow the banks to extend incremental advances which are over and above that provided using internal accruals. The advances to infrastructure have been assumed at 15 per cent of total advances for sample PSBs in FY13 and 14.

9.16 The dilution of government stakes to 51 per cent in two major NBFCs *viz.* REC and PFC (from 67 per cent and 74 per cent, respectively as at quarter ended June 2011), works out to about `7,994 crore at current prices which may result in additional increase in lending assets of NBFCs by around `53,300 crore (Table 34).

9.17 The current IRDA (Investment) Regulations and clarifications issued there under, provide for debt/loan investment in infrastructure companies to the extent of 25 per cent of the project equity/capital employed which in real terms works out to only 5 to 8.75 per cent of the total project cost depending on the equity brought in by the promoters (Debt-equity ratio 80:20 to 65:35). In order to have a higher investment by the Life Insurance companies the exposure can be considered for revision to '20 per cent of the total project cost' as being done by IIFCL. For example, suppose a project costing `5,000 crore is financed by equity of `1,000 crore and debt of `4,000 crore, implying a debt-equity ratio of 4:1. Under the present guidelines, LIC can provide rupee term loan assistance to the extent of only ` 250 crore (5 per cent of the project cost), whereas, if the change suggested above is implemented, LIC can provide assistance to an extent

of ` 1,000 crore (20 per cent of the project cost) which is four times the current capability. Given the capital base of large insurance players like LIC of India, it could provide additional funding of around `4.52 lakh crore.

9.18 The total additional funds through debt sources, as above, aggregate around `6,50,600 crore during the Twelfth Plan. Assuming a debt-equity ratio of 2.93:1, additional funds through equity and FDI would work out to around `2,22,000 crore. Thus, total additional funds that may be available for infrastructure, subject to the implementation of the measures suggested above, would be around `8,73,000 crore, over the Twelfth Plan.

9.19 Taking into account the additional funding, total non-budgetary resources available for infrastructure investment during the Twelfth Plan is projected at `26,66,995 crore.

9.20 Assuming that budgetary resources would account for 50 per cent of the total supply of funds for infrastructure, as envisaged in the draft Approach Paper to the Twelfth Plan, and assuming an USD/INR exchange rate of 50, the total (budgetary and non-budgetary) funds available for infrastructure works out to around USD one trillion, which is the target for the Twelfth Plan.

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[10] Dilution of PSBs is taken on assumed share prices for FY13 at 20 per cent annual increase from 31st March 2010. This is based on consolidated bank balance sheets, P&L, and shareholding structure as on March 2010.

Table 34: Capital raising by PFC and REC

	Government Holding as on 30th June 2011	Market Cap As on 30th June 2011 (` Crore)	Dilution up to 51%	Capital Raised (` Crore)
PFC	73.72%	18,300	22.72%	4,157.8
REC	66.80%	24,286	15.80%	3,837.2
Total		42,586		7,994.9

Section X: Summing Up

10.1 India's gross domestic savings rate has increased near-steadily over the Five-Year Plans and is among the highest in the world in the recent period. The changes in the savings rate in recent years need to be viewed in the context of both changes in the macroeconomic environment and the level and composition of savings. While the household sector savings rate has generally stabilised, trends in private corporate sector savings and public sector savings have influenced the changes in the domestic savings rate. Going forward, it is recognized that the attainment of higher growth target during the Twelfth Plan would be contingent upon a turnaround in public sector savings and sustaining the momentum of private corporate sector savings.

10.2 Against this backdrop, three scenarios for the evolution of gross domestic savings during the Twelfth Plan were charted out viz.; (i) Real GDP growth rate of 8.5 per cent and inflation rate of 5.0 per cent; (ii) Real GDP growth rate of 9.0 per cent and inflation rate of 5.0 per cent; and (iii) Real GDP growth of 8.0 per cent and inflation rate of 6.0 per cent. The gross domestic savings rate is estimated to rise from 32.3 per cent in 2010-11 (actual) to 38.9 per cent in 2016-17 (the terminal year of the Twelfth Plan) in the first scenario, to 39.6 per cent in the second scenario and to 38.5 per cent in the third scenario. In all the three scenarios, the expected improvement in the overall savings rate is primarily on account of the public sector, even after taking into account the possible impact of SEB losses, which averaged around 0.2 per cent of GDP during the Twelfth Plan period. The average gross domestic savings rate during the Twelfth Plan works out to 36.5 per cent, 37.0 per cent and 36.2 per cent in the first, second and third scenarios, respectively. The household savings rate is also expected to rise gradually over the Twelfth Plan period, reflecting, inter-alia, the impact of favourable demographics. The average Current Account Deficit for the three scenarios is estimated at 3.3 per cent, 3.9 per cent and 2.7 per cent of GDP, respectively. It is found that the savings projections in the second scenario are consistent with the investment rate implicit in an average rate of growth of 9.0 per cent and

