



MINISTRY OF STATISTICS & PROGRAMME IMPLEMENTATION

CHANGES IN
METHODOLOGY AND DATA SOURCES
IN THE
NEW SERIES OF NATIONAL ACCOUNTS

BASE YEAR 2011-12

MARCH 2015

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FOREWORD

The Central Statistics Office (CSO) introduced the new series of national accounts statistics with base year 2011-12, in place of the previous series with base year 2004-05 on January 30, 2015 through a Press Release, giving the New series Estimates of National Income, Consumption Expenditure, Saving and Capital Formation for the years 2011-12 to 2013-14. A brief note on the conceptual and statistical changes made in the new series of national accounts was also included in the press note.

2. The new series on National Accounts Statistics has been introduced after a comprehensive review of both the database and the methodology employed in the estimation of various aggregates. Besides shifting the base year from 2004-05 to 2011-12, the series incorporates latest available data from surveys and Censuses, new economic activities, expansion of coverage of activities, improvements in procedures and to the extent possible, the latest recommendations of System of National Accounts, 2008 in the compilation of national accounts.

3. As stated in the press release of January 30, 2015, the publication on the changes made in the methodology and data sources in revision of base year as compared to the 2004-05 series is being brought out.

4. We are extremely grateful to Prof. K. Sundaram, Chairman of the Advisory Committee on National Accounts (ACNAS) and other members of the Advisory Committee for the advice offered by them on the new series of national accounts and changes incorporated in the new series. We are also grateful to the Chairs and members of the Sub-Committees/Committees constituted by the ACNAS for the hard work and providing insight on the changes in methodology and adoption of new data sources in the new series, especially in the context of SNA 2008. We would also like to thank all the Central Ministries and State Directorates of Economics & Statistics for their co-operation in making available the requisite data and conducting various type studies, for the new series.

5. This report has been prepared by the National Accounts Division of the CSO and is the result of the sincere and painstaking work done by the officers and staff of the Division for bringing out this report.

New Delhi
10th March, 2015



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ABBREVIATIONS

AIDIS	All India Debt and Investment Survey
ASI	Annual Survey of Industries
CBRI	Central Building Research Institute
CCS	Cost of Cultivation Studies
CFC	Consumption of Fixed Capital
CIS	Change In Stocks
CPI	Consumer Price Index
CPI (AL)	CPI (Agricultural Labourers)
CPI (IW)	CPI (Industrial Workers)
CPI (UNME)	CPI (Urban Non-Manual Employees)
CSO	Central Statistics Office
DCU/DE	Departmental Commercial Undertaking/Departmental Enterprises
DES	State Directorates of Economics and Statistics
DGET	Directorate General of Employment and Training
DMI	Directorate of Marketing & Inspection
EUS	Employment and Unemployment Survey
FISIM	Financial Intermediation Services Indirectly Measured
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GFCE	Government Final Consumption Expenditure
GFCF	Gross Fixed Capital Formation
GVO	Gross Value of Output
HS	Harmonised System of Classification of Commodities and Codes
ICFRE	Indian Council for Forest Research Education
IMF	International Monetary Fund
IOT	Input Output Tables
LI	Labour Input
MCA	Ministry of Corporate Affairs
MF	Mutual Funds
NABARD	National Bank for Agriculture and Rural Development
NAS	National Accounts Statistics
NASSCOM	The National Association of Software and Service Companies
NDP	Net Domestic Product
NFCS	Net Fixed Capital Stock
NGNBFC	Non-Government Non-Banking Financial Companies
NIC	National Industrial Classification
NNI	Net National Income
NPCMS	National Product Classification for Manufacturing Sector
NPI	Non-Profit Institutions

NRCM	National Research Centre on Meat
NSS	National Sample Survey
NSSO	National Sample Survey Office
NVA	Net Value Added
OECD	Organisation for Economic Cooperation and Development
PFCE	Private Final Consumption Expenditure
PIM	Perpetual Inventory Method
RBI	Reserve Bank of India
NRB & OCW	Non-Residential Buildings and Other Construction Works
ROW	Rest of the World
RRB	Rural Residential Buildings
SNA	System of National Accounts
TTM	Trade and Transport Margins
UTI	Unit Trust of India
VAPW	Value Added Per Worker
VAPEW	Value Added Per Effective Worker
WPI	Wholesale Price Index

NOTES

1. Percentage differences in this Report have been taken with reference to the earlier series.

$$\% \text{ Diff} = \left\{ \frac{(\text{Est. of } (2011-12) \text{ Series} - \text{Est. of } (2004-05) \text{ Series})}{(\text{Est. of } (2004-05) \text{ Series})} \right\} \times 100$$

2. Total in the Tables of this publication may not tally due to rounding off.

**NEW SERIES OF
NATIONAL ACCOUNTS STATISTICS
(BASE YEAR: 2011-12)**

Introduction

1.1. The first set of estimates of national income for the entire Indian Union was compiled by the 'National Income Committee', a High Powered Expert Committee set up by the Government of India under the Chairmanship of Prof. P.C. Mahalanobis in 1949. The estimates of national income and details of methodology adopted by the Committee were published in the First and Final reports of the National Income Committee brought out in April 1951 and February 1954 respectively (available on MOSPI's website <http://mospi.gov.in>).

1.2. Following the methodology recommended by the National Income Committee, the Central Statistics Office, earlier called the Central Statistical Organisation (CSO) prepared the first official estimates of national income with base year 1948-49 at constant prices. The CSO published these estimates at constant (1948-49) prices alongwith the corresponding estimates at current prices and the accounts of the Public Authorities in the publication, "*Estimates of National Income*" in 1956. With the gradual improvement in the availability of basic data over the years, a comprehensive review of methodology for national accounts statistics has constantly been undertaken by the CSO with a view to updating the data base and shifting the base year to a more recent year. The base year of national accounts were revised in the following chronological order:

- i. From 1948-49 to 1960-61 in August 1967;
- ii. From 1960-61 to 1970-71 in January 1978;
- iii. From 1970-71 to 1980-81 in February 1988;
- iv. From 1980-81 to 1993-94 in February 1999;
- v. From 1993-94 to 1999-2000 in January 2006;
- vi. From 1999-2000 to 2004-05 in January 2010; and
- vii. From 2004-05 to 2011-12 on January 30, 2015.

Alongwith the shifting of base years of national accounts series, the CSO also had been making improvements in the compilation of national accounts series, in terms of coverage of activities, incorporation of latest datasets and latest international guidelines.

1.3. The reason for changing the base year of the national accounts periodically is to take into account the structural changes which have been taking place in the economy and to depict a true picture of the economy through macro aggregates like Gross Domestic Product (GDP), National Income, consumption expenditure of

Government and individuals, capital formation etc. For examining the performance of the economy in real terms, estimates of these macro-economic aggregates are prepared at the prices of selected year known as base year. The estimates at the prevailing prices of the current year are termed as "at current prices", while those prepared at base year prices are termed as "at constant prices". The comparison of the estimates at constant prices, which means "in real terms", over the years gives the measure of real growth.

1.4. In Section 2 of the Brochure, the guiding principles behind the changes made in the compilation of national accounts in the New Series, including the reasons for choosing 2011-12 as the base year, have been spelt. The details of changes made in each of the institutional sectors – General Government, Non-Financial Corporations, Financial Corporations and Households – are given in Section 3. Other changes in industry/item level in the industry-wise estimates of Gross Value Added (GVA) and expenditure aggregates of Gross Domestic Product (GDP) have been presented in Sections 4 and 5 respectively. After Section 5, few important statements of the new series of national accounts have been presented. Wherever possible, a comparison of estimates with the old series (base year 2004-05) has been provided in this Brochure.

1.5. The brochure presents, in brief, the changes made from the earlier series, and therefore, it does not dwell much on the details of the compilation procedure, especially in cases where no changes have been made in the new series. For a more detailed explanation of the sources and methods used in all such cases, users are requested to refer to the publication, "National Accounts Statistics: Sources and Methods, 2012", which is available on the website of the Ministry of Statistics and Programme Implementation at <http://mospi.gov.in>.

SECTION 2

Guiding Principles for the New Series

2.1. The three major components influencing the present revision exercise include (i) revision of base year to a more recent year (for meaningful analysis of structural changes in the economy in real terms), (ii) complete review of the existing data base and methodology employed in the estimation of various macro-economic aggregates including choice of the alternative databases on individual subjects and (iii) to the extent feasible, implementing the international guidelines on the compilation of national accounts, the System of National Accounts (SNA), 2008 prepared under the auspices of the Inter Secretariat Working Group on National Accounts comprising of the European Communities (EUROSTAT), International Monetary Fund (IMF), Organisation for Economic Cooperation and Development (OECD), United Nations and the World Bank.

Choice of 2011-12 as the Base Year

2.2. In the past, National Accounts Statistics were revised decennially changing the base to a year, which ends with 1. With the informal/unorganised sector playing a major role in the Indian economy, this was primarily because in the base year estimates of national accounts aggregates, the work force estimates especially that for the unorganised sector were obtained from the Population Census conducted decennially in the years ending with 1. This practice continued upto the series with base year 1980-81.

2.3. Since the 1993-94 series, the CSO started using the work force estimates from the results of Quinquennial Employment and Unemployment Surveys of National Sample Survey Organisation (NSSO), which are conducted once in every five years, and consequently started revising the base years of national accounts statistics once in every five years coinciding with the years for which the NSSO conducts the Quinquennial Employment and Unemployment Surveys (EUS). The National Statistical Commission has also recommended that all economic indices should be rebased at least once in every five years.

2.4. The NSS 61st Round Quinquennial EUS conducted in the year 2004-05, on which the previous series of national accounts was based, was followed by a quinquennial EUS in 2009-10. However, the year was not considered a "normal" year since it succeeded the global slowdown of 2008. Therefore, a fresh EUS was conducted in 2011-12. The results of this survey have been used for the compilation of the estimates in the new series with base year 2011-12, released on 30th January, 2015¹.

¹ Press Release on the New Series of National Accounts, released on January 30, 2015
http://mospi.nic.in/Mospi_New/upload/nad_press_release_30jan15.pdf

Improvements in coverage

2.5. **Corporate Sector** – In the 2004-05 series, the Private Corporate Sector in 2004-05 series was being covered using the RBI Study on Company Finances, wherein estimates were compiled on the basis of financial results of around 2500 companies. In the new series, comprehensive coverage of Corporate Sector has been ensured in mining, manufacturing and services by incorporation of annual accounts of companies as filed with the Ministry of Corporate Affairs (MCA) under their e-governance initiative, MCA21. Accounts of about 5 lakh companies have been analysed and incorporated for the years 2011-12 and 2012-13, while the number of common companies (companies for which accounts are available for the year 2012-13) is around 3 lakh for the year 2013-14.

2.6. **Financial Corporations** – Financial corporations in the private sector, other than banking and insurance, in the earlier series was limited to a few mutual funds and estimates for the Non-Government Non-Banking Finance Companies as compiled by RBI. In the new series, the coverage of financial sector has been expanded by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as the regulatory bodies, SEBI, PFRDA and IRDA.

2.7. **Local bodies and autonomous institutions** – Earlier, estimates for local bodies and autonomous institutions were prepared on the basis of information received for seven autonomous institutions and local bodies of four States – Delhi, Himachal Pradesh, Meghalaya and Uttar Pradesh. In the new series, there has been an improved coverage of local bodies and autonomous institutions, covering around 60% of the grants/transfers provided to these institutions.

Use of results of recent surveys and censuses and type studies

2.8. In the new series, efforts have been made to make use of as much current data as possible. Further, the results of latest available surveys have also been made use of. Some of the important sources of data, which have been used in the new series, are as follows:

- (i) NSS 68th round (2011-12) – Survey on employment and unemployment and consumer expenditure;
- (ii) NSS 67th round (2010-11) - Survey on Unincorporated Non-agricultural Enterprises (Excluding Construction);
- (iii) All India Livestock Census, 2012;
- (iv) NSS 70th round (2013) - All India Debt and Investment Survey and Situation Assessment Survey; and
- (v) Population Census, 2011.

- (vi) Study on yield rates of meat products & by-products of different livestock species conducted by National Research Centre on Meat, Hyderabad.
- (vii) Study on the inputs in the Construction sector by Central Building Research Institute (CBRI), Roorkee
- (viii) Study on 'Harvest and Post-harvest losses of major crops and livestock products in India' conducted by Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana.

Consultation with Expert Bodies

2.9. The Advisory Committee on National Accounts Statistics (ACNAS) under the chairmanship of Prof.K.Sundaram, constituted the following sub-committees to look into the issues in the compilation of national accounts and make necessary recommendations for the new series of national accounts:

- a) Sub-Committee on Unorganised Manufacturing & Services Sectors
Chairman: Prof.K.Sundaram
- b) Sub-Committee on Agriculture and Allied Sectors
Chairman: Prof. S. Mahendra Dev
- c) Sub-Committee on Private Corporate Sector including PPPs
Chairman: Prof.B.N.Goldar
- d) Sub-Committee on System of Indian National Accounts
Chairman: Dr.A.C.Kulshreshtha
- e) Committee on Private Final Consumption Expenditure
Chairman: Prof.A.K.Adhikari

2.10. The reports of the above-mentioned Sub-Committees are available on the website of the Ministry, <http://mospi.gov.in>.

Implementation of 2008 SNA

2.11. While revising the base year, efforts have also been made to implement the recommendations of the System of National Accounts (SNA) 2008 to the extent data are available. Some of the recommendations which presently form part of the new series are:

- i. Valuation of various GVA, NVA and related aggregates at basic prices and GDP at market prices instead of factor cost.
- ii. Estimates of the institutional sectors – Non-financial and financial Corporations, General Government and households are shown separately, in view of their 'intrinsic difference in their economic objectives, functions and behaviour'.
- iii. Distinction between General Government and public corporations has been made and units have been allocated to institutional sectors so that general government and other public units can be identified separately.

- iv. Unincorporated enterprises belonging to households, which have complete sets of accounts, tend to behave in the same way as corporations. Therefore, as recommended by SNA 2008, such enterprises have been treated as quasi-corporations. Some examples of quasi-corporations in the Indian context are proprietorship and partnership enterprises, maintaining accounts.
- v. The head office has been allocated to the non-financial corporations sector unless all or most of its subsidiaries are financial corporations, in which case it is treated as a financial auxiliary in the financial corporations sector. In the 2004-05 series, the recommendation had been adopted for service sector wherein GVA estimates were compiled from enterprises in this sector. In the new series, this approach has been adopted for the mining and organised manufacturing sectors also.
- vi. Sub-sectoring of Non-Profit Institutions (NPIs) in the corporate and government sectors has been done in respect of autonomous bodies and Section 25 companies.
- vii. Expenditure on Research & Development (R&D) has been capitalised in Government, Public Corporations and Private Corporations and hence has become part of capital formation.
- viii. Output of Financial Intermediation Services Indirectly Measured (FISIM) has been calculated using a reference rate for the financial sector, except in the case of central bank (Reserve Bank of India).
- ix. Output of central bank (RBI) is measured at cost.
- x. Non-financial assets in the earlier series were classified as 'construction' and 'machinery'. In the new series, as recommended by SNA2008, non-financial assets have been classified as 'dwellings, other buildings and structures', 'machinery and equipment', 'cultivated biological resources' and 'intellectual property products'.
- xi. Consumption of fixed capital has been measured at the average prices of the period with respect to a constant-quality price index of the asset concerned.
- xii. Harmonisation between SNA and BPM in respect of the external sector transactions has been achieved since RBI has adopted BPM6 in its compilation.

2.12. In view of the implementation of the above-mentioned recommendations of SNA 2008, specifically those stated at (ii), (iii) and (iv) above, the classification of enterprises in the new series has undergone change. The details of the institutional sector classification are given below:

- I. Organised Sector
 - a. General Government
 - b. Public Financial/Non-Financial Corporations
 1. Departmental Enterprises (DE) or Departmental Commercial Undertakings (DCU)

2. Non-Departmental Enterprises (NDE) or Non-Departmental Commercial Undertakings (NDCUs)

c. Private Financial/Non-Financial Corporations

1. Private Incorporated Enterprises
2. Quasi-corporations

These include -

- i. Crop production in plantations, other than those covered in private corporate sector
- ii. Unincorporated Enterprises covered in Annual Survey of Industries
- iii. Unincorporated enterprises of manufacturing that are not covered under ASI but maintain accounts
- iv. Co-operatives providing non-financial services
- v. Unincorporated enterprises providing non-financial services maintaining accounts
- vi. Unorganised financial enterprises

The following points need to be noted with reference to this categorization of organised sector-

- In the earlier series, only quasi-corporations under (i), (ii) and (iv) above were included in the organised sector.
- 'Registered Manufacturing' in the national accounts earlier referred to DEs and all factories registered under the Factories Act under Section 2m(i) & 2m(ii) employing more than 10 workers with power or 20 workers without power. Therefore, apart from factories of the Incorporated Enterprises, it also included factories of unincorporated enterprises which were registered under the Factories Act. The organised manufacturing sector in this series is a super-set of the registered sector.

II. Households or Unorganised sector

- a. Enterprises not covered in 'I' above, i.e, all non-Government Unincorporated Enterprises that have not been classified as quasi-corporations – *Includes Non-Profit Institutions Serving Households (NPISH)*

2.13. The estimates of GVA at basic prices, by industry and by institutional sector, are given at Annexure-I.

Methodological Changes in Compilation

Estimation of GVA for the unincorporated manufacturing and non-financial enterprises

2.14. In the absence of annual enterprise surveys, the GVA estimates in respect of unorganised segments of manufacturing and services sectors are compiled indirectly through Labour Input Method (LI Method) using the benchmark-indicator procedure. In this procedure, the benchmark GVA estimates are initially prepared at detailed activity level for the base year of national accounts series using the estimated labour input (which is the total of principal and subsidiary activity of workers engaged in the activity) and the value added per worker (VAPW) in the activity. For subsequent years, the GVA is estimated by extrapolation using appropriate indicators relevant to the economic activity. Therefore, for estimation of GVA for these unorganised segments of economy, data on labour input and VAPW are required for the base year. It is pertinent to mention here that the labour input used in the national accounts relates to the number of jobs performed in the economic activities, rather than the number of persons employed. This means that a person performing two jobs is counted twice in the labour input procedure. This labour input corresponds conceptually to the labour input used in estimating the value added per worker from the NSS enterprise surveys.

2.15. In the national accounts statistics, the estimates of value added are compiled at detailed activity level, known as 'compilation categories'. These compilation categories are determined by regrouping the economic activities at different levels described in the National Industrial Classification (NIC), 2008, which, in turn, follows the International Standards Industrial Classification of All Economic Activities, Rev.4 (ISIC Rev.4) of the United Nations. The complete list of compilation categories of national accounts in the new (2011-12) series is given in ***Annexure-II***. There are some differences in compilation categories in 2011-12 from 2004-05 due to change of NIC from NIC, 2004 to NIC, 2008. Major differences are given below:

- i. The activities, 'Recycling of metal waste and scrap + non-metal waste and scrap', which was earlier part of manufacturing and 'Sewerage and other waste management services' have been clubbed to form the category 'Remediation and other utility services', and will be reflected in the group 'Electricity, gas, water supply and other utility services'.
- ii. 'Repair of computers', which was earlier part of computer related activities, to be a part of 'Repair of personal and household goods' and reflected in 'Trade & Repair Services'.
- iii. 'Recording, Publishing and Broadcasting Services' to form a new category, and reflected in the group 'Communication & Services related to broadcasting'.
- iv. Sewage activities removed from services sector and made a part of Electricity, Gas, Water Supply and Utility Services.

2.16. In the new series, a new method called “**Effective Labour Input Method**” (**ELI Method**) has been adopted for the following enterprises:

- All unincorporated manufacturing enterprises, except those covered under the Annual Survey of Industries
- Unincorporated service enterprises, except those of ‘Trade & Repair Services’, ‘Hotels and Restaurants’, ‘Non-mechanized Road transport’ and ‘Telecommunication’.

2.17. In the Labour Input Method (LI Method), as was being used in the earlier series, while compiling GVAPW from the Enterprise Survey, it is assumed that there is equal contribution from all categories of workers engaged in an economic activity i.e. the productivity of an employer, a casual wage worker, or a family worker is equal. The new method addresses differential labour productivity issue by assigning weights to the different categories of workers engaged in an economic activity based on their productivity. The weights were compiled using the data on establishments covered in the NSS 67th round Survey on Unincorporated Enterprises, 2010-11 (hereinafter referred to as ES). A nested Cobb-Douglas function has been used for computing the weights of different categories of workers.

$$\text{Model Expression: } Y = A K^{\beta} [L2 + \delta 1L1 + \delta 2L3]^{\alpha} \quad - \quad (1)$$

2.18. After taking the natural log of eq. 1 and adding a dummy variable representing the sector (rural, urban),

$$\text{Log } Y = \text{Log } A + \beta \text{ Log } K + \alpha \text{ Log } [L2 + \delta 1L1 + \delta 2L3] + YS \quad - \quad (2)$$

Where, Y = GVA

K = capital

L1 = Owner

L2 = Hired worker (formal + informal)

L3 = Helper

S = Dummy variable for sector (Rural = 0, Urban = 1)

2.19. The coefficients of labour terms, $\delta 1$ and $\delta 2$, in this equation give the relative marginal productivities which are used as conversion factors for conversion of “owners” and “helpers” in terms of hired worker for computation of “effective labour input”.

2.20. $\delta 1$ and $\delta 2$ in equation (2) are the conversion factors (or relative marginal productivity) of the owner and helper categories of workers respectively in terms of hired worker. For e.g. $\delta 1 = 0.5$ implies that 10 owners are equivalent to 5 hired workers.

2.21. $\delta 1$ and $\delta 2$ were used for computing the GVA per effective worker = GVA from 67th round/ $[L2 + \delta 1L1 + \delta 2L3]$. The same conversion factors were used on the number of different types of workers as estimated from NSS 68th round Employment

and Unemployment Survey (EUS) (duly adjusted for population, as per Population Census, 2011) for getting the effective LI engaged in that activity/category.

2.22. The NSS 67th round ES collected, inter alia, data on employment for four categories of labour viz. i) working owner-801; ii) formal hired worker-802; iii) informal hired worker-803; iv) other worker/helper-804. The NSS 68th round EUS classifies the status of workers as - "worked in h.h. enterprise (self-employed): own account worker -11, employer-12, worked as helper in h.h. enterprise (unpaid family worker) -21; worked as regular salaried/ wage employee -31, worked as casual wage labour: in public works-41, in other types of work-51".

2.23. The concordance between the codes given for workers in the 68th round EUS (2011-12) and the 67th round ES (2010-11) is given as under:

Sl.No.	Description	Code in EUS	Code in ES
1.	working owner	11 & 12	801
2.	formal hired worker	31	802
3.	informal hired worker	51	803
4.	other worker/helper	21	804

2.24. The GVA adjusted for labour productivity (Effective GVA) was then computed as the product of Effective LI from EUS and GVA per effective worker from ES. This method, referred to as "**effective LI method**" was adopted for the unorganised manufacturing as a whole. Effective LI method was used for the unincorporated enterprises of mechanized road transport, services incidental to transport, courier services, cable operators, professional, scientific & technical activities, activities of membership organisations and all categories of personal services.

2.25. The Effective LI method based on establishment was modified in a few categories of non-financial services, namely, education, health, water transport, storage, real estate, renting of machinery, computer & related services, legal and accounting services, by using effective LI and the GVA per effective worker (GVAPEW) of rural establishments and urban directory establishments, as the case may be. This method would be referred to as "**modified effective LI method**".

$$\text{GVA} = \text{Effective LI (Rural)} \times \text{GVAPEW (Rural Establishments)} \\ + \text{Effective LI (Urban)} \times \text{GVAPEW (Urban Directory Establishments)}$$

2.26. In some other categories, namely, Trade & repair services, Hotels and Restaurants and Non-mechanized Road transport, telecommunication, where it was felt that the productivity of different categories of labour may not have a significant impact on GVA, especially in the unorganised segment, the "**LI method**" was used as below:

$$\text{GVA} = \text{LI (Rural)} \times \text{GVAPW (Rural Establishments)} \\ + \text{LI (Urban)} \times \text{GVAPW (Urban Directory Establishments)}$$

2.27. It may be worthwhile to note that in urban areas GVAPW/GVAPEW for Directory Establishments (having 6 or more workers) has been used since most of the establishments in urban areas are Directory Establishments. This is also in consonance with the practice adopted in previous series.

2.28. The estimates of GVAPW and LI for the unorganised manufacturing and non-financial service sector enterprises for the base year 2011-12, which have been computed using either of the above-mentioned methods, are given in **Annexure-III**.

2.29. The enterprise survey collects information on whether the enterprise is maintaining books of accounts or not. As recommended by SNA 2008, all these unincorporated enterprises have been classified as quasi-corporations, if they are maintaining accounts, otherwise as household enterprises. Estimate of GVA from quasi-corporations have been added to GVA of incorporated enterprises in case of non-financial corporations.

2.30. The list of indicators used for estimation of GVA in the subsequent years for the enterprises of manufacturing is given in **Annexure-IV**, while those for the unorganised non-financial services is given in **Annexure-V**.

Other changes in the compilation procedure

2.31. Some of the other key changes that have been incorporated in the new series of national accounts are described in the following paragraphs.

(1) *FISIM*

2.32. In the earlier series, output of Financial Intermediation Services Indirectly Measured (FISIM), which gives an estimate of the 'net interest margin' of the financial corporations, was based on the difference between total property receipts (dividend+ interest+ net profit on sale of investments) and total interest payments by the financial corporations. In the new series, as recommended in the SNA 2008, the estimates of FISIM have been compiled, using the Reference Rate (RR) approach.

(2) *Output of RBI*

2.33. The estimates of GVA of the Central Bank, i.e., the Reserve Bank of India (RBI), in the earlier series were computed using a mix of market and non-market approach. The issue department of the RBI was considered as non-market and a part of the General Government. The banking operations of the RBI were considered as market

operations. In the new series, the entire operation of the RBI has been considered as non-market, as recommended in the SNA 2008 and the value of its output has been computed using the cost approach².

(3) *Unorganised financial enterprises (other than insurance agents)*

2.34. In the financial services, in the 2004-05 series, the GVA of the unorganised sector was estimated as a fixed ratio (1/3rd) of the GVA of Government Companies and the Non-Government Non-Banking Financial Companies (NGNBFCs). This sector consisted of private moneylenders and unincorporated financial enterprises. In the new series, the estimates for private moneylenders have been derived using the information available from the NSS 70th round All India Debt and Investment Survey (AIDIS), 2013, RBI's annual publication - Basic Statistical Returns of Scheduled Commercial Banks in India, RBI's "Report of the Technical Group to review legislations on moneylenders", 2007 and NSS 67th round Survey on Unincorporated Enterprises, 2010-11. For the remaining unorganised financial enterprises, the estimates of GVA have been derived from NSS 67th round Survey on Unincorporated Enterprises, 2010-11.

(4) *Sand*

2.35. The estimate of 'extraction of sand' as part of minor minerals in the earlier series was found to be negligible as compared to its apparent use in construction. Therefore, in the new series, an indirect estimate of the value of output of 'extraction of sand' at basic prices has been derived through the value of commodities used for 'construction'.

(5) *Inclusion of construction materials as basic materials*

2.36. Two new construction materials, namely, bitumen & bitumen mixtures and glass & glass products have been included in the list of basic materials used for estimation of value of output of construction activity. The output for these items has been derived from the Annual Survey of Industries, 2011-12. In addition, for the output of glass & glass products, information has also been taken from the manufacturing enterprises covered in NSS 67th round Survey on Unincorporated Enterprises, 2010-11. Due adjustments are then made on these estimates of output for excise duty, net imports and import duty, as also the value of these products used in the manufacturing sector as inputs, to derive the estimates of these two materials as used in construction.

(6) *Use of Consumer Price Indices – Rural/Urban/Combined*

2.37. Price indices are used for compiling the estimates in two cases – (i) as a deflator when current price estimates are available through firm data sources (e.g.

² See Paragraph 3.21 for more details

annual financial reports) and (ii) for converting the constant price estimate to that at current prices, when quantum indicators are used in compilation. In the earlier series, CPI-AL/IW was being used as an indicator for the movement in retail prices. In the new series, these have been replaced by the more broad based CPI-Rural/Urban/Combined, which have since become available.

OBSOLETE

SECTION 3

Changes in the institutional sectors

3.1. The changes made in the new series in the institutional sectors have affected the estimates across industries. These changes have been discussed in this Section.

Public Financial and Non-Financial Corporations

3.2. There has been no change in the methodology adopted for compilation of estimates in the Departmental and Non-Departments Enterprises. However, the following changes in respect of NDEs have been incorporated in the new series-

- (i) Use of the latest list of Central Public Sector Undertakings from the Annual Report of the Department of Public Enterprises;
- (ii) Incorporation of the estimates of NDEs for the compilation of mining and manufacturing industries -

In the new series, 'enterprise approach' has been adopted for compiling the estimates of mining and manufacturing sectors. Therefore, the estimates of the Non Departmental Enterprises (NDEs), both Central and State, as compiled from their Annual Report, are being used for compilation of the estimates pertaining to these industries. However, care has been taken to ensure that NDEs have been excluded while using data from the Annual Survey of Industries (ASI) and the XBRL/ MCA 21 data of the Ministry of Corporate Affairs, to avoid double counting.

3.3. Changes have also been made in two Departmental Enterprises – Railways and Department of Posts. These are described as under:

(1) Railways

3.4. Estimates of Railways have three components – Administration, Manufacturing and Transport. No changes have been made in Railway Administration and Rail Transport. As regards railway manufacturing, in the earlier series, the block account of 5 production units of Indian Railways - Chittaranjan Locomotive Works, Diesel Locomotive Works, Integral Coach Factory, Rail Wheel Factory and Rail Coach Factory – were being analysed for compiling the estimates of capital formation. In the new series, apart from these 5 production units, block accounts of two more production units - Railway Electrification, Allahabad and Diesel Modernisation Component Work, Patiala – have also been analysed.

(2) Department of Posts

3.5. Estimates of Communication are prepared by analysing Demand for Grants of D/o Post. Estimates are prepared for three components namely: Postal Services, Post

Office Savings Bank (POSB) and Postal Life Insurance (PLI). In the 2004-05 series, GVA of POSB was computed as a fixed percentage of receipts. In the new series, actual data of POSB, which is available in the Demand for Grants of D/o Posts have been used to estimate GVA.

3.6. Comparative estimates of GVA for the year 2011-12 (at current prices) for the three components are given below:

(Rs. crore)			
Type of Service	2004-05 Series	2011-12 Series	% Difference
Postal Service	10172	12686	24.71
PL Insurance	336	336	0
POS Bank	2907	4316	48.47
Total	13415	17338	29.24

Private Non-Financial Corporations

3.7. Significant change has been made in terms of coverage of private non-financial corporations. In the earlier series, estimates for these corporations were prepared using the RBI Study on Company Finances. The data sources and methodology used in the new series for this sector are given in the following paragraphs.

3.8. Non-financial private corporate sector consists of

- (i) Non-financial Private Companies registered with Ministry of Corporate Affairs (MCA) under the Companies Act, 1956,
- (ii) Limited Liability Partnerships registered with MCA under LLP Act, 2008 and
- (iii) Quasi-corporate sector which are enterprises not registered under companies but maintain accounts.

This section discusses compilation procedure alongwith data sources in respect of (i) and (ii). The methodology for (iii) is the same as that for household enterprises and has been provided in Section 2, Paras 2.13 to 2.28.