an assumed ICOR of 4.5, which is higher than the present level.

10.3 The Working Group recognizes the downside risks to the savings projections for the Twelfth Plan, particularly in respect of the household and public sectors. Notwithstanding the positive impact of the evolving demographic profile, the household savings rate could remain stagnant or even decline as financial liabilities increase with greater retail credit penetration. Similarly, the projected increase in the public sector savings rate is contingent upon the continuance of the fiscal consolidation process and improvement in the finances of public sector enterprises. In respect of the private corporate sector, the sustainability of at least the current levels of efficiency would be important. More generally, large shocks to growth and inflation – the global environment being what it is – could alter the savings scenario during the Twelfth Plan.

10.4 The flow of institutional credit to agriculture is estimated around `42,08,000 crore during the Twelfth Plan. The existing capacity of the various agencies to meet the credit targets in the case of agriculture were taken into cognizance in the projection exercise. The credit supply to the MSME sector is projected to rise to around `21,25,000 crore by 2016-17. In an alternative scenario of higher assumed credit growth, the credit supply to the MSME sector is estimated around `25,42,000 crore in 2016-17.

10.5 Flow of non-budgetary resources for the infrastructure sector, from commercial banks, NBFC, insurance companies, ECBs, equity and FDI is projected around Rs. 17,94,000 crore during the Twelfth Plan. Subject to the implementation of select measures such dilution of Governments stakes in major public sector banks and two NBFCs and higher permissible exposure of LIC to infrastructure, the flow of non-budgetary resources to infrastructure during the Twelfth Plan is estimated to increase to around Rs. 26,67,000 crore. Assuming that budgetary resources would constitute 50 per cent of the total funding, as envisaged in the draft Approach Paper to the Twelfth Plan, and assuming a USD/INR exchange rate of 50, total resources works out to around USD one trillion, which is the target for the Twelfth Plan.

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Annex 1
Composition and Terms of Reference of the Sub-Groups

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1.   Sub-Group on Household Sector Savings

Composition

1.	Smt. Balbir Kaur Adviser Department of Economic and Policy Research Reserve Bank of India	Convenor
2.	Smt. Sibani Swain Director Development Policy and Perspective Planning Planning Commission	Member
3.	Ms. T. Rajeswari Deputy Director General Central Statistics Office	Member
4.	Shri M.C. Singhi Economic Adviser Department of Industrial Policy and Promotion Government of India	Member
5.	Prof. Pradeep Agrawal Institute of Economic Growth	Member
6.	Shri S.B. Mainak Executive Director (Investment Operations) Life Insurance Corporation	Member
7.	Shri Rajesh Bansal Financial Advisor and Chief Accounts Officer Employees' Provident Fund Organization	Member
8.	Shri Ramesh Kolli	Member
9.	Dr. Brinda Jagirdar General Manager and Head, Economic Research Department State Bank of India	Member
10.	Dr. Sarat Malik Joint Director Securities and Exchange Board of India	Member

Terms of Reference

(i)   To review the developments and likely behavioral pattern of household sector saving during the Twelfth Plan period;

(ii)   To estimate household savings, physical and financial and their components, in the light of the policy and structural changes in the real and financial sectors and the existing demographic pattern; and

(iii) To explain the methodology used for estimation.

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Annex 1
Composition and Terms of Reference of the Sub-Groups (Contd.)