Definition and data source:

(i) Non-financial private companies registered with Ministry of Corporate Affairs under the Companies Act:

3.9. For new series (Base Year 2011-12), estimates for the non-financial private companies have been prepared using the database created under an e-governance project, called MCA21, by the Ministry of Corporate Affairs. Under MCA21 project, a database of the annual financial reports is created every year by online data submission by the companies registered under Companies Act under two web platforms namely, (i) form 23 AC/ACA and (ii) Extensible Business Reporting Language (XBRL).

3.10. Companies falling in the following categories file their Balance Sheet and Profit & Loss Account using Extensible Business Reporting Language (XBRL) taxonomy for financial year commencing on or after 01.04.2011:

- a. all companies listed with any Stock Exchange(s) in India and their Indian subsidiaries; or
- b. all companies having paid up capital of Rupees five crore and above; or
- c. all companies having turnover of Rupees one hundred crore and above; or
- d. all companies who were required to file their financial statements for FY 2010-11, using XBRL.

3.11. However banking companies, power companies, non-banking financial companies and insurance companies are exempted from compulsory XBRL filing as of now. Each company is having a Company Identification Number (CIN) which is a 21 digit number given by Registrar of Companies, MCA at the time of registration. CIN includes the information on economic activity at five digit level of NIC 2004 and codes indicating whether the company is a government company or a Section 25 company (coded as 'NPL') or a private company. MCA has shared the financial data for 23AC/ACA and XBRL companies with CSO for compilation of national accounts statistics. Estimates of output for NPL companies are prepared separately by cost method (where Output = Compensation of Employees + Intermediate Consumption + Consumption of Fixed Capital + Production taxes less Production subsidies) and output for private companies is estimated as "Sale + Miscellaneous Income – (Product tax – Product subsidies)."

(ii) Limited Liability Partnership Companies (LLPs) registered with MCA under LLP Act, 2008:

3.12. MCA has also shared the financial reports for LLPs. LLPs are not registered under Companies Act but registered under LLP Act, 2008. The enterprises registered under LLP Act, 2008 are also not covered by the NSS 67th round Survey on Unincorporated Enterprises, 2010-11. Estimates for LLPs are prepared by production approach.

Size of the non-financial private corporate sector:

3.13. Table 1 shows the industry-wise number of companies for which the estimates were prepared based on the data made available by MCA.

Table 1: Industry wise number of companies / LLPs

Sl. No.	Compilation Category	Number of MCA 21 companies in 2011-12 as on 15.12.2014			Number of Section 25 (NPL) Companies	Number of LLPs
		23AC/ACA	XBRL	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Agriculture, forestry & fishing	11671	258	11929	31	116

Sl. No.	Compilation Category	Number of MCA 21 companies in 2011-12 as on 15.12.2014			Number of Section 25 (NPL) Companies	Number of LLPs
		23AC/ACA	XBRL	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.1.	Crops & Livestock	10712	177	10889	28	113
1.2.	Forestry	361	2	363	2	1
1.3.	Fishing & aquaculture	598	79	677	1	2
2.	Mining & quarrying	6472	249	6721	3	42
3.	Manufacturing	123120	12682	135802	93	665
4.	Electricity, gas, water supply and other utility services	5402	850	6252	20	74
4.1.	Electricity	3856	756	4612	3	54
4.2.	Gas – Manufacture & distribution	233	30	263	0	0
4.3.	Water Supply	1081	10	1091	6	17
4.4.	Sewerage, waste management and remediation activities	232	54	286	11	3
5.	Construction	55804	3617	59421	40	938
6.	Trade, repair, hotels & restaurants	90888	4787	95675	30	751
6.1.	Trade & repair services	80117	4005	84122	27	623
6.1.1.	Trade and repair of motor vehicles (including motor cycles) and retail sale of automotive fuel	2895	62	2957	0	30
6.1.2.	Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets	63962	3253	67215	24	398
6.1.3.	Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets	13260	690	13950	3	195
6.2.	Hotels & Restaurants	10771	782	11553	3	128
7.	Transport, storage, communication & services related to broadcasting	15540	1472	17312	28	121
7.1.	Transport	11316	852	12468	14	106
7.1.1.	Transport via Railways	0	7	7	0	0
7.1.2.	Road transport	2180	158	2338	2	15
7.1.3.	Water Transport	520	59	579	1	3
7.1.4.	Air Transport	0	63	363	0	0

Sl. No.	Compilation Category	Number of MCA 21 companies in 2011-12 as on 15.12.2014			Number of Section 25 (NPL) Companies	Number of LLPs
		23AC/ACA	XBRL	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
7.1.5.	Services incidental to transport	8616	565	9181	11	88
7.2.	Storage	1648	30	1678	0	0
7.3.	Communication & services related to broadcasting	2576	590	3166	14	15
7.3.2.	Courier activities	356	12	368	0	0
7.3.4.	Telecommunication	299	251	550	2	15
7.3.5.	Recording, Publishing and Broadcasting services	1921	327	2248	12	0
9.	Real estate, ownership of dwellings and professional services	131621	4236	135857	381	3822
9.1.	Real estate and ownership of dwellings	39527	1829	41356	18	1012
9.1.1.	Real Estate activities	39527	1829	41356	18	1012
9.2.	Professional services	92094	2407	94501	363	2810
9.2.1.	Computer and information related services	32457	1217	33674	17	610
9.2.2.	Professional, scientific and technical activities (including R&D)	59371	1150	60521	345	2193
9.2.3.	Administrative & support service activities and other professional activities	266	40	306	1	7
11.	Other Services	54103	979	55082	1771	662
11.1.	Education (including coaching and tuition)	4906	180	5086	470	135
11.2.	Human health activities and care services with/without accommodation	8559	375	8934	474	99
11.3.	Recreational, cultural and sporting activities	2667	259	2926	77	82
11.4.	Activities of membership organisations	225	12	237	355	9
11.5.	Personal Services	4995	153	5149	395	337
11.6	Other Services n.e.c	32750		32750		
Total Non-financial Corporations		494621	29130	524051	2397	7191

Note: Financial Services, Postal services, Repair Services and Public Administration are not shown in the table since they do not belong to the 'Non-financial Corporations' Sector.

Comparison of GVA for non-financial private corporate enterprises

3.14. Table 2 shows the comparison between estimated gross value added (GVA) for non-financial private corporate sector (excluding quasi-corporations) derived from MCA 21 database and LLP database for new series (2011-12 base year) and estimated GVA for non-financial private corporate sector in old series (2004-05 base year) for the year 2011-12. More detailed estimates have been given at **Annexure-VI**.

Table 2: GVA for non-financial private corporate sector excluding quasi-corporate sector in 2011-12

(Rs. crore)				
S. No.	Industry	2004-05 Series	2011-12 Series	% Difference
1.	Agriculture, forestry & fishing	35591	8878	-75.1
2.	Mining & quarrying	23001	39159	70.2
3.	Manufacturing	761593	980452	28.7
4.	Electricity, gas, water supply and other utility services	19658	52252	165.8
5.	Construction	101355	138242	36.4
6.	Trade, repair, hotels & restaurants	274582	100578	-63.4
7.	Transport, storage, communication & services related to broadcasting	91705	155495	69.6
9.	Real estate, ownership of dwellings and professional services	321750	397932	23.7
11.	Other Services	143796	74001	-48.5
Total Non-financial Corporations		1773031	1946989	9.8

Note: Financial Services and Public Administration are not shown in the table since they do not belong to the 'Non-financial Corporations' Sector.

Financial Corporations

3.15. In the new series of national accounts, the following information has been incorporated for the first time-

- (i) Annual accounts of the Mutual Funds (excluding UTI MF) registered with the Securities and Exchange Board of India (SEBI);
- (ii) Annual accounts of the stock brokers and stock exchanges registered with SEBI (who are also registered under the Companies Act);
- (iii) Annual accounts of the financial regulatory authorities, like SEBI, IRDA and PFRDA; and
- (iv) Annual accounts of the Pension Funds registered with the Pension Fund Regulatory and Development Authority (PFRDA).

3.16. Further, the financial corporations have been sub-sectored as recommended by SNA 2008. The sub-sectors are:

1. Central Bank
2. Deposit-taking corporations except the Central Bank
3. Money market funds (MMF)
4. Non-MMF investment funds
5. Other financial intermediaries except insurance corporations and pension funds (ICPF)
6. Financial auxiliaries
7. Captive financial institutions and money lenders
8. Insurance corporations (IC)
9. Pension funds (PF)

3.17. Adoption of sub-sectorisation has effected some changes in classification. These include, classifying the insurance agents under financial auxiliaries; disaggregation of the mutual funds into Money-Market Funds (MMF), non-MMF and Asset Management Companies (AMCs) and treating the AMCs as financial auxiliaries. In the earlier series, insurance agents were under the insurance sub-sector and entire NBFCs were treated together.

Improvement in coverage of mutual funds

3.18. Estimates pertaining to mutual funds in the earlier series were compiled using the annual accounts of the Unit Trust of India (UTI). In the new series, both public and private mutual funds have been comprehensively covered. Further, these have been segregated into Money Market Funds (MMF), non-MMF and Asset Management Companies (AMCs), as per the recommendations of SNA 2008.

3.19. The estimates of GVA for financial services have changed due to two reasons, namely, methodological changes made in computation of the value of output of

financial services, specifically Financial Intermediation Services Indirectly Measured (FISIM), output of Central Bank (RBI), GVA of moneylenders and incorporation of additional data from the MCA 21 and regulatory agencies, like the SEBI, IRDA and the PFRDA.

FISIM

3.20. In the previous base, the FISIM component of the output of financial intermediaries was based on the difference between total property receipts (dividend+ interest+ net profit on sale of investments) and total interest payments by the banking sector. In the present base, the FISIM has been computed only on loans and deposits, using the Reference Rate (RR) approach, as recommended in the SNA 2008. In short, it is $(LR-RR) * \text{average stock of loans} + (RR-DR) * \text{average stock of deposits}$. The RR = harmonic mean of lending rate and deposit rate for the banking sector. Moreover, FISIM, under the present method, does not include interest receipts on investments and debt securities, interest paid on borrowings and debt securities and net profit on sale of investments (POSI). These components have been considered as property income, which come directly under the gross savings of the financial corporations. Exclusion of receipts like POSI from the FISIM computation has also reduced the GVA of the banking sector.

Output and GVA of RBI

3.21. In the earlier series, GVA of the Central Bank, that is, the Reserve Bank of India (RBI) was computed using a mix of market and non-market approach. The issue department of the RBI was considered as non-market and a part of the general Government. The banking operations of the RBI were considered as market operations. SNA 2008 recommends classifying the operations of Central Bank into three components – monetary policy services; intermediary services; and supervisory services. Monetary policy services are non-market in nature, while the intermediary services are market services. It further recommends that in cases where market output is not separated from non-market output, the whole of the output of the central bank should be treated as non-market and valued at the sum of costs.

3.22. In the Indian context, disaggregated accounts are not available for RBI separately for the three services. Therefore, in the new series, the entire operation of the RBI has been considered as non-market and the value of its output has been computed using the cost approach. It may also be noted that, as the net profit on sale of investments (in case of the RBI, net profit on sale of securities) is not a part of FISIM computation in the new series, its contribution no longer remains a part of the output, irrespective of the approach followed for computation of the value of output, and, consequently, the GVA.

GVA of unorganised financial enterprises (excluding insurance agents)

3.23. In the 2004-05 series, the GVA of this sector was estimated as one-third of the GVA of Government Financial Companies and the NGNBFCs (including HDFC). This sector included private money lenders and the remaining unorganised financial services, which in the new series, has been estimated separately as under:

- For the private money lenders, the following steps are followed to compute the GVA -
 - The quantum of loan advanced by the money lenders to the households has been estimated using the data from the NSS 70th round AIDIS, 2013 and RBI's annual publication - Basic Statistical Returns of Scheduled Commercial Banks in India, which gives the loans advanced to households.
 - Interest rates charged by private money lenders have been taken from RBI's "Report of the Technical Group to review legislations on moneylenders", 2007.
 - FISIM calculated by RR method has been taken to be equivalent to the output.
 - The ratio of intermediate consumption to the total interest receipts, as estimated from NSS 67th round Survey on Unincorporated Enterprises, 2010-11, has been used to estimate intermediate consumption, and hence, GVA.
- For the remaining unorganised segment, the estimate of GVA has been prepared from the NSS 67th round Survey on Unincorporated Enterprises, 2010-11.

3.24. In the base 2004-05, the estimates of Non-Government Non-Banking financial companies (NGNBFC) were compiled using the sample study of NGNBFCs conducted by RBI and then blowing up that figure using the Paid-Up Capital (PUC) of the NGNBFCs (i.e., ratio of PUC of all NGNBFCs to that of covered NGNBFCs). As the samples were drawn independently each year, the coverage of these units used to vary. To overcome this, a three-year average was used in the base 2004-05. In the present base, the financial data of top 195 NGNBFCs was obtained from the RBI, for each of these years. The blowing up procedure has been kept the same.

3.25. Finally, in the present base, financial data of some more companies have been brought under the ambit of analysis. This include, private mutual funds and their Asset Management Companies (AMCs), whose list as well as data has been provided by the SEBI; private pension funds, whose list and data has been provided by the PFRDA and the three regulatory agencies, namely, the SEBI, IRDA and PFRDA.

3.26. The effect on the above-mentioned changes in the GVA of the financial corporations for the year 2011-12 can be seen in the Table 3.

Table 3. GVA at current prices of the financial corporations for the year 2011-12

			(Rs. crore)
Sub-sectors of financial services	2004-05 series	2011-12 series	% Difference
RBI	26122	3236	-87.6
SCBs (incl. Regional Rural Banks)	254602	246452	-3.2
Post Office Savings Bank (POSB)	2907	4316	48.5
NBFIs	68226	91344	33.9
Co-operative credit society (includes Cooperative Banks)	14889	23854	60.2
Unorganised	18033	44663	147.7
Insurance	95742	65392	-31.7
Life	64611	40487	-37.3
Non-Life	31131	24905	-20.0
Pension Fund	974	975	0.1
Financial Services (Total)	481495	480232	-0.3

These will be merged with Scheduled Commercial Banks in the publication, NAS.

Note: New series estimates are at basic prices while the estimates in the old series at factor cost. Estimates of GVA at factor cost for the new series for the year 2011-12 is estimated at Rs.4,79,860 crore.

General Government

3.27. There has been no change in the methodology adopted for compilation of estimates of General Government. However, two changes in the sector are

- (i) RBI's Issue Department which was earlier included in the Government, is now treated as part of Financial Corporations; and
- (ii) Improvement in the coverage of this sector in the new series in local bodies and autonomous institutions.

1. Local Bodies (LB)

3.28. As per recommendations of the Thirteenth Finance Commission (TFC), one of the milestones to be achieved by the States' Directorate of Economics and Statistics (DES), is the economic and purpose classification of expenditure of Local Bodies (LB) by collecting their receipt and payment accounts. Under TFC, DES of eleven States - Uttar Pradesh, Tamilnadu, Meghalaya, Maharashtra, Kerala, Karnataka, Himachal Pradesh, Delhi, Chandigarh, Andhra Pradesh and Telangana - have collected the accounts of local bodies, analysed them for the economic and purpose classification of

their expenditure. On the basis of this information, which accounts for about 60% of the transfers to all local bodies, national level estimates are compiled. Estimates for the States, where accounts of local bodies have not been analysed, the national level estimates are apportioned to the State based on the share of the transfers received by the State, after making due adjustments for the actual estimates of the above-mentioned eleven States.

3.29. As a result of the changes mentioned above, the estimates for the base year 2011-12 have undergone change. A comparative picture of changes in the estimates of LBs is given in Table 4.

Table 4. Comparison of estimates of NVA and GFCF of Local Bodies for the year 2011-12 for the old (2004-05) series and new (2011-12) series

I. Net Value Addition by activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Construction	3029	2645	-12.7
Water Supply	4151	2966	-28.5
Education	22096	24109	9.1
Medical	7227	7000	-3.1
Sanitation	7692	5344	-30.5
Public Admn & Defence	33362	33531	0.5
Total	77557	75595	-2.5

II. Gross Fixed Capital Formation by Activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Construction	93	127	36.6
Water Supply	4419	7467	69
Education	7236	5359	-25.9
Medical	1658	2583	55.8
Sanitation	0	2609	N.A.
Public Admn & Defence	101428	70021	-31
Total	114834	88166	-23.2

2- Autonomous Institutions (AI)

3.30. A large number of Autonomous Institutions (AIs) have been set up by various Ministries/Departments of Central and State Governments for different purposes and substantial grants are released to them every year. These grants have a significant share in the government current expenditure, and are reflected in the government budgets. In addition to the grants, the recipient institutions also generate additional resources on their own to meet their expenditure for payment of salaries, pension, office expenses and acquisition of fixed assets. Details of such expenses are not available in the budget documents. Therefore, it becomes imperative to analyse the accounts of AIs for compilation of estimates of value added, capital formation and consumption expenditure. In the 2011-12 series, the coverage of Central Government AIs has been improved.

3.31. In the 2004-05 series, the accounts of seven major Central AIs were analysed and estimates were projected on the basis of grants given to the Central AIs. In 2011-12 series, the Central Government's AIs have been classified under two groups. One group pertains to AIs engaged in R&D activities and another group pertains to AIs engaged in non R&D activities. This has been done to take into account SNA 2008 recommendation that expenditure on Research and Development (R&D) should be treated as fixed capital formation. The accounts of 27 AIs engaged in Research and Development (R&D) and 55 AIs engaged in activities other than R&D have been analysed. Moreover, the non-R&D AIs have been further classified into homogeneous groups like Indian Institute of Technology, Indian Institute of Management, Central Universities and other AIs. Estimates compiled for each of these homogeneous groups have been projected separately on the basis of total grants. These analysed AIs cover almost 60% of total grants-in-aid given to all Central AIs. A comparative picture of changes in the estimates of Central AIs for the year 2011-12 is given in Table 5.

Table 5. Comparative estimates of NVA and GFCF of Autonomous Institutions for the year 2011-12 in the old (2004-05) series and new (2011-12) series

I. Net Value Added by Activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Education	20005	23984	19.9
Medical	5363	1719	-67.9
Public Admn & Defence	24648	13055	-47
Total	50016	38758	-22.5

II. Gross Fixed Capital Formation by Activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Education	4150	8056	94.1
Medical	2242	503	-77.6
Public Admn & Defence	10394	13424	29.2
Total	16786	21983	31.0

3.32. After implementing the above mentioned changes, the changes in the estimates of General Government for the year 2011-12 are given in Table 6.

Table 6. Comparative estimates of NVA and GFCF of General Government for the year 2011-12 in the old (2004-05) series and new (2011-12) series

I. Net Value Added by Activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Construction	17016	16743	-1.6
Water Supply	9751	8564	-12.2
Education	173328	179770	3.7
Medical	51026	51397	0.7
Sanitation	8049	5712	-29
Real estate and ownership of dwelling	27	27	0
Public Admn & Defence	440604	407207	-7.6
Total	699801	669420	-4.3

Note: NVA in the case of 'public administration & defence' is the same at 'basic prices' and 'at factor cost' since there are no production taxes or production subsidies in this case.

II. Gross Fixed Capital Formation by Activity

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	% Difference
Construction	404	345	-14.6

Activity	2004-05 Series	2011-12 Series	% Difference
Water Supply	11858	14926	25.9
Education	20632	21241	3
Medical	8215	6914	-15.8
Sanitation	841	3455	310.8
Real estate and ownership of dwelling	8746	8926	2.1
Public Admn & Defence	252268	261995	3.9
Total	302965	317803	4.9

3.33. The decline in the NVA of local bodies and Autonomous Institutions is also reflected in the downward revision of Government Final Consumption Expenditure (GFCE) for the year 2011-12, which has reduced from Rs. 10,25,895 crore in the old (2004-05) series to Rs. 9,87,220 in the new (2011-12) series.

Classification of Taxes and Subsidies:

3.34. In the earlier series, the indirect taxes, such as customs, excise, sales tax and service tax, were classified as 'product' taxes and the remaining indirect taxes and land revenue were treated as 'production taxes'. In the case of subsidies, the total subsidies were netted of the production subsidies as given in the annual reports of NDEs, to obtain the product subsidies. However, as per SNA, both taxes and subsidies should be classified as product and production, depending on whether they are paid/received on the factors of production or on per unit of output. This recommendation has been implemented in the new series of national accounts. A list of production taxes, production subsidies, product taxes and product subsidies is given in **Annexure-VII**.

Production tax/ Production subsidy

3.35. Production tax or production subsidy is paid/ received on the factors of production – land, labour or capital, irrespective of the volume of production. For instance, land revenue and stamp tax are treated as production taxes, while, the input subsidies to farmers, some mining industries, dredging subsidies to Kolkata Port Trust etc. have been treated as production subsidies.

3.36. In respect of the Departmental Enterprises (DEs) of the Government, which are engaged in market operations, these enterprises function despite regular losses because of financial support given by the Government (Central or State, as the case may be). D/o Post, Delhi Milk Scheme and Chandigarh (UT) Transport Undertaking are

some of Central DEs. The Department of State Transport, Haryana is one of the state DEs. The losses to these DEs are treated as production subsidies.

Product tax/ Product subsidy

3.37. Product tax or product subsidy is paid/ received on per unit of output. Some examples are - excise tax, sales tax or subsidies on LPG cylinder, subsidy given to Food Corporation of India (FCI), subsidy provided to banks for providing cheap loans to beneficiaries, subsidy given to insurance corporations for providing insurance at subsidised rates.

3.38. A comparative statement on the values of production/product taxes and subsidies is given in Table 7.

Table 7. Taxes and Subsidies on Production/Product for the year 2011-12
(Rs. crore)

Item	Old (2004-05) Series	New (2011-12) Series	% diff
Product Taxes	819733	886969	8.2
Product Subsidies	345398	250503	-27.5
Production Taxes	147923	85020	-42.5
Production Subsidies	4227	95873	2168.1

3.39. Further, subsidies given to Food Corporation of India (FCI), which are primarily product subsidies, in the earlier series, were shown as subsidies given to Agriculture sector in Classification of Functions of Government (COFOG). However, since the major economic activity of FCI is that of trade, the subsidy to FCI in the new series will be shown as subsidies given to Trade sector in COFOG classification. Consequently, in the new series, the agricultural subsidies would be reduced in COFOG classification.

Households (including NPISH)

3.40. The major change in the estimate of GVA for this sector is due to the adoption of **effective LI method** and latest Survey on Unincorporated Enterprises, the details of which have been given in Section 2, Paras 2.13 to 2.28. Comparative estimates for household sector at current prices are given in Table 8. It may be noted that the estimates are not strictly comparable since in the 2004-05 series, household sector included quasi-corporations whereas in the new (2011-12) series, these have been included in corporate sector and hence not included in this sector.

Table 8. Gross Value Added for the year 2011-12 from Household Sector at Current Prices

(At factor cost for old series and at basic prices for new series)

(Rs. crore)

S.No.	Item	2004-05 Series	2011-12 Series	% Difference
1.	Agriculture, forestry and fishing	1420165	1426330	0.4
1.1	Crops*	1231323	919045	0.9
1.2	livestock		322854	
1.3	forestry and logging	122005	119512	-2.0
1.4	fishing and aquaculture	66837	64919	-2.9
2.	Mining and quarrying	28040	57495	105.0
3.	Manufacturing	350634	180006	-48.7
4.	Electricity, gas, water supply & other utility services	3800	6047	59.1
5.	Construction	437835	584552	33.5
6.	Trade, repair, hotels and restaurants	1170752	495217	-57.7
6.1	Trade & repair services	1084321	445294	-58.9
6.2	Hotels & restaurants	86431	49924	-42.2
7.	Transport, storage, communication & services related to broadcasting	398210	207622	-47.9
7.1	Transport by means other than railways	361903	199403	-44.9
7.2	Storage	2833	768	-72.9
7.3	Communication & services related to broadcasting	33474	7451	-77.7
8.	Financial services	43526	**	-
9.	Real estate, ownership of dwelling & professional services	578549	594985	2.8
10.	Other services	274148	126796	-53.7
11.	TOTAL GVA	4705659	3679050	-21.8

* included livestock in 2004-05 series

** In new series, all the unincorporated enterprises in the Financial Services, including moneylenders, have been classified as quasi-corporations.

3.41. In the earlier series, expenditure of households on purchase of gold and silver ornaments was treated as consumption expenditure and included in PFCE. In the new series, gold and silver ornaments acquired by the households are treated as savings of households in the form of valuables. This has been estimated using information available from NSS 68th round Consumer Expenditure Survey (CES) for the base year. For the subsequent years, this has been estimated using information on corresponding output in the manufacturing sector, duly adjusted by their imports and exports.

SECTION 4

Changes in GVA Estimates, by Industry, GDP and National Income

4.1. In this section, changes made in the new series in terms of methodology and in sources of data used in compiling estimates of gross domestic product by economic activity, have been discussed. The consequential impact in the estimates of other income aggregates like gross and net national income, per capita national income and growth pattern of macro aggregates have also been discussed.

Overall Estimates of Gross Domestic Product (GDP)

4.2. The estimates of GVA by economic activity for the year 2011-12, according to the new series and the 2004-05 series, have been presented in Table 9. ***It may be noted that estimates of GVA had been prepared at factor cost in the earlier series, while these are being prepared at basic prices in the new series.*** Further, the classification of economic activities across industry groups has also been change in accordance with NIC 2008. Therefore, though the estimates have been presented side by side, these are not strictly comparable. The key industries with significant change are 'manufacturing', 'trade & repair services' and 'other services'.

4.3. The details of changes in the methodology/data sources by economic activity, alongwith the reasons, are discussed in the succeeding paragraphs.

Table 9. Estimates of GVA by economic activity at current prices, 2011-12
(At factor cost for old series and at basic prices for new series)

(Rs. crore)				
S. No.	Item	2004-05 Series	2011-12 Series	% Difference
1.	Agriculture, forestry and fishing	1499098	1505580	0.4
1.1	crops	960445	986604	2.7
1.2	livestock	340124	324013	-4.7
1.3	forestry and logging	131667	129105	-1.9
1.4	fishing and aquaculture	66862	65858	-1.5
2.	Mining and quarrying	222716	262813	18.0
3.	Manufacturing	1236182	1482158	19.9
4.	Electricity, gas, water supply & other utility services*	135670	194403	43.3
5.	Construction	689798	774093	12.2
6.	Trade, repair, hotels and restaurants	1457565	882957	-39.4

(Rs. crore)

S. No.	Item	2004-05 Series	2011-12 Series	% Difference
6.1	Trade & repair services	1330489	792996	-40.4
6.2	Hotels & restaurants	127076	89962	-29.2
7.	Transport, storage, communication & services related to broadcasting	614707	530163	-13.8
7.1	Railways	62710	61210	-2.4
7.2	Transport by means other than railways	456754	336109	-26.4
7.3	Storage	5496	5292	-3.7
7.4	Communication & services related to broadcasting	89747	127553	42.1
8.	Financial services	481495	480232	-0.3
9.	Real estate, ownership of dwelling & professional services	900029	1059342	17.7
10.	Public administration and defence	498346	492405	-1.2
11	Other services	656085	531398	-19.0
12.	TOTAL GVA	8391691	8195546	-2.3

* Does not include other utility services in 2004-05 series. Other utility services in 2004-05 series were covered partially under manufacturing and partially under 'other services'.

AGRICULTURE AND ALLIED

4.4. The industry group 'Agriculture & Allied' consists of (i) Crop sector; (ii) Livestock sector; (iii) Forestry; and (iv) Fishing & aquaculture. The activities covered are:

- 1) Crop sector includes crop production and operation of Government irrigation system;
- 2) Livestock sector includes breeding and rearing of animals and poultry, production of milk, slaughtering, preparation and dressing of meat, production of raw hides and skins, eggs, dung, raw wool, honey and silk worm cocoons etc.;
- 3) Forestry sector includes forestry, logging and farmyard wood (industrial wood and firewood from trees outside regular forests); and
- 4) 'Fishing & aquaculture' includes commercial fishing in marine and inland waters, subsistence fishing in inland waters and fish curing viz., salting and sun-drying of fish.

4.5. In the 2011-12 series, the Gross Value Added (GVA) of Agriculture and Allied sector for the year 2011-12 has been estimated as Rs. 15,05,580 crore at basic prices as compared to Rs. 14,99,098 crore at factor cost in the old series (2004-05 series). It shows an increase of Rs. 6,482 crore i.e. 0.43 % increase over the previous GVA estimate. The net increase in GVA is mainly on account of revision of prices of crops and livestock products, despite fall observed in forestry and 'fishing & aquaculture' sectors. The differences in the estimates of gross value of output (GVO), value of inputs and GVA between 2004-05 series and 2011-12 series at item level are presented in Table 10.

4.6. In the 2011-12 Series, the GVA of crop sector and livestock sector has been compiled separately by bifurcating the common inputs. Some of the crops under other pulses, other fruits and other vegetables are compiled separately on the basis of production from M/o Agriculture and prices from State Directorates of Economics and Statistics (State DES). Data on number of Tractors has been taken from "Agricultural Research Data Book", 2013 instead of Indian Livestock Census (ILC) for estimation of diesel oil consumption for crop cultivation. Further, Rates and Ratios of estimation of value of Meat products and Meat by-products have been updated as per results of Study of National Research Centre on Meat (NRCM), Hyderabad. Various rates and ratios used for compilation of estimate Forestry Sector i.e. Timber from Trees Outside Forest (TOF), Fodder from Forest and Fire wood have been updated as per India State of Forest Report (ISFR), NSSO 68th round Consumer Expenditure Survey (CES) – 2011-12, ASI, 2011-12, Population Census-2011 and State Government Budget documents.