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2.   Sub-Group on Private Corporate Sector Savings

   Composition

1.	Dr. Goutam Chatterjee, Adviser, Reserve Bank of India	Convenor
2.	Shri Ashish Kumar, Additional Director General, CSO, New Delhi	Member
3.	Shri Radhey Shyam, Director, Ministry of Company Affairs, Govt. of India*	Member
4.	Prof. Susan Thomas, IGIDR, Mumbai	Member
5.	Shri D.K. Joshi, Chief Economist, CRISIL	Member
6.	Dr. Sarat Kumar Malik, Joint Director, SEBI, Mumbai	Member

* Represented MCA in place of Dr. Joseph Abraham, Economic Adviser, who was initially nominated.

Terms of Reference
(i)   To review the developments in overall economy and private corporate sector, particularly, in the 11th plan and likely behavioral pattern during the 12th Plan.
(ii)   To estimate the private corporate saving in light of the policy and structural changes in the real and financial sectors during 12th Plan.
(iii) To explain the procedures followed for estimation.

3.   Sub-Group on Public Sector Savings

   Composition

1.	Dr. Ashok Sahu, Principal Adviser, Planning Commission	Convenor
2.	Shri Arbind Modi	Member
3.	Dr. K.L. Prasad, Economic Adviser, Ministry of Finance, Government of India	Member
4.	Shri G.S.N. Murthy	Member
5.	Prof. Pradeep Agrawal	Member
6.	Prof. N.R. Bhanumurthy, NIPFP, New Delhi	Member
7.	Smt. Sibani Swain, Director, Planning Commission	Member
8.	Shri D. Bose, Director, Fiscal Analysis Division, DEPR, RBI, Mumbai	Member
9.	Dr. Biswa Swarup Misra	Member
10.	Shri Akshya K. Panda, Director (FR), Planning Commission	Member

Terms of Reference
(i)   To review the developments and likely behavioral pattern during the 11th Plan   period;
(ii)   To estimate the public sector draft on private savings keeping in view the fiscal sustainability and commitments under the Fiscal Responsibility Act;
(iii) To explain the procedures followed for estimation.

Annex 1
Composition and Terms of Reference of the Sub-Groups *(Contd.)*

4. **Sub-Group on Foreign Savings**

    Composition

1.	Shri Anil Bisen, Economic Adviser, Ministry of Finance, New Delhi	Convener
2.	Shri S.V.S. Dixit, Adviser, DEPR, RBI, Mumbai	Member
3.	Shri M.C. Singhi, Economic Adviser, DIPP	Member
4.	Prof. Pradeep Agarwal, Institute of Economic Growth, New Delhi	Member
5.	Ms. Sutapa Majumdar, Director, Planning Commission, New Delhi	Member
6.	Shri Prabhakar Patil, Joint Director, SEBI, Mumbai	Member
7.	Ms. Rohini Malkani, Chief Economist, Citibank, Mumbai	Member
8.	Shri Saugata Bhattacharya, Chief Economist, Axis Bank, Mumbai	Member
9.	Shri Samir Kumar Bhattacharyya, General Manager, SBI, Mumbai	Member

Terms of Reference
(i) To estimate the likely level of current account deficit during the Plan period under various scenarios.
(ii) To assess the level of capital flows for financing the CAD by estimating the major sub-components.
(iii) To explain the procedures followed for estimation.

5. **Sub-Group on Private Investment for MSME and Agriculture**

    Composition

1.	Shri S.K. Mitra, Executive Director, NABARD	Convenor
2.	Shri Akshay Panda, Director (FR), Planning Commission	Member
3.	Prof. C.P. Chandrasekhar, JNU	Member
4.	Shri C.D.Srinivasan, CGM, RBI	Member
5.	Shri R.K. Das, General Manager, SIDBI	Member
6.	Shri B.Jayaraman, CGM, NABARD	Member
7.	Smt. Sunita Chippa, Economic Adviser, Ministry of Small & Medium Enterprises, Government of India	Member
8.	Shri D.N.Thakur, Director, Ministry of Agriculture, Government of India	Member

Terms of Reference
To estimate resources available for private investment including infrastructure and the likely flows for SME and Agriculture.