Table 10. GVO, Inputs and GVA of Agriculture and Allied Sectors, 2011-12
(Rs. crore)

Sl. No.	Description	2004-05 Series	2011-12 Series	% diff.
(A). GVA- Crop Sector				
1	GVO-Crop sector			
1.1	Cereals	338014	338478	0.1
1.2	Pulses	53813	53816	0.0
1.3	Oilseeds	107242	107253	0.0
1.4	Sugars	77784	79128	1.7
1.5	Fibres	81777	85035	4.0
1.6	Indigo and Tanning material	85	86	1.0
1.7	Drugs & narcotics	37933	38254	0.8
1.8	Condiments & spices	48478	49200	1.5
1.9	Fruits & vegetables	288634	290246	0.6
1.10	Other crops	82580	82164	-0.5
1.11	By-products	65211	68819	5.5
1.12	Kitchen garden, mushroom	5464	5369	-1.7
1.13	GVO of Govt .operation	38556	38219	-0.9

Sl. No.	Description	2004-05 Series	2011-12 Series	% diff.
	Irrigation system			
1.14	TOTAL GVO (Crop sector)	1225570	1236067	0.9
2	INPUTS (Crop sector)			
2.1	Seed	26738	29408	10.0
2.2	Organic manure	19883	21083	6.0
2.3	Chemical fertilisers	47191	47100	-0.2
2.4	Current repairs, maintenance and operational costs	8497	7908	-6.9
2.5	Feed of livestock	60705	29117	-52.0
2.6	Irrigation charges	4158	4158	0.0
2.7	Market charges	38222	38571	0.9
2.8	Electricity	8915	8915	0.0
2.9	Pesticides & insecticides	1567	1567	0.0
2.10	Diesel oil	29598	24684	-16.6
2.11	FISIM	14245	31543	121.4
2.12	Input of Govt .operation Irrigation system	5407	5411	0.1
2.13	Total Input (Crop sector)	265126	249464	-5.9
3	GVA-Crop sector	960444	986603	2.7
(B). GVA- Livestock Sector				
1	GVO-Livestock			
1.1	Milk	310021	324895	4.8
1.2	Meat	91121	96287	5.7
1.3	Eggs	17739	16470	-7.2
1.4	Wool	507	512	1.0
1.5	Dung & Droplets	31844	32754	2.9
1.6	Silk	4211	4331	2.9
1.7	Increment in livestock	14740	9854	-33.1
1.8	TOTAL GVO (Livestock sector)	470182	485103	3.2
2	INPUTS (Livestock sector)			
2.1	Current repairs, maintenance and operational costs	968	3037	213.8
2.2	Feed of livestock	123351	157740	27.9
2.3	Market charges	96	96	-
2.4	FISIM	5643	216	-96.2
2.5	Total Input (Livestock Sector)	130057	161090	23.9
3	GVA-Livestock	340124	324013	-4.7
(C). GVA- Forestry Sector				
1	GVO-Forestry			
1.1	Industrial Wood	3507	3189	-9.1
1.2	Timber from Trees Outside Forest	60066	73432	22.3
1.3	Firewood	74070	47979	-35.2

Sl. No.	Description	2004-05 Series	2011-12 Series	% diff.
1.4	NTFP	18361	29720	61.9
1.5	TOTAL GVO (Forestry)	156004	154320	-1.1
2	Total Input (Forestry sector including FISIM)	24337	25215	3.6
3	GVA- Forestry	131667	129105	-1.9
(D). GVA- Fishery Sector				
1	GVO-Fishery			
1.1	Inland fish	44952	43756	-2.7
1.2	Marine fish	33775	33890	0.3
1.3	TOTAL GVO (Fishery)	78727	77646	-1.4
2	Total Input (Fishery sector including FISIM)	11865	11788	-0.6
3	GVA-Fishery	66862	65858	-1.5
(E). GVA- Agriculture and Allied Sectors:		(A)+(B)+(C)+(D)		
	GVA-Agriculture and Allied Sectors	1499098	1505580	0.43

Note: New series estimates are at basic prices while the estimates in the old series were at factor cost. The GVA at factor cost for the new series is Rs. 15,53,960 Crore.

Changes made in the new series

Value of Output- Crop Sector

4.7. In the new series, estimates of output for crops such as Cowpea, Rajma, Wal, Batna, and Choula (earlier covered under 'Other Pulses'), Beans, Bitter gourd, Bottle guard, Capsicum, Carrot, Cucumber, Muskmelon, Radish, Parwal, Pumpkin and Watermelon (earlier covered under 'Other Vegetables'), Aonla, Ber, Custard Apple, Kiwi, Passion Fruit, Peach, Plum, Pomegranate and Strawberry (earlier covered under 'Other Fruits') are compiled separately. The output of toddy is estimated from the consumption side, since there are obvious gaps in its reporting. The estimates of output for toddy have been updated using the estimates of consumption of Toddy from NSS 68th round CES, 2011-12.

Value of Output- Livestock Sector

4.8. Two major changes have been incorporated related to estimation of value of livestock sector. These are as follows.

I. Estimation of Meat (including meat products and meat by-products)

4.9. A study was awarded by the Ministry to National Research Centre on Meat, Hyderabad to update the yield rates used in estimation of Value of Meat, in March, 2013. The study provided the ratio of meat-products and meat by-products to total meat produced in terms of value and quantity for each species of livestock. As the information on the prices on the meat-products and meat by-products are not being provided by State/UT on systematic and regular basis, therefore, percentage share of value of meat products and meat by-products to total value of meat has been used in estimation of value of total output of meat for 2011-12 series. The ratio (in percentage) of value of meat products and by-products to total value of meat as per NRCM study is given in Table 11.

Table 11. Rate (in percentage) of meat products and meat by-products to meat

Sl. No.	ITEM	Cattle	Buffalo	Sheep	Goat	Pig
1.	Heads and legs	2.24	2.37	6.33	5.38	2.11
2.	Fat	2.07	1.92	2.98	2.73	2.58
3.	Skin	7.07	6.67	3.32	3.07	0.00
4.	EOG	2.69	1.31	6.72	7.18	3.66
5.	Other meat by-products	1.93	2.22	3.70	3.23	1.05
6.	Total	16.00	14.49	23.05	21.59	9.40

4.10. Based on above rates and ratio, the estimate of meat for 2011-12 is Rs. 96,287 crore which was earlier Rs. 91,121 crore resulting an increase Rs. 5,166 crore i.e. 5.7 % over 2004-05 series.

II. Estimation of Dung by including Sheep and Goat droplets

4.11. In 2011-12 series, the value of evacuation/droplet from Goat and Sheep has been estimated by using results of a joint study by Central Institute for Research on Goats and National Centre for Agricultural Economics and Policy Research on "Positive Environmental Externalities of Livestock in Mixed Farming Systems of India" published in year 2013. The evacuation rate as per study for Goat is 0.3 kg per day and for Sheep is 0.8 kg per day. The value of the droplets is estimated using the prices of dung and grouped with the estimates of dung. Also, the Livestock population has been updated as per ILC-2012. Impact of inclusion of droplets from Goat and Sheep is presented in Table 12.

Table 12. Estimate of Dung & Droplets, 2011-12**(Rs. crore)**

Item	2004-05 series	2011-12 series	% Difference
Dung & Droplets	31844	32754	2.9

Changes in Inputs of crop sector and livestock sector

4.12. The major changes in the 2011-12 series are segregation of common inputs into crop sector and livestock sector, and estimation of seed, diesel oil and organic manure.

Segregation of common inputs

4.13. The major changes relate to the procedure of apportioning the common input such as (I) Feed of livestock, (II) Expenditure on current repairs, maintenance and operational cost, (III) Market charges and (IV) FISIM between crop sector and livestock sector. The procedure adopted for apportioning is given below.

I. Estimation of Feed of Livestock using consumption approach and distribution of Feed between Crop Sector and Livestock Sector

4.14. In the 2011-12 series, estimation of Livestock feed has been done using consumption approach rather than production approach. The procedure uses the following source data:

- (i) animal feed consumption rate (Dry Fodder, Green Fodder, and Concentrates) from a research study done on "India's Livestock Feed Demand: Estimates and Projection", jointly conducted by Centre of Economics and Social Research and National Centre for Agricultural Economics and Policy Research, published in the year 2010;
- (ii) livestock population as per ILC-2012; and
- (i) price of feed calculated from the Cost of Cultivation Studies (CCS), 2010-11.

4.15. The estimate of feed of livestock using consumption approach used in 2011-12 series and production approach used in 2004-05 series is presented in Table 13.

Table 13. Estimation of Feed of Livestock, 2011-12**(Rs. crore)**

Sl. No.	Item	2004-05 Series	2011-12 Series	% Difference
1.	Roughage	113316	113441	0.1
2.	Concentrate	70740	73416	3.8
3.	Total Feed	184056	186857	1.5

4.16. For distribution of feed of livestock between crop sector and livestock sector, it is assumed that feed of livestock used for crop production would be total feed consumed by Adult Buffalo (Male) and Adult Cattle (Male). From the total feed of the livestock, the value of feed consumed by the livestock used for crop production is subtracted to arrive at the value of the feed consumed by the livestock for the livestock sector. The percentage distribution of feed of the livestock used in crop sector is 15.6% whereas for the livestock sector it is 84.4% of the total value of feed. The detailed methodology is given in ***Annexure-VIII***.

II. Current repairs, maintenance and operational cost

4.17. Repairs, maintenance and operational cost consist of expenditure on repair and maintenance in Orchards & Plantation Resources, Wells & Irrigation, Agricultural Machinery & Implements and Transport Equipment, Barns & Animal Sheds, Other Costs and Operational Cost of livestock. Of these, expenditure on Barns & Animal Sheds, Other Cost and Operational Cost on livestock are allocated to livestock sector and rest to crop sector. These estimates have undergone change due to the adoption of AIDIS, 2013. For 2011-12, the estimate of Current repairs, maintenance and operational cost for crop sector is Rs. 7,908 crore in 2011-12 series which was Rs. 8,497 crore in 2004-05 series and resulting a decrease of Rs. 589 crore i.e. 6.9% over 2004-05 series. Similarly for 2011-12, the estimate of Current repairs, maintenance and operational cost for livestock sector is Rs. 3,037 crore in 2011-12 series, which was Rs. 968 crore in 2004-05 series resulting an increase of Rs. 2069 crore or 213 percent.

III. Market charges

4.18. In the 2004-05 series, the estimates of market charges is based on Market Margin study conducted for 15 crops viz. paddy, wheat, maize, gram, ginger, mango, potato, onion, arhar, tobacco, gur, groundnut, kapas, apple and tea during 2004-05 by the Directorate of Economics and Statistics (DES), Ministry of Agriculture. In the study it was found that, on an average, market charges are around 3.22% of the GVO. The same ratio has been used in 2011-12 series. In the 2011-12 series, market charge has recorded an increase of Rs. 349 crore for 2011-12 over the market charges in the 2004-05 series, mainly due to updated data on area, production and prices for estimation of GVO. In the 2004-05 series, the market charges have been estimated separately for livestock sector on the basis of Municipal charges per slaughtered animal. The same is continued for 2011-12 Series. For 2011-12, the market charge for livestock sector has been estimated as Rs. 96 crore in 2011-12 Series, which is same as in 2004-05 series.

IV. FISIM

4.19. In 2004-05 Series, FISIM for crop sector was apportioned on the basis of ratio of GVO of crop sector to GVO of crop and livestock sector combined. In 2011-12 series, the FISIM for crop sector and livestock sector have been estimated on the basis of data

on Deposit by Ownership and Loan by Economic activity obtained from RBI, NABARD & other financial institutions. Further, the Implicit Price Index is being used for arriving at the corresponding estimate at constant prices. The methodological revision resulted in estimate of FISIM for crop sector for 2011-12 as Rs. 31,543 crore from Rs. 14,245 crore, which is an increase of Rs.17,298 crore. The FISIM for livestock sector is Rs. 216 crore which was earlier estimated as Rs. 5643 crore.

Seed

4.20. In 2004-05 series, except for paddy, the farm harvest prices were used for estimation of value of seed. The methodology did not account for improved / hybrid variety of seeds being used by farmers for growing crops mainly in irrigated areas. In 2011-12 series, State-wise seed replacement rate (rate of replacement of ordinary seeds with hybrid seeds) has been used on the irrigated area to estimate the irrigated area under a crop for which hybrid seeds are used. For this part of irrigated area, price of seed as derived from CCS has been used for estimating the value of seed. For the remaining irrigated area and the un-irrigated areas, quantity of seed used per hectare has been evaluated with farm harvest price, to estimate the value of seed. However, in the case of paddy, sugarcane and potato, price of seed as derived from CCS has been used for the crop cultivated in both the irrigated and un-irrigated areas. The seed rate (Kg / hectare) is taken as average rate estimated from the latest five year data of CCS (2007-08 to 2011-12). Using above mentioned approach, the value of seed for 2011-12 has been revised to Rs 29,408 crore in 2011-12 series which was Rs. 26,738 crore in 2004-05 series resulting an increase in value of seed by Rs.2,670 crore (10% over 2004-05 series).

Diesel Oil

4.21. The information on the state-wise number of tractors in operation was earlier available in the Livestock Census. This information is no longer available in the Indian Livestock Census. For 2011-12 series, the number of tractors has been revised using number of tractors sold in last 13 years (excluding exports) from the report of "Agricultural Research Data Book 2013" and per tractor value of diesel oil consumption, as per CCS, 2010-11. The number of tractors in operation has been estimated on the basis of number of tractor sold in last 13 years on the assumption that the service life of a tractor is 13 years. The estimate of the number of diesel engines for the current series is same as that of 2004-05 series. However, the consumption of diesel oil has been revised as per CCS, 2010-11. The value of Diesel Oil consumed per year per tractor and that per Oil Engine has been estimated at Rs. 32385.30 and Rs. 8181.60 respectively for the year 2010-11. The estimate of consumption of Diesel oil in 2004-05 series and 2011-12 series for the year 2011-12 is given in Table 14. The decrease in estimate is mainly due to fall in number of Tractors and also to some extent in consumption of diesel oil per tractor/ diesel engine.

Table 14. Estimate of Consumption of Diesel Oil, 2011-12
(Rs. crore)

Item	2004-05 Series	2011-12 Series	% Difference
Diesel Oil	29598	24684	-16.6

Organic Manure

4.22. For estimation of value of organic manure for 2011-12 series, livestock population as derived from ILC-2012 has been used. Further, droplets from Goat & Sheep have been included in estimation of value organic manure. Under this group, for the year 2011-12, the value of organic manure has been estimated as Rs. 21,083 crore for 2011-12 series while it was Rs. 19,883 crore in the 2004-05 Series resulting in an increase of Rs. 1,200 crore i.e. 6% over 2004-05 Series.

Forestry

4.23. The difference in the estimates of the value of output, value of input and GVA between 2011-12 series and 2004-05 series at item level for the year 2011-12 in the forestry sector is given in Table 15. Due to revision of prices, incorporation of the estimates of growing stock as available in ISFR, 2013 and decrease in consumption of firewood, the GVA of the forestry sector has recorded a decrease of Rs. 2,562 crore for the year 2011-12 in 2011-12 Series.

Table 15. Output and Value Added of Forestry, 2011-12
(Rs. crore)

Sl. No.	ITEMS	2004-05 Series	2011-12 Series	Difference (B-A)	% Difference
1.	Industrial Wood	3507	3189	-318	-9.1
2.	Timber from Trees Outside Forest	60066	73432	13366	22.3
3.	Firewood	74070	47979	-26091	-35.2
4.	NTPF	18361	29720	11359	61.9
5.	TOTAL GVO	156004	154320	-1684	-1.1
6.	INPUT (including FISIM)	24337	25215	878	3.6
7.	GVA	131667	129105	-2562	-1.9

Industrial Wood and Timber from TOF

4.24. The estimates of value of output of industrial wood from the Government forests have been compiled as per previous practice. The timber from Trees outside of the Forest (TOF) has been revised using latest data on the growth rate of growing stock of TOF. As per ISFR, Growing stock in 2011 is 1548.427 cu.m. and Growing stock in 2013 is 1484.684 cu.m., translating to an annual decrease 2.1 % per annum. Further, volume of wood from TOF has then been estimated using potential production

of Timber as estimated by the Forest Survey of India (FSI), and the annual linear growth rate has been applied to extrapolate for the subsequent years. The price of Industrial Wood as received from State DES is multiplied to get the value of the output of timber from TOF.

Firewood

4.25. In 2011-12 Series, the value of firewood has been revised using NSS 68th round CES, 2011-12. There is decrease in consumption rate of fire-wood as per the NSSO survey. In Rural and Urban area, the percentage decrease of firewood is 11.2% and 31.8% respectively. Table 16 gives the per capita consumption of firewood per month in rural and urban areas as per the latest quinquennial surveys of NSS.

Table 16. Estimated consumption of firewood and chips

NSS round	Consumption per person per 30 days	
	Rural (Kg.)	Urban (Kg.)
61 st (2004-05)	21.44	6.29
68 th (2011-12)	19.04	4.29

4.26. Further, using latest data from ASI and Census, the ratio of consumption of firewood used for religious, industrial and rituals in households has been revised to 7.64% from 6.00%. The estimate of the value of output of firewood, which was earlier estimated as Rs. 74,070 crore for the year 2011-12, has now been estimated in the new series as Rs. 47,979 crore, showing a decrease of 35.2%.