Annex 1
Composition and Terms of Reference of the Sub-Groups *(Concld.)*

6.   Sub-Group on Infrastructure

Composition

1.	Shri Santosh Nayar, DMD, SBI, Mumbai	Convener
2.	Shri U.K. Sharma, Joint Adviser, Planning Commission, New Delhi	Member
3.	Shri H. K. Sharma, ADG, Economic Statistics Division, CSO, New Delhi	Member
4.	Ms. Aparna Bhatia, Director (PPP), Ministry of Finance, New Delhi	Member
5.	Prof. Susan Thomas, IGIDR, Mumbai	Member
6.	Shri D.K. Joshi, CRISIL, Mumbai	Member
7.	Shri E. Sankara Rao, CGM, IIFCL, New Delhi	Member
8.	Ms. Ritu Anand, Group Head Policy and Chief Economist, IDFC, Mumbai	Member
9.	Shri S.B. Mainak, ED,LIC of India, Mumbai	Member

Terms of Reference

(i)   Underlying assumptions on the path of economy and infrastructure sector.

(ii) To estimate resources available for investment in infrastructure, broken up into various sources like bank finance, private investments etc.

(iii) Resource requirement for the Twelfth Plan for infrastructure.

(iv) Issues relating to infrastructure.

Annex 2
Assumptions Underlying Explanatory Variables in the External Sector

Growth and Inflation

- The various combinations of growth and inflation in India for constructing the alternative scenarios are as under:

Assumptions for Constructing Alternative Scenarios		
	Growth Rate (%)	Inflation Rate (%)
Scenario I	8.5	5.0
Scenario II	9.0	5.0
Scenario III	8.0	6.0

World GDP

- World GDP is simulated by taking the growth rates of real GDP as projected by the IMF in its World Economic Outlook (WEO), September 2011. WEO has projected real world GDP growth in the range of 3.3-4.9 per cent during 2012-2016.

World Inflation

- World inflation used for the estimations is based on the IMF's projections in its WEO, September 2011. WEO has projected world inflation in the range of 3.1-3.7 per cent (moderation) during 2012-2016.

International Crude Oil Price

- International crude oil prices are assumed to be around its current level of US$ 110 per barrel during the Plan period.

Foreign Currency Asset (FCA)

- FCA is assumed to increase by 4 per cent each year during the Plan period reflecting anticipated increase in the capital inflows.

Exchange Rate

- The nominal average Rupee-US dollar exchange rate is assumed to be around its current level (i.e., the average level of 2011-12). On the other hand, the real effective exchange rate (REER) is assumed to appreciate to the extent of changes in the inflation differential between India and the world.

External Debt

- India's external debt is assumed to increase by 4 per cent during each year of the Plan period on account of anticipated increase in debt creating capital inflows.

Global Interest Rate

- The LIBOR as projected by the WEO has been used.

Domestic Interest Rate

- The domestic interest rates with respect to NRI deposits and ECBs are assumed to move in a direction so that the interest rate differential remains at the present level during each year of the plan period.

World Export Price and Import Price

- World export prices and import prices are assumed to grow as per the past trend during the plan period.

Annex 3
Estimated Regression Equations relating to the External Sector

1. **Non-Oil Real Exports**

   LNONOILREALEXP = - 43.15 + 3.03 LWGDPCONS - 0.39 LREEREXP(-1) + 0.14 DUM 96 + 0.54AR(1)
   $\qquad$ **(13.13) (19.18)** $\qquad$ **(-2.27)** $\qquad$ **(2.70)** $\qquad$ **(4.62)**

   $\bar{R}^2 = 0.99$; DW = 1.97; N=27.

   NONOILREALEXP= Non-oil real exports, WGDPCONS=world real GDP, REEREXP= Real effective
   exchange rate (export weighted)

   L stands for logarithm

2. **Non-Oil Real Imports**

   LNONOILREALIMP = -14.73 + 1.51 LGDPFCCONS - 0.05 LREERTR + 0.49 AR(1)
   $\qquad$ **(-3.99) (10.07)** $\qquad$ **(-0.11)** $\qquad$ **(2.66)**

   $\bar{R}^2 = 0.96$; DW 1.41; N=26.

   NONOILREALIMP= Non-oil real imports, GDPFCCONS=India's real GDP, REERTR= Real effective
   exchange rate (trade weighted); L stands for logarithm

3. **Net Oil Real Imports**

   LNOM = 4.79 + 0.94 LGDPFCCONS(-1) -0.11 LIOP -0.14D80 -0.32D90 +0.16D95 +0.14D 99
   $\qquad$ **(3.34) (7.90)** $\qquad$ **(-2.01)** $\qquad$ **(-2.0)** **(-4.45)** **(2.03)** **(1.86)**

   $\bar{R}^2 = 0.88$; DW 1.66; N=31.