Non-Timber Forest Products (NTFP)

4.27. There is no change of methodology for estimation of Non-Timber Forest Products (NTFP). However, the fodder from the forest has been revised as per India State of Forest Report (ISFR) 2013. As per the report, 22.6% of the livestock population is dependent on fodder from forest as compared to 15.5% reported in ISFR 2011. Accordingly, output of fodder from forest was revised. The impact of revision is presented in Table 17.

Table 17. Non-Timber Forest Products (NTFP) for the Year 2011-12
(Rs. crore)

Sl. No	Item	2004-05 Series	2011-12 Series	% Diff
1.	Minor Forest Products *	3415	3794	11.10
2.	Fodder from Forests	14946	25926	73.48
3.	NTFP (Total)	18361	29720	61.87

* As obtained from the State Forest Departments

Inputs- Forestry

4.28. The input ratio has been revised on the basis of average expenditure on the purchase of goods and services and on repairs and maintenance of fixed assets to the total value of output of this sector in the Government Forest Departments during 2011-12, which is 16.20 percent in place of 15.6 percent for 2004-05 series. This norm has been utilized for estimating the material inputs in this sector for 2011-12 series.

Fishing and aquaculture

4.29. In 2011-12 Series, though no changes have been made in this sector, the reduction in GVA to the extent of Rs. 1,004 crore for 2011-12 has been due to the adoption of updated prices provided by the State DESs. The impact is given in Table 18.

Table 18. Comparison of Output, Input & Value Added, 2011-12

(Rs. crore)

Sl. No.	Items	2004-05 Series	2011-12 Series	% Diff
1.	GVO - Inland Fish	44952	43756	-2.7
2.	GVO - Marine Fish	33775	33890	0.3
3.	TOTAL GVO	78727	77646	-1.4
4.	Input (including FISIM)	11865	11788	-0.6
5.	GVA	66862	65858	-1.5

4.30. A study on input costs of marine fish production is presently being conducted by Central Marine Fisheries Research Institute (CMFRI), Kochi. Central Inland Fisheries Research Institute (CIFRI), Kolkata has also been requested to conduct study on input costs of inland fish production. The ratio of input costs for production of marine fish (22.5%), prawns (22.5%), inland fish (10%), subsistence fish (1%), sun-drying of fish (1%) and salting of fish (1%) to the value of output used in 2004-05 series, will continue to be used in 2011-12 Series till the results of rates and ratios for input costs of above studies are made available.

Mining and Quarrying

4.31. The revision in the estimates of Mining and Quarrying sector in the new series is because of the change in methodology of estimating the Gross Value Added at basic prices and also source of data. In the old series, estimates of production and input costs were taken from the Indian Bureau of Mines (IBM). In the new series, the GVA at basic prices have been computed from the annual financial statements of the companies for non-departmental enterprise and private corporate enterprises, implications of which have been described in Section above on the inclusion of MCA21 database. The following methodology has been used for preparing the estimates in the new series:

Coal, Petroleum and Natural Gas:

4.32. The estimates for these have been derived as the sum of GVA estimates of Non-Departmental Enterprises (NDEs) and Private Corporate Sector.

Metallic and Non-Metallic Minerals

4.33. The GVA estimates for metallic & non-metallic minerals sector is estimated as the sum of GVA of NDEs and GVA of Private Corporate Sector. Since estimates at the enterprise level do not specify the mineral produced, the total GVA/GVO of metallic and non-metallic minerals is divided in the proportion of the estimates of GVA/GVO calculated on the information on output received from IBM. The GVA of atomic minerals is computed from the financial accounts of Indian Rare Earth Ltd and Kerala Minerals and Metals and the estimates of value of output of Atomic Minerals obtained from the Department of Atomic Energy. GVA of salt is obtained by using the input rate from analysis of accounts of Hindustan Salt Limited (by considering information related to indigenous salt) and the value of production from the O/o Salt Commissioner. The estimate for atomic minerals is then added to that of metallic minerals, while the estimate of salt is added to that of non-metallic minerals.

Minor Minerals

4.34. There is no change in the estimation procedure of minor minerals in the new series except that of sand. An indirect estimate of the value of output of 'extraction of sand' at basic prices is derived through the value of commodities used for 'construction'. As per the study conducted by the Central Building Research Institute, the value of sand used in the construction is estimated as 8.2% of the total value of inputs used for the activity. Since inputs are valued at purchasers' prices, suitable adjustments of trade transport margins (taken as 224% based on the TTM of minor minerals as derived from Input Output Tables, 2007-08) were made to arrive at the value of output for sand from the corresponding annual estimate of the value of inputs in construction. Further, using the input rate from IBM for sand, the GVA of sand is derived and added to the minor mineral GVA to arrive at the overall GVA of minor minerals.

4.35. The differences in GVO/GVA are, therefore, due to the change in data sources in the case of major minerals, and in the case of minor minerals, the major difference is due to the inclusion of the indirect estimates of sand. Table 19 gives the estimates of value of output, inputs and GVA at basic prices of the Mining & Quarrying sector.

Table 19. Value of output, inputs and GVA of Mining and Quarrying for the year 2011-12

(Rs. crore)

Item	2004-05 Series	2011-12 Series	% Difference
GVO - Fuel Mineral	196318	292084	48.8
GVO - Metallic Mineral	47588	71394	50.0
GVO - Non-Metallic Mineral	7543	12693	68.3
GVO - Minor Mineral	33046	67712	104.9
Total GVO	284496	443883	56.0
Input	60271	179435	197.7
GVA unadjusted for FISIM	224225	264447	17.9

Note: New series estimates are at basic prices while the estimates in the old series were at factor cost. The GVA at factor cost for the new series is Rs. 259371 crore.

Manufacturing (Organised and Un-organised)

4.36. In the old series, manufacturing was categorised into two segments- registered and unregistered manufacturing. The registered manufacturing included all factories registered under the Factories Act under Section 2m(i) & 2m(ii) employing more than 10 workers with power or 20 workers without power. The manufacturing units which were not covered under registered sector (including household industries) formed the unregistered sector. In compiling the GVA estimates of registered manufacturing, production approach was followed and total estimate were derived using the following three data sources –

1. Annual Survey of Industries (ASI) - part related to manufacturing;
2. Railway workshops;
3. Currency, coinage and defence manufacturing

4.37. Establishment approach was followed in estimating the GVA in the Annual Survey of Industries i.e. the focus of survey is the factory, where primarily manufacturing activity takes place, implying thereby that other activities such as trading or other services of the head office conducted outside the surveyed factory were not included in 2004-05 series. However, enterprise approach was adopted for Railway workshops and currency, coinage and defence manufacturing.

4.38. In the new series, with base year 2011-12, the manufacturing sector has been classified into Organised Manufacturing and Unorganised Manufacturing.

4.39. In the new series, there have been changes in the estimates due to adoption of NIC 2008, enterprise approach for organised manufacturing and 'Effective Labour Input Method' for the unincorporated manufacturing enterprises.

Classification changes

4.40. One of the major changes due to classification is that 'Recycling' and 'Publishing of books, periodicals and other publishing activities' were included in the manufacturing sector, which in the new series would be the part of 'Remediation Activities' in 'Other Utility Services' and 'Services related to broadcasting'.

Organised Manufacturing

4.41. Till recently, the Annual Survey of Industries (ASI) was the only comprehensive source of data for the registered manufacturing sector. However, ASI provides estimates for the manufacturing establishments only, and therefore, does not provide any estimates for trading and other activities that may be provided elsewhere by the enterprise. Therefore, the services carried out by the manufacturing enterprises were not adequately covered in the national accounts. With the availability of the comprehensive MCA21 database, this data gap could be addressed by using the 'enterprise approach' for manufacturing also. In the new series, estimates have been derived using the annual accounts of Non Departmental Enterprises (NDE), Private corporate sector from MCA data base and quasi-corporations as covered by ASI, apart from the Departmental Enterprises (DEs), like Railway Workshops, GOI Printing Press and Ordnance Factories.

4.42. ASI captures the data by type of organisation such as private and public limited companies, NDEs, proprietary and partnership factories, Hindu Undivided Family, KVIC etc. Annual accounts of DEs, NDEs and Private Corporate Sector being already available, the estimates relating to the Non-Government unincorporated enterprises, which include partnership and proprietorship enterprises in ASI have been estimated and are classified as quasi-corporations. These enterprises being small in size, their coverage from ASI has been treated as of enterprise even if the data is collected through establishment approach. In addition, in accordance with the recommendation of SNA 2008, unincorporated manufacturing enterprises maintaining accounts are quasi-corporations and therefore, their estimates have been included in organised manufacturing. For obtaining estimates of GVO/GVA by compilation category in the case of private corporate sector, the estimates as obtained as the sum of all enterprises have been apportioned using the corresponding share in ASI.

Unorganised Manufacturing

4.43. In the old series, the base year estimate of unregistered manufacturing was estimated as a combination of GVA from MSME sector and residual unregistered sector using the labour input method. The MSME estimate of GVA was obtained by applying the GVA/GVO ratio of Directory Establishments (as derived from the NSS 62nd round Survey on Manufacturing Enterprises) to the GVO obtained from MSME Census of 2006-07. The GVA of the residual unregistered sector was obtained by multiplying the

GVA per worker (from 62nd round) and labour input from 61st round EUS after making suitable adjustments for the labour input in MSME.

4.44. In the new series, as described in Section 2, Paras 2.13 to 2.28, the effective labour input method has been used for compilation category wise estimation of GVA of unincorporated manufacturing enterprises from the NSS 67th round Survey on Unincorporated Enterprises, 2010-11 and NSS 68th round Employment Unemployment Survey, 2011-12.

4.45. The estimates for organised manufacturing are compiled by summing up the estimates from DEs, NDEs, Private Corporate Sector Enterprises, Non-Corporate manufacturing establishments covered under ASI and the quasi-corporations of the unincorporated enterprises. The unorganised manufacturing consists of the household enterprises. Table 20 gives the comparison of estimates of GVA for registered/organised manufacturing for the year 2011-12 at factor cost for the 2004-05 series and at basic prices for the 2011-12 series.

Table 20. Comparison of GVA of Organised Manufacturing (excluding quasi-corporations of the unincorporated enterprise) of new series with GVA for registered manufacturing from old series for the year 2011-12

		(Rs. crore)		
CC	Activity	2004-05 Series	2011-12 Series	% Difference
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	16213	19080	17.7
3	Manufacture of dairy product	7360	9408	27.8
4	Manufacture of grain mill products, etc. and animal feeds	19464	23029	18.3
5	Manufacture of other food products	25089	30563	21.8
6	Manufacture of beverages	15417	28925	87.6
7	Manufacture of tobacco products	10265	12788	24.6
1+8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	49756	57040	14.6
9	Wearing apparel, except fur apparel and tailoring	13509	20341	50.6

CC	Activity	2004-05 Series	2011-12 Series	% Difference
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	6434	7692	19.6
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	2626	2971	13.1
12	Manufacture of furniture	1685	2053	21.8
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	20554	28338	37.9
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	95268	152710	60.3
15	Manufacture of chemical and chemical products	165050	214277	29.8
16	Manufacture of other non-metallic mineral products	52522	67389	28.3
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	144191	195543	35.6
18	Manufacture of basic precious and non-ferrous metals+ Casting of non- ferrous metals	20160	27944	38.6
19	Recycling of metal waste and scrap+ non-metal waste and scrap	216	-	-
20+21	Manufacture of fabricated metal products, except machinery and equipment and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	109961	43146	-60.8
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	46406	181652	291.4
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	32157	15541	-51.7

CC	Activity	2004-05 Series	2011-12 Series	% Difference
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	85524	125368	46.6
Total		939825	1265797	34.7

4.46. Table 21 gives the comparison of estimates of GVA for Unorganised manufacturing for the year 2011-12 at factor cost for the 2004-05 series and at basic prices for the 2011-12 series.

Table 21. Comparison of GVA of Unorganised Manufacturing (including quasi-corporations of the unincorporated enterprise) of new series with GVA for unregistered manufacturing from old series for the year 2011-12 (Rs. crore)

CC	Activity	2004-05 Series	2011-12 Series	% Difference
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	9303	9647	3.7
3	Manufacture of dairy product	1705	1504	-11.8
4	Manufacture of grain mill products, etc. and animal feeds	11765	13700	16.5
5	Manufacture of other food products	15180	12918	-14.9
6	Manufacture of beverages	1485	1598	7.6
7	Manufacture of tobacco products	10456	8185	-21.7
1+8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	49206	50647	2.9
9	Wearing apparel, except fur apparel and tailoring	19084	10727	-43.8
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	9063	9748	7.6
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	24777	19643	-20.7
12	Manufacture of furniture	17038	17850	4.8

CC	Activity	2004-05 Series	2011-12 Series	% Difference
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	11621	10554	-9.2
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	9720	5912	-39.2
15	Manufacture of chemical and chemical products	13839	7363	-46.8
16	Manufacture of other non-metallic mineral products	28577	29151	2.0
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	12838	8473	-34.0
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	3118	616	-80.3
19	Recycling of metal waste and scrap+ non-metal waste and scrap	805	3220	300.1
20+21	Manufacture of fabricated metal products, except machinery and equipment and Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	49460	31910	-35.5
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	10231	4843	-52.7
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	26983	19352	-28.3
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	17608	6397	-63.7
Total		353864	283957	-19.8

Note:

- i. In the case of Org Mfg, the estimates are not comparable as there are classification changes as per NIC 2008.
- ii. In the earlier series, GVA of recycling and Publishing of books, periodicals and other publishing activities were also included in Manufacturing sector, which in the new series respectively would be the part of Utility and Services. If this component is removed from the estimate of GVA at current prices for the year 2011-12, then GVA

of manufacturing will be Rs. 12,88,664 crore unadjusted for FISIM and Rs. 12,31,157 crore adjusted for FISIM. Similarly, new series estimates are at basic prices while the estimates at old base were at factor cost. The GVA at factor cost for the year 2011-12 (organised + unorganised) in the new series is Rs. 14,69,005 Crore.

Electricity, Gas, Water Supply and Other Utility Services

4.47. In the new series, the major changes in estimates are due to (i) changes in NIC classification (ii) enterprise approach (iii) use of annual accounts of private corporate sector from MCA21 data base.

Electricity

4.48. There are no changes in the methodology and estimates are compiled through the enterprise approach, by aggregating the estimates for NDEs and companies in the Private Corporate Sector. However, electricity generation and distribution by the private companies, which was earlier based on the analysis of annual reports of private electricity companies registered with CEA, is now being captured through the MCA21 database. Further, companies engaged in production of electricity through 'wind/renewable energy' have been covered through the MCA21 database.

Gas

4.49. There are no changes in the methodology and estimates are compiled through the enterprise approach, by aggregating the estimates for NDEs, companies in the Private Corporate Sector and the estimates for manufacture of gas in households through bio-gas plants (Gobar Gas). The estimates for Gobar Gas have been classified under the 'Households' sector. Further, as in the other cases, companies in the Private Corporate Sector are being captured through the MCA21 database.

Water Supply

4.50. The estimates for Water Supply are obtained by aggregating those for DEs, NDEs, Companies in the Private Corporate Sector and water supply in the unorganised sector. Estimates for the unorganised sector have been compiled using the wages and the number of workers from the NSS 68th round Employment Unemployment Survey, duly adjusted for the population as per Census 2011.

Remediation and other utility services

4.51. The estimates for this sector have been compiled by aggregating the estimates for recycling, remediation, sewerage and other waste management services. The estimates for recycling in the organised sector have been obtained from ASI, while those for the remaining services have been estimated by aggregating the estimates of DEs and Enterprises of the Private Corporate Sector. Estimates for the Unincorporated Enterprises have been estimated using the NSS 67th round Survey on Unincorporated

Enterprises, 2010-11 and NSS 68th round Employment Unemployment Survey, 2011-12. As in the case of unincorporated manufacturing, the unincorporated enterprises are classified as quasi-corporations, if they are maintaining accounts and otherwise, as household enterprises.