   NOM = Net Oil Imports, LGDPFCCONS=India's real GDP, IOP= Price of Indian Basket Crude Oil, L
   stands for logarithm

4. **Real Service Exports**

   LREALSEREXPFC = -58.93 + 4.01 LWGDPCONS - 0.26LREERTR + 0.24 DUM2005 + 0.88 AR(1)
   $\qquad$ **(-4.39)** $\qquad$ **(5.19)** $\qquad$ **(-0.69)** $\qquad$ **(1.92)** $\qquad$ **(10.13)**

   $\bar{R}^2 = 0.99$; DW = 1.75; N=34.

   REALSEREXPFC = Real services exports, WGDPCONS=World real GDP, REERTR= Real effective exchange
   rate (trade weighted)

5. **Real Service Imports**

   LREALSERIMP = -31.99 + 2.11 LGDPFCCONS + 1.17 LREERTR
   $\qquad$ **(-16.62)** $\qquad$ **(27.79)** $\qquad$ **(6.26)**

   $\bar{R}^2 = 0.99$; DW = 1.60; N=35.

   REALSERIMP = Real services imports, GDPFCCONS=India's real GDP, REERTR= Real effective exchange
   rate (trade weighted)

Annex 3
Estimated Regression Equations relating to the External Sector *(Contd.)*

6.   Investment Income Receipts

LINVINRT = -3.15 + 0.74 LFCA(-1) + 0.54 LUSGBY + 0.30 LINVINRT(-1)
                    (-5.52)   **(9.99)**   **(4.13)**   **(3.59)**

$\bar{R}^2$ = 0.99; Durbin-h=0.35; N=26.

INVINRT = Investment income receipts, FCA(-1)=Lagged Foreign currency assets, USGBY= US govt. bond
yields (5 year)

7.   Investment Income Payments

LINVINPT = -7.08 + 0.54 LEXDEBT(-1) + 0.74 LGDPFCD - 0.23 DUM201011
                    (-5.93)   **(2.31)**   **(5.17)**   **(-2.04)**

$\bar{R}^2$ = 0.97; DW=1.50; N = 20.

INVINPT = Investment income payments, EXDEBT(-1)= India's external debt (lagged), GDPFCD=India's
GDP in US dollar term,

8.   Net Private Transfers

LOG(TRAN_EXP+TRAN_IMP) = -2.41 + 1.04LOG(WGDPCURR(-1))+0.09GDIFF+0.09T+0.41 DUM97
                                          (-0.58)   **(2.49)**   **(2.49)**   **(4.16)**   **(3.03)**

$\bar{R}^2$ = 0.98; DW=1.68; N = 19.

TRAN_EXP+TRAN_IMP = Net Private Transfers, GDIFF=Growth differential between India & the rest,
T = Trend.

9.   FDI inflows as a proportion of GDP

FDIABS/GDPCONS = -0.41 + 0.06TRADEGDP*100 - 0.003TSFBR + 0.20GFDY +0.11GDIFF +0.05IIPY
                            (-0.48)   **(6.12)**   **(-1.92)**   **(13.87)**   **(6.28)**   **(5.46)**

+6.44FDIEMERG/FDITOT
  (3.64)

$\bar{R}^2$ = 0.93; DW =1.71; N=10.

FDIABS/GDPCONS = FDI/GDP Ratio, TRADEGDP= Trade-GDP Ratio, TSFBR=Time taken to start a business
in India, GFDY=Gross fiscal deficit as a ratio to GDP, GDIFF=Growth differential between India and the
rest, IIPY= India's net international investment position as a per cent to GDP, FDIEMERG/FDITOT=FDI
to EMEs as a ratio to World FDI flows

10.   FDI outflows

LFDIOUT = -5.4 + 2.20 LCURCAP_GDP +0.53 LFDIOUT(-1) -2.17 DUM1998
                  (-1.77)   **(2.24)**   **(3.11)**   **(3.71)**

$\bar{R}^2$ = 0.94; Durbin-h = 0.43; N=16.

FDIOUT = FDI by India, CURCAP_GDP= FDIOUT(-1) FDI by India in preceding year,

Annex 3
Estimated Regression Equations relating to the External Sector *(Concld.)*

11. ECB to India disbursements

$LECBCR = -3.15 + 0.75\ LBOPIMP + 0.10ECBRATE - 0.73DUM2004Q2QA3 -0.48DUM2008Q29Q2$

      (-3.0)   **(4.92)**   **(2.52)**   **(-3.09)**   **(-2.93)**

$+0.34LOG(ECBCR(-1))$

  (2.96)

$\bar{R}^2 = 0.87$, Durbin-h $=-1.65$, N=39.

ECBCR = External Commercial Borrowings Disbursement, BOPIMP= Import on BoP Basis, ECBRATE= Interest rate on ECBs, ECBCR(-1) = ECB disbursement in preceding year

12. NRI inflows

$LNRIREV1 = -7.24 + 0.34\ LNRIINTDIFF1Y + 0.80LWGDP -0.59DUM200811 - 0.71DUM2005$

      (1.60)   **(2.61)**   **(2.86)**   **(-3.00)**   **(-5.13)**

$+0.51LERAV$

    (2.04)

$\bar{R}^2 = 0.69$, DW=2.15, N=20

NRIREV1 = Non-Resident Indian Deposits Inflows, NRIINTDIFF1Y Difference between Interest rate on NRI deposits and LIBOR, WGDP= World Gross Domestic Product, ERAV= Average Exchange Rates

Note: Figures in parentheses below the estimated coefficients are T-values. DW=Durbin-Watson Statistics; N = Number of observations used in the estimation.

Scenario I: Projections of Current Account Balance for the 12th Plan
(Assumptions: GDP growth 8.5 per cent and Inflation 5 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
1 Non-oil Exports	289	355	435	535	651
2 Non-oil Imports	403	495	601	731	890
3 Net oil Imports	91	98	106	115	124
A Trade Balance (1-2-3)	-205	-238	-271	-311	-362
B Net Invisibles (4+5+6)	116	144	178	220	268
4 Services	62	77	97	123	153
5 Transfers	75	87	101	117	133
6 Income	-21	-21	-20	-19	-19
Current Account Balance (A+B)	-89	-95	-94	-91	-94
As% of GDP					
1 Non-oil Exports	13.4	14.1	15.2	16.4	17.5
2 Non-oil Imports	18.7	19.7	21.0	22.4	23.9
3 Net oil Imports	4.2	3.9	3.7	3.5	3.3
A Trade Balance (1-2-3)	-9.5	-9.5	-9.5	-9.5	-9.7
B Net Invisibles (4+5+6)	5.4	5.7	6.2	6.7	7.2
4 Services	2.9	3.1	3.4	3.8	4.1
5 Transfers	3.5	3.5	3.5	3.6	3.7
6 Income	-1.0	-0.8	-0.7	-0.6	-0.5
Current Account Balance (A+B)	-4.1	-3.8	-3.3	-2.8	-2.5

Annex 4
Alternative Scenarios with regard to the External Sector *(Contd.)*

Scenario I: Projections of Capital Account for the 12th Plan
(Assumptions: GDP growth 8.5 per cent and Inflation 5 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
FDI Inward	44	54	64	77	86
FDI Outward	21	22	26	30	35
Net FDI	**24**	**31**	**39**	**47**	**51**
Net FIIs	20	20	25	30	30
Net ADRs/GDRs	3	3	3	3	3
Net Portfolio Flows	**23**	**23**	**28**	**33**	**33**
ECB Inflows	32	39	47	58	70
ECB Outflows	19	24	28	35	42
Net ECBs to India	**13**	**16**	**19**	**23**	**28**
Net Short-term	**13**	**16**	**19**	**23**	**27**
Net External Assistance	**3**	**3**	**3**	**3**	**3**
Net Banking Capital	**4**	**4**	**4**	**4**	**4**
Net NRI Flows	4	4	4	4	4
Other Capital	**-2**	**-2**	**-2**	**-2**	**-2**
Others (residual)	**0**	**0**	**0**	**0**	**0**
Net Capital Flows	**77**	**90**	**109**	**130**	**144**
(Per Cent to GDP)					
FDI Inward	2.1	2.1	2.2	2.4	2.3
FDI Outward	1.0	0.9	0.9	0.9	0.9
Net FDI	**1.1**	**1.2**	**1.3**	**1.4**	**1.4**
Net FIIs	0.9	0.8	0.9	0.9	0.8
Net ADRs/GDRs	0.1	0.1	0.1	0.1	0.1
Net Portfolio Flows	**1.1**	**0.9**	**1.0**	**1.0**	**0.9**
ECB Inflows	1.5	1.6	1.7	1.8	1.9
ECB Outflows	0.9	0.9	1.0	1.1	1.1
Net ECBs to India	**0.6**	**0.6**	**0.7**	**0.7**	**0.8**
Net Short-term	**0.6**	**0.6**	**0.7**	**0.7**	**0.7**
Net External Assistance	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Net Banking Capital	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Net NRI Flows	0.2	0.1	0.1	0.1	0.1
Other Capital	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
Others (residual)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net Capital Flows	**3.6**	**3.6**	**3.8**	**4.0**	**3.9**