4.52. Table 22 gives the estimates of GVA for 'Electricity, Gas, Water Supply and other utility services' for the year 2011-12 at factor cost for the 2004-05 series and at basic prices for the 2011-12 series.

Table 22. GVA for Electricity, Gas, Water Supply and Remediation for the year 2011-12

(Rs. crore)

Activity	2004-05 Series	2011-12 Series	Difference
Electricity	105494	151094	43.2
Gas	12334	15554	26.1
Water Supply	17842	15242	-14.6
Sub-total	135670	181890	34.1
Remediation & other utility services	* 15600	12512	-19.8
Total		194402	

* 'Remediation & other utility services' was not part of this group, and hence, has not been taken into account in the 'Total'. Estimate is shown for comparison purpose only. New series estimates are at basic prices while the estimates in the old series at factor cost. The GVA at factor cost for the year 2011-12 in the new series is Rs. 202395 Crore.

Construction

4.53. The Gross Value Added from Construction comprises of the following components:

- i. Dwellings, Other Buildings & Structures (DOBS)
- ii. Construction in plantations
- iii. Mineral explorations

4.54. GVA of Dwellings, Other Buildings & Structures further consists of two components namely (i) pucca and (ii) kutcha. The former continues to be measured through the commodity flow approach, and the latter through the expenditure approach. However, in addition to these estimates, expenditure on construction activity in plantations and mineral explorations is separately estimated and included in GVA from construction.

4.55. The broad methodology adopted in the new series for estimating the total GVO and GVA from Construction is broadly the same as the one used in earlier series except

for some modifications and different data sources. The major revisions are due to the following:

- i. Use of financial reports as in MCA 21 database for estimation of GVA from Construction for private corporations.
- ii. Revision in methodology for estimation of value of output used in construction for Bricks & tiles.
- iii. Estimation of value of output used in construction for *Bitumen and bitumen mixtures*, and *Glass and glass products* in addition to Cement and cement products, Iron & steel, Bricks & tiles, Timber and Fixtures & fittings.
- iv. 'Other materials' to include service charges and therefore, presented as 'Other materials and Service charges' based on information received from study on cost of construction by CBRI.
- v. Use of NSS 70th round All India Debt and Investment Survey (AIDIS), 2013 for preparing benchmark estimates of rural residential buildings, urban residential buildings, non-residential buildings and other construction works.
- vi. Use of NSS 65th round Survey on Housing Conditions, 2008-09, for obtaining ratios of pucca and kutcha construction for dwellings.
- vii. Adjustment in the output of construction industry for the own account construction as included in the output of enterprises with major economic activity other than 'construction'.

Pucca Dwellings, Other Buildings & Structures

4.56. The estimates of pucca dwellings, other buildings & structures for the entire economy are compiled first through the commodity flow approach on the basis of availability of basic construction materials and factor inputs. This forms the control figure of overall output of pucca dwellings, other buildings & structures for the country. Estimates of output of dwellings, other buildings & structures in General Government, public corporations, private corporations and households are also compiled independently from budget documents, profit and loss accounts, balance sheets and results of AIDIS.

4.57. The estimates for private corporations are prepared using information on financial parameters of non-government companies from MCA21 database provided by Ministry of Corporate Affairs. In the 2004-05 series, these estimates were prepared on the basis of the sample studies of non-Government financial and non-financial Companies by RBI. In the earlier series, construction expenditures by new companies was used to supplement the estimates from RBI study. As the MCA21 database includes the new companies also, this adjustment has been done away with in the 2011-12 series.

4.58. In respect of 'Households', the estimates of new construction and repair and maintenance for (i) rural residential buildings (RRB) (ii) urban residential buildings

(URB) and (iii) non-residential and other construction works (NRB and OCW) are prepared initially for the benchmark year using the results of AIDIS 2013. The benchmark estimates for **RRBs and URBs** are extrapolated with various indicators such as inter-censal growth rates of rural and urban dwellings, and composite price indices, for compiling the estimates for subsequent years. The above said estimates of RRBs and URBs are further apportioned to pucca and kutcha dwellings using the NSS Report 535, 65th round, 2008-09. The norms used for apportioning the RRBs into pucca and kutcha dwellings are 83:17 (as against 79:21 used in 2004-05 series) and for URBs, they are 98:2 (as against 97:3 used in 2004-05 series). As regards **NRB & OCW**, expenditure on wells and other irrigation resources by households engaged in farm business and expenditure on workplace, workshop and other constructions by households engaged in non-farm business are shown under 'pucca buildings & structures'. Expenditure on barns and animal sheds and 'other construction works' under farm business, and development of land are shown under 'kutcha buildings & structures'.

4.59. The output for pucca dwellings, other buildings & structures obtained through commodity flow approach includes both new construction and repair & maintenance. The approach covers the cost of basic materials, other materials and factor payments such as labour cost, contractor's profit, etc. In the new series, the construction costs incurred on seven basic materials used in construction activity have been captured as against five basic materials in the old (2004-05) series. The basic materials considered for construction in the 2011-12 series are (i) cement and cement products, (ii) iron and steel, (iii) bricks and tiles, (iv) timber and round wood (including imports of timber products and veneer plywood) (v) fixtures and fittings (vi) bitumen and bitumen mixtures and (vii) glass and glass products. The item basket for the above construction materials has been finalized by analyzing the detailed results of Annual Survey of Industries (ASI) 2011-12 at commodity level of 7-digit National Product Classification for Manufacturing Sector (NPCMS). For estimating the value of output of these items from unorganised manufacturing sectors, NSS 67th round Survey on Unincorporated Enterprises, 2010-11 have been used. Estimates of basic materials compiled using ASI and NSS enterprise survey results have been appropriately adjusted with corresponding output estimated in the manufacturing sector. The Trade and Transport margins have been revised based on the Input Output Tables, 2007-08.

New/Revised Methodology for Bitumen & bitumen mixtures, Glass & glass products and Bricks & tiles:

4.60. Two new construction materials, namely, bitumen & bitumen mixtures and glass & glass products were included in the list of basic materials used for estimation of value of output of construction activity. Detailed results of ASI 2011-12 at 5-digit level of NIC 2008 along with 7-digit level of NPCMS code for commodities, have been analyzed for compilation of base year estimates. Corresponding information from NSS

67th round has also been incorporated to account for manufacture of glass & glass products in unorganised manufacturing sector. It is assumed that bitumen is not produced in the unorganised manufacturing sector. To these estimates, excise duty, net imports and import duty for the specific commodity has been added. Input ratios of these commodities in manufacturing obtained from ASI, 2011-12 have been applied to deduct the intermediate consumption thereby getting an estimate of use in construction.

4.61. Methodology for compilation of estimates of "bricks & tiles" has been revised. For estimating the production of bricks & tiles in organised sector, detailed results of ASI 2011-12 for 7-digit level of NPCMS code for bricks & tiles at 5 digit level of NIC 2008 have been analyzed. For estimating the production of bricks & tiles in unorganised sector, results of NSS 67th round, have been used.

4.62. From the results obtained from the study of cost of construction by CBRI, it has been estimated that the seven basic material groups account for 74.96 per cent of the total construction materials while the remaining 25.04 per cent accounts for 'other materials and service charges'. 'Other materials and service charges' include sand, kerosene oil, steam coal, cement primer, cement paint, driver charges, mixing charges, water charges, etc. After obtaining the estimated value of output of pucca construction from the basic materials, these ratios are used to estimate output from 'other materials and service charges'.

4.63. Revised norms for basic materials, other materials and factor inputs used in new series for construction activity are 48.7 per cent, 16.3 per cent, and 35.0 per cent as against the norms of 49.5 per cent, 15.7 per cent, and 34.8 per cent, respectively in old series. The factor incomes consist of wages of all type of construction workers, contractors' profits, etc. Table 23 gives a comparative statement of these norms for the 2004-05 series and 2011-12 series.

Table 23. Norms of materials and factor inputs in construction in the 2004-05 series and in the 2011-12 series.

ITEMS	2004-05 series	2011-12 series
1 basic materials	49.5	48.7
1.1 cement & cement products	7.9	7.7
1.2 iron & steel	31.5	31.4
1.3 bricks & tiles	2.4	2.9
1.4 timber and roundwood	3.0	2.3
1.5 bitumen and bitumen mixtures	-	0.9
1.6 glass and glass products	-	0.4

ITEMS	2004-05 series	2011-12 series
1.7 fixtures & fittings	4.7	3.1
2. other materials *	15.7	16.3
3. factor inputs*	34.8	35.0
TOTAL	100.0	100.0

**Based on CBRI study and remaining are separately estimated every year*

Kutchra Dwellings, Other Buildings & Structures

4.64. In the new series, the kutchra DOBS includes kutchra construction undertaken in the General Government, public corporations and households. In the 2004-05 series, capital expenditure on installation of wind energy systems which is a pucca construction activity was separately estimated and 8.7 per cent of the total capital expenditure incurred in constructing the wind energy systems was included. As MCA 21 database covers companies undertaking installation of wind systems, these estimates are not separately added as was being done in the old series.

Plantations

4.65. The capital expenditure incurred on cultivation of plantation crops during the gestation period is treated as output of the 'Construction Industry' for that year. The coverage of capital expenditure in cultivation of plantation crops now include cardamom based on data available from NHB and NABARD for the year 2014-15. Using information on the asset 'Tree, crop and plant resources yielding repeat products' available from the MCA 21 database for private corporations and from budgets, annual reports for public corporations, the capital expenditure for the Households Sector is worked out as a residual.

Mineral exploration

4.66. As regards expenditure in mineral exploration, this is the expenditure incurred on mineral exploration asset by all institutional sectors. This information is separately available in accounts of public corporations and private corporations. This is added separately to the commodity flow estimates of construction.

4.67. The estimate of Gross Value Added (GVA) from construction is compiled as sum of (i) factor payments in pucca DOBS; (ii) 75 percent of output in kutchra DOBS; (iii) 75 percent of expenditure incurred on plantations; and (iv) fixed proportion of expenditure on mineral exploration based on information available from annual accounts of public and private corporations.

4.68. With the adoption of above mentioned expanded coverage and use of fresh data, the total value of output of construction is estimated at Rs. 21,81,008 crore in the new series for the year 2011-12 as against Rs. 20,07,846 crore estimated in old (2004-05) series. This increase in output by Rs. 1,73,162 crore has been due to the

additional coverage of items in both pucca and kutchha constructions, revised norms and upward revision in the repairs and maintenance expenditure in pucca construction.

4.69. The new series estimates, and additional items included in the coverage and the differences from the previous series are presented in Tables 24 and 25.

Table 24. Value of output of construction sector, 2011-12
(Rs. crore)

S.No.	Item	2004-05 Series	2011-12 Series	% Difference
1	TOTAL OUTPUT CONSTRUCTION (2+3+4+5)	2007846	2181008	8.6
2	Total Output Pucca (Dwellings, Other Buildings & Structures) (2.1+2.2)	1949701	2089060	7.1
2.1	Total available supply of materials (2.1.1+2.1.2)	1270991	1357414	6.8
2.1.1	Basic Materials	965953	1018060	5.4
2.1.1.1	Cement & Cement Products	154661	160368	3.7
2.1.1.2	Iron & Steel	613812	655110	6.7
2.1.1.3	Bricks & Tiles	46817	60312	28.8
2.1.1.4	Timber & Roundwood	58871	48631	-17.4
2.1.1.5	Bitumen and Bitumen Mixtures	0	19427	-
2.1.1.6	Glass and Glass Products	0	8725	-
2.1.1.7	Fixtures & Fittings	91792	65488	-28.7
2.1.2	Other Materials & Service Charges	305038	339353	11.2
2.2	Factor Inputs	678709	731646	7.8
3	Total Output Kutchha (Dwellings, Other Buildings & Structures)	54825	61605	12.4
4	Total Output Plantation	3320	2699	-18.7
5	Total Output Mineral Exploration		27644	-
6	New Dwellings, Other Buildings & Structures (6.1+6.2)	1593714	1686146	5.8
6.1	Pucca (Dwellings, Other Buildings & Structures)	1546851	1627751	5.2
6.1.1	General government	258456	210041	-
6.1.2	Public Corporations	152321	75810	-

S.No.	Item	2004-05 Series	2011-12 Series	% Difference
6.1.3	Private Corporations	239016	245633	-
6.1.4	Households	897059	1096267	-
6.2	Kutcha (Dwellings, Other Buildings & Structures)	46863	58395	24.6
6.2.1	General government	3983	25408	-
6.2.2	Public Corporations	6558	6706	-
6.2.3	Private Corporations	1700	0	-
6.2.4	Households	34622	26281	-
7	Repair & Maintenance (7.1+7.2)	410812	464519	13.1
7.1	Pucca (Dwellings, Other Buildings & Structures)	402850	461309	14.5
7.1.1	General government	67567	69092	-
7.1.2	Public Corporations	16363	16759	-
7.1.3	Private Corporations	48136	51570	-
7.1.4	Households	270784	323889	-
7.2	Kutcha (Dwellings, Other Buildings & Structures)	7962	3210	-59.7
7.2.1	Households	7962	3210	-59.7

Note: Output for 2011-12 has been adjusted due to own account construction.

Table 25. GVA of construction sector, 2011-12

S. No.	Item	2004-05 Series	2011-12 Series	% Difference
1	GVA Construction (unadjusted for FISIM)	722317	800607	10.8
1.1	Pucca (Dwellings, Other Buildings & Structures)	678709	731646	7.8
1.2	Kutcha (Dwellings, Other Buildings & Structures)	41118	46204	12.4
1.3	Plantation	2490	2024	-18.7
1.4	Mineral Exploration		20733	-
2	FISIM	32520	26514	-18.5
3	GVA Construction (adjusted) (1-2)	689797	774093	12.2

Note: New series estimates are at basic prices while the estimates in the old series at factor cost. The GVA at factor cost for the new series is Rs. 7,69,842 Crore.

Trade, repair services, hotels and restaurants

Trade & repair services

4.70. Trade activity includes wholesale and retail trade in all commodities whether produced domestically, imported or exported. Repair services of computers, household goods, motor vehicles (including motor cycles) are also included in this Section. In the earlier series, repair of computers was a part of computer related activities. It has been made a part of this category as per NIC 2008. The benchmark year estimates of GVA for this activity in the old series were prepared separately for the public sector, private organised sector and households. For public sector trading units, GVA estimates were compiled by analyzing the annual accounts of public trading enterprises and budget documents. Estimates for private organised part comprising private corporate sector and cooperative societies engaged in trade were prepared using the result for the RBI study on company finances, total paid up capital of companies available from Ministry of Company Affairs and the information available from the NABARD publication viz "Statistical statement relating to the cooperative movement in India 2003-04" respectively. As this category of services was not covered in the NSS 63rd round Enterprise Survey, the GVA of each of the five categories of unorganised sector from the previous series obtained by moving the estimates for the year 1999-2000 to 2004-05 using the index of Gross Trading Income (GTI) was retained.

4.71. In the new series, the estimates of GVA for trade and repair services have been prepared separately for the following categories, as per NIC 2008 classification:

1. Trade and repair of motor vehicles (including motor cycles) and retail sale of automotive fuel
2. Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets
3. Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets
4. Repair of computers and personal and household goods

4.72. The revision in GVA estimates of public, private and unorganised components in 2011-12 in the new series has been due to the availability of latest data from different source agencies. For public sector trading units, i.e., DEs and NDEs, GVA estimates have been compiled by analyzing the budget documents and the annual accounts of public trading enterprises, respectively. There is no change in the sources and methods of estimating the GVA of these enterprises. Estimates for 2011-12 of private organised part comprising private corporate sector, quasi-corporations and co-operative societies engaged in trade and repair services have been prepared as below:-

- (a) Private corporate: As described in Section 3, Paras 3.7 to 3.14, estimates of Private Incorporated Enterprises have been derived using the MCA 21 database.