Annex 4
Alternative Scenarios with regard to the External Sector *(Contd.)*

Scenario II: Projections of Current Account Balance for the 12th Plan
(Assumptions: GDP growth 9 per cent and Inflation 5 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
1 Non-oil Exports	289	355	435	535	651
2 Non-oil Imports	406	502	612	750	919
3 Net oil Imports	91	99	107	117	126
A Trade Balance (1-2-3)	-208	-246	-285	-332	-394
B Net Invisibles (4+5+6)	115	141	173	213	256
4 Services	61	74	92	115	142
5 Transfers	75	87	101	117	133
6 Income	-21	-21	-20	-19	-19
Current Account Balance (A+B)	-93	-105	-112	-119	-138
As% of GDP					
1 Non-oil Exports	13.3	14.0	15.0	16.1	17.1
2 Non-oil Imports	18.7	19.8	21.1	22.6	24.1
3 Net oil Imports	4.2	3.9	3.7	3.5	3.3
A Trade Balance (1-2-3)	-9.6	-9.7	-9.8	-10.0	-10.4
B Net Invisibles (4+5+6)	5.3	5.6	6.0	6.4	6.7
4 Services	2.8	2.9	3.2	3.5	3.7
5 Transfers	3.5	3.4	3.5	3.5	3.5
6 Income	-1.0	-0.8	-0.7	-0.6	-0.5
Current Account Balance (A+B)	-4.3	-4.1	-3.8	-3.6	-3.6

Annex 4
Alternative Scenarios with regard to the External Sector *(Contd.)*

Scenario II: Projections of Capital Account for the 12th Plan
(Assumptions: GDP growth 9 per cent and Inflation 5 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
FDI Inward	45	55	66	79	88
FDI Outward	21	22	25	29	34
Net FDI	**25**	**32**	**40**	**50**	**54**
Net FIIs	20	20	25	30	30
Net ADRs/GDRs	3	3	3	3	3
Net Portfolio Flows	**23**	**23**	**28**	**33**	**33**
ECB Inflows	33	40	48	59	72
ECB Outflows	20	24	29	35	43
Net ECBs to India	**13**	**16**	**19**	**24**	**29**
Net Short-term	**14**	**16**	**19**	**23**	**28**
Net External Assistance	**3**	**3**	**3**	**3**	**3**
Net Banking Capital	**4**	**4**	**4**	**4**	**4**
Net NRI Flows	4	4	4	4	4
Other Capital	**-2**	**-2**	**-2**	**-2**	**-2**
Others (residual)	**0**	**0**	**0**	**0**	**0**
Net Capital Flows	**78**	**92**	**111**	**134**	**149**
(Per Cent to GDP)					
FDI Inward	2.1	2.2	2.3	2.4	2.3
FDI Outward	0.9	0.9	0.9	0.9	0.9
Net FDI	**1.1**	**1.3**	**1.4**	**1.5**	**1.4**
Net FIIs	0.9	0.8	0.9	0.9	0.8
Net ADRs/GDRs	0.1	0.1	0.1	0.1	0.1
Net Portfolio Flows	**1.1**	**0.9**	**1.0**	**1.0**	**0.9**
ECB Inflows	1.5	1.6	1.7	1.8	1.9
ECB Outflows	0.9	0.9	1.0	1.1	1.1
Net ECBs to India	**0.6**	**0.6**	**0.7**	**0.7**	**0.8**
Net Short-term	**0.6**	**0.6**	**0.7**	**0.7**	**0.7**
Net External Assistance	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Net Banking Capital	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Net NRI Flows	0.2	0.1	0.1	0.1	0.1
Other Capital	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
Others (residual)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net Capital Flows	**3.6**	**3.6**	**3.8**	**4.0**	**3.9**

Annex 4
Alternative Scenarios with regard to the External Sector *(Contd.)*

Scenario III: Projections of Current Account Balance for the 12th Plan
(Assumptions: GDP growth 8 per cent and Inflation 6 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
1 Non-oil Exports	289	354	432	529	642
2 Non-oil Imports	401	489	589	712	861
3 Net oil Imports	91	97	105	113	121
A Trade Balance (1-2-3)	-202	-232	-261	-295	-340
B Net Invisibles (4+5+6)	118	147	184	230	284
4 Services	64	80	103	133	170
5 Transfers	75	87	101	117	133
6 Income	-21	-21	-20	-19	-19
Current Account Balance (A+B)	-84	-85	-78	-65	-56
As% of GDP					
1 Non-oil Exports	13.3	13.9	14.9	15.9	16.9
2 Non-oil Imports	18.5	19.2	20.3	21.4	22.6
3 Net oil Imports	4.2	3.8	3.6	3.4	3.2
A Trade Balance (1-2-3)	-9.3	-9.1	-9.0	-8.9	-8.9
B Net Invisibles (4+5+6)	5.4	5.8	6.3	6.9	7.5
4 Services	2.9	3.2	3.5	4.0	4.5
5 Transfers	3.5	3.4	3.5	3.5	3.5
6 Income	-1.0	-0.8	-0.7	-0.6	-0.5
Current Account Balance (A+B)	-3.9	-3.4	-2.7	-2.0	-1.5

Annex 4
Alternative Scenarios with regard to the External Sector *(Concld.)*

Scenario III: Projections of Capital Account for the 12th Plan
(Assumptions: GDP growth 8 per cent and Inflation 6 per cent)

US$ billion

Item/Years	2012-13	2013-14	2014-15	2015-16	2016-17
FDI Inward	43	51	61	73	81
FDI Outward	20	22	25	28	32
Net FDI	**23**	**30**	**36**	**45**	**49**
Net FIIs	20	20	25	30	30
Net ADRs/GDRs	3	3	3	3	3
Net Portfolio Flows	**23**	**23**	**28**	**33**	**33**
ECB Inflows	32	39	47	56	68
ECB Outflows	19	23	28	34	41
Net ECBs to India	**13**	**16**	**19**	**22**	**27**
Net Short-term	**13**	**16**	**19**	**22**	**26**
Net External Assistance	**3**	**3**	**3**	**3**	**3**
Net Banking Capital	**4**	**4**	**4**	**4**	**4**
Net NRI Flows	4	4	4	4	4
Other Capital	**-2**	**-2**	**-2**	**-2**	**-2**
Others (residual)	**0**	**0**	**0**	**0**	**0**
Net Capital Flows	**76**	**88**	**106**	**126**	**139**
(Per Cent to GDP)					
FDI Inward	2.0	2.0	2.1	2.2	2.1
FDI Outward	0.9	0.9	0.8	0.8	0.8
Net FDI	**1.0**	**1.2**	**1.3**	**1.3**	**1.3**
Net FIIs	0.9	0.8	0.9	0.9	0.8
Net ADRs/GDRs	0.1	0.1	0.1	0.1	0.1
Net Portfolio Flows	**1.1**	**0.9**	**1.0**	**1.0**	**0.9**
ECB Inflows	1.5	1.5	1.6	1.7	1.8
ECB Outflows	0.9	0.9	1.0	1.0	1.1
Net ECBs to India	**0.6**	**0.6**	**0.6**	**0.7**	**0.7**
Net Short-term	**0.6**	**0.6**	**0.6**	**0.7**	**0.7**
Net External Assistance	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
Net Banking Capital	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Net NRI Flows	0.2	0.1	0.1	0.1	0.1
Other Capital	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
Others (residual)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net Capital Flows	**3.5**	**3.5**	**3.6**	**3.8**	**3.7**