(b) Quasi-Corporations: Estimates for the quasi-corporations have been derived using LI method, as described in Section 2, Paras 2.13 to 2.28.

(c) Cooperatives: No changes were made in the methodology adopted for compilation of estimates of the cooperatives, since cooperatives were not covered in the NSS 67th round Survey on Unincorporated Enterprises, 2010-11 and updated information on trading cooperatives is not available from NABARD.

4.73. The estimates of the unincorporated segment (quasi-corporations and household enterprises) have been compiled using the labour input method, as given in Section 2, Paras 2.13 to 2.28.

4.74. The decrease in GVA of Trade is mainly due to drop in the latest survey based estimates of trade for the unorganised sector. The change in the methodology and use of the latest data on private corporate sector i.e. MCA 21 have also led to a significant decrease in the estimates as compared to the old series. In the old series, the benchmark estimates for the private corporate sector were moved forward using the growth rates based on RBI sample studies of non-financial companies. In the absence of trade related survey between 1999-2000 to 2010-11, the estimate of the unorganised trade sector for 2011-12 in the old series projected using the GTI index seem to be over-estimated leading to a wide divergence between the new series and old series estimates. The estimate of GVA for 2011-12 for 'trade and repair services' has gone down by 39.4% from 2004-05 series.

Hotels and Restaurants

4.75. The methodology followed for estimating GVA of public, private organised and households in the new series is same as that of trade & repair services. The estimates of GVA at factor cost from this activity for 2011-12 has gone down from Rs 1,27,076 crore at factor cost in the old series to Rs. 89,962 crore at basic prices in the new series.

4.76. A comparison of estimates of GVA for 'Trade & Repair Services' and 'Hotels & restaurants' for the year 2011-12 between the old (2004-05) series and new (2011-12) series is given in the Table 26.

Table 26. Comparative Estimates of GVA of 'Trade, repair, hotels and restaurants' for the year 2011-12

(Rs. crore)

Item	2004-05 Series	2011-12 Series	% Difference
Trade & Repair services	13,30,489	7,92,996	-40.4
Hotel & Restaurants	1,27,076	89,962	-29.2
Total- Trade, repair, hotel & restaurants	14,57,565	8,82,957	-39.4

Note: Trade & Repair services in the new series also include Repair of computers as per NIC 2008 classification. New series estimates are at basic prices while the estimates in the old series at factor cost. The GVA at factor cost for the new series for this group is Rs. 8,74,412 crore.

Railways

4.77. There are no changes in compilation procedure for estimation of GVA of Railway transport services. However, in the new series, estimates of 'Railways' operated by the Private Companies, has been included using their accounts as available in the MCA21 database, as can be seen in Table 27.

Table 27. GVA from Railways at current prices, 2011-12
(At factor cost for old series and at basic prices for new series)

(Rs. crore)

Type of institution	2004-05 Series	2011-12 Series	% Difference
Departmental Enterprises	61451	59928	-2.5
Non- Departmental Enterprises	1260	1255	-0.4
Private Corporate		27	-
Total	62711	61210	-2.4

Note:

- 1. New series estimates are at basic prices while the estimates in the old series at factor cost. The GVA at factor cost for the new series is Rs. 68,222 Crore.*
- 2. The loss of Railway DE is treated as "imputed production subsidy".*
- 3. The change in the estimate of GVA is due to the revision of CFC in the new series.*

Transport by means other than railways and storage

4.78. The economic activities covered in this sector are: (i) Road transport; (ii) Air transport; (iii) Water transport; and (iv) Services incidental to transport.

Road Transport

4.79. In the old series, for mechanized road transport, public sector GVA estimates have been compiled by analyzing the annual accounts of State Road Transport

Corporations. While for private corporate and unorganised sector, the estimates of GVA in respect of mechanized and non-mechanized road transport were compiled using the labour input method. In the case of private corporate sector, the GVAPW of “establishments” was used whereas for unorganised sector, the GVAPW of “all enterprises” was used.

4.80. In the new series, while there is no change in the methodology for compiling the public sector estimates, the estimates of Private corporate estimates have been compiled using MCA21 database. As described in Section 2, Paras 2.13 to 2.28, for the unorganised sector, the estimates of GVA in respect of mechanized and non-mechanized road transport have been compiled for the base year using the effective labour input method and labour input method respectively.

Air Transport

4.81. In the earlier series, the GVA estimates of air transport were prepared in two parts i.e. public and private corporate by analyzing the budget documents and the annual accounts of public and private enterprises in the sector. In the new series, while the methodology for public part is the same, the estimates of the private organised part have been compiled using MCA 21 database.

Water Transport

4.82. In the old series, the public sector GVA estimate was prepared by analyzing the budget documents and annual accounts of Public Shipping Companies and Inland Water Shipping Companies. The GVA of private corporate sector was prepared by analyzing the annual accounts of sample Companies and adjusted by the Gross Registered Tonnage for the total registered companies. The GVA estimates for unorganised sector were prepared using labour input method.

4.83. In the new series, while the methodology for the public part is the same, the estimates of the private corporate part have been compiled using MCA 21 database. The GVA estimates for unorganised sector have been prepared using effective LI method.

Services incidental to transport

4.84. The activities of ‘travel agencies and tour operators’ are no longer a part of this category as per NIC 2008. This will form a part of a new category in the ‘Real estate, Ownership of Dwellings and professional services’ group. For this industry, the public sector estimates of GVA are prepared by analysing the budget documents for information on lighthouses and lightships and annual accounts of companies engaged in services incidental to water and air transport like Port Trusts, Inland Water Authority, Dredging Corporation and Airport Authority of India.

4.85. In the earlier series, for private corporate and unorganised sectors, the estimates of GVA for the year 2004-05 were prepared using the labour input method.

4.86. In the new series, while the methodology for the public part is the same, the estimates of the private corporate part have been compiled using MCA 21 database. The GVA estimates for unorganised sector have been prepared using effective LI method.

Storage

4.87. The economic activities covered in this sector are: (i) Warehousing (Public Corporations) (ii) Cold Storage (Private Corporate) (iii) Storage not elsewhere classified n.e.c. (Unorganised Enterprises).

4.88. In the old series, for *Warehousing Corporations*, the GVA estimate was based on the analysis of annual accounts of state and central warehousing corporations. For *Cold Storage*, GVA estimate was based on the results available from Annual Survey of Industries (ASI) and for Storage not elsewhere classified (n.e.c), which is treated as the unorganised sector of the category, the estimates of GVA for the year 2004-05 were prepared using labour input method.

4.89. In the new series, while the methodology for the public part is the same, the estimates of the private corporate part have been compiled using MCA 21 database. The GVA estimates for unorganised sector have been prepared using the effective LI method.

Communication & services related to broadcasting

4.90. A new category - Recording, publishing and broadcasting services – has been included in this category.

4.91. As in the earlier series, the public sector GVA estimate has been prepared by analyzing the budget documents and annual accounts of Department of Posts and NDEs.

4.92. In the old series, the estimates of the private corporate and unorganised sector for both cable and courier services were compiled using the LI method. The GVO estimates of private corporate sector for other communication services (reclassified as Telecommunication in the new series) was compiled as a product of the annualised average revenue per user and number of subscribers. The GVO/GVA ratio of sample private cellular companies was applied on the revenue so obtained to get the GVA for this activity. The estimates of unorganised part for other communication services were compiled using LI method.

4.93. In the new series, estimates for the private corporate sector enterprises for all the categories have been compiled using MCA21 database. The estimates for the unincorporated sector (quasi-corporations and household enterprises) have been compiled using labour input method for 'telecommunication' and using effective labour input method for the remaining categories.

4.94. A comparison of estimates of GVA in respect of 'transport by means other than railways', storage and 'communication & services related to broadcasting' for the year 2011-12 for the old series at factor cost and new series at basic prices for the year 2011-12 are given in Table 28.

Table 28. GVA from 'Transport by means other than railways', storage and 'communication & services related to broadcasting' at current prices, 2011-12

(Rs. crore)			
Item	2004-05 Series	2011-12 Series	% Difference
Transport by means other than Railways & storage	462249	341400	-26.1
Road transport	391064	260888	-33.3
Water transport	13589	7192	-47.1
Air transport	16880	4454	-73.6
Services incidental to transport	35220	63574	80.5
Total Transport by means other than railways	456754	336108	-26.4
Storage	5496	5291	-3.7
Communication & Services related to broadcasting	89748	127553	42.1

Note: 1. For the category Services incidental to transport, the estimates in the two series are not comparable as 'Activities of tour agencies and travel operators' is no longer a part of this category.

2. 'Services related to broadcasting' is a new category in this group in the new series. Hence, the two series are not exactly comparable.

3. New series estimates are at basic prices while the estimates in the old series at factor cost.

4. The estimates of GVA at factor cost for 'Transport by means other than railways', 'storage' and 'communication & services related to broadcasting' are respectively Rs. 335325 crore, Rs. 5145 crore and Rs.1,36,250 crore respectively.

Financial Services

4.95. Changes in the financial services have been described in Section 3, paragraphs 3.15 to 3.26. The changes in the estimates of the sub-sectors within the financial services sector have also been given in Table 3.

Real estate, Ownership of Dwellings and Professional Services

Real Estate and Professional Services

4.96. The economic activities covered in this sector in the new series are (i) Real estate activities; (ii) Computer & information related services; (iii) Professional, scientific and technical activities including R&D; and (iv) Administrative and support service activities and other professional activities.

4.97. As in the earlier series, the estimates for the public sector for all these categories have been derived from the budget documents and annual reports of public sector companies. In the case of 'Computer & information related services', estimates for the private corporate sector in the earlier series were derived based on the information available from NASSCOM. For the unorganised sector of 'Computer & information related services', as also for the private corporate and unorganised sectors of remaining categories, labour input method was used for compiling the base year estimates (2004-05).

4.98. In the new series, for all these services other than 'ownership of dwellings' in this category, MCA21 database has been used for the private corporate sector, while effective labour input method has been used for compiling the estimates of the unincorporated sector in the new series.

4.99. The estimates of these services have undergone change in the new series because of the adoption of MCA21 database and the effective labour input method. Further, owing to the modifications in this categorisation of services based on NIC 2008 (other than 'real estate'), the estimates of the old series and new series are not comparable. The major changes are given in the following paragraphs.

Computer and Information related Services,

4.100. 'Repair of computers' and 'Software publishing' are no longer a part of this category and have been moved to 'Trade & Repair Services' and 'Communication & services related to broadcasting' respectively.

Professional, scientific and technical activities including R&D

4.101. The category 'research & development etc.' in the old series has been modified with inclusion of 'veterinary activities' and appropriately renamed.

Administrative and support service activities and other professional activities

4.102. This is a new category culled out from the certain activities of the previous category- 'research & development etc.' and includes all administrative and support service activities. It also includes legal and accounting activities.

Ownership of dwellings

4.103. As per the production boundary defined for national accounts, 'production of housing services for owner occupiers' own final consumption' has to be taken into consideration in the estimation of GDP. Therefore, this economic activity apart from capturing the housing services generated from rented residential houses, also includes the imputed value of owner occupied dwellings. Services rendered by non-residential buildings are considered to be a subsidiary activity of the industries, which occupy the buildings and therefore, are not included in this sector.

4.104. In the old series, GVA estimates for the ownership of dwellings of urban areas were estimated as the gross rental (actual rent paid and imputed rent for owned dwellings) of the residential census houses less the cost of repairs and maintenance. The user cost approach was used for estimating the value added from rural dwellings.

4.105. The same methodology has been followed in the new series also, duly updated with the latest Data on dwellings and rent per dwelling for urban areas has been taken from the Population Census, 2011 and the results of NSS 68th round Consumer Expenditure Survey respectively. For estimating the services in the rural areas, the user cost approach has been updated using the AIDIS, 2013, Population Census 2011. The estimates of GVA for the year 2011-12 in the new series have gone up to Rs. 548351 crore at basic prices as against Rs 440398 crore at factor cost in the old series.

4.106. The estimates of GVA for 'Real estate, Ownership of Dwellings & Professional services' for the year 2011-12 as compared with old series 2004-05 at factor cost is given in Table 29.

Table 29. GVA from 'Real estate, Ownership of dwellings & Professional services' at current prices, 2011-12

Item	(Rs. crore)		
	2004-05 series	2011-12 series	% Difference
Real estate	42115	63169	50.0
Ownership of dwellings	440398	548351	24.5
Computer and Information related services	269638	233901	-13.3
Professional, scientific and technical activities including R&D	98962	24509	-75.2
Administrative and support service activities and other professional activities	48918	189414	287.2
Total	900030	1059343	17.7

Note: 1. Due to changes in the compilation categories owing to NIC 2008 classification, the two series are not comparable.

2. The category "Administrative and support service activities and other professional activities" has been culled out from the category Research & Development etc. in the previous series.

3. New series estimates are at basic prices while the estimates in the old series at factor cost.

4. Estimate of GVA at factor cost for this group in the new series is Rs. 10,29,821 crore.

Public Administration & Defence

4.107. The reasons for change in the estimates of public administration and defence have already been discussed in Section 3, 3.27 to 3.32. The comparison of NVA of this activity in the old series and the new series is given in Table 6.

Other Services

4.108. The economic activities covered under this sector are (i) education services; (ii) human health & care services; (iii) recreation, cultural and sporting activities; (iv) Activities of membership organisations; (v) Personal services including washing, hair dressing, custom tailoring and other personal service activities; and (vii) Private households with employed person. The activities of extra territorial organisations and bodies are not a part of GDP and have hence been excluded from this group. The categories 'Sewerage and refuse disposal' and 'Veterinary services' have been removed from this group and classified as a part of utility services in 'Electricity, gas, water supply and utility services' group and 'professional services' respectively.

4.109. In the earlier series, the base year estimates of value added of private corporate as well as unorganised parts for this activity were prepared using the labour input method. For the public sector part, estimates were compiled by analyzing the budget documents of central and state governments, reports of autonomous institutions, and annual reports of public undertakings.

4.110. In the new series, there is no change in the estimation of the public part in the new series. There is a deviation in the case of private corporate sector, which has now been covered using the MCA21 database. For the private unincorporated enterprises (quasi-corporations and household enterprises), the estimates of all categories except 'private households employing persons' have been compiled using effective labour input method for the new series.

Classification changes

4.111. In a few categories of the industry group, there have been changes in classification due to the adoption of NIC 2008. 'Social work with & without accommodation' which was part of 'activities of membership organisations' is now a part of 'human health & care services'. Further, 'broadcasting' which was earlier a part

of 'recreation' is now covered in the group 'Communication & services related to broadcasting'.

Private households with employed persons

4.112. Data on private households with employed persons is usually not collected in the Survey on Unincorporated Enterprises, as it is not feasible to identify such households as enterprises. The value added generated by this activity relates to wages paid to 'employed persons' by the households. Therefore, the wages related information was estimated from the NSS 68th round Employment & Unemployment Survey, 2011-12.

4.113. The GVA estimates of 'Other Services' for the year 2011-12 in the new series as compared with that in the 2004-05 series is given in the Table 30.

Table 30. GVA from 'Other Services' at current prices, 2011-12
(Rs. Crore)

Item	2004-05 series	2011-12 series	% Difference
Education including Coaching	327379	265464	-18.9
Human health activities & Care activities	117725	108856	-7.5
Activities Of Membership Organisations	59609	10238	-82.8
Recreational, cultural and sporting activities	41398	19378	-53.2
Personal Services & Other Services, n.e.c	77721	110888	42.7
Private HHs with employed persons	14812	16574	11.9
Total	638644	531398	-16.8

Note: Recreational, cultural and sporting activities category is a modified category in the new series owing to which the two series are not exactly comparable. New series estimates are at basic prices while the estimates in the old series at factor cost. Estimate of GVA at factor cost for this group in the new series is Rs. 5,30,378 crore.

Consumption of fixed capital

4.114. The consumption of fixed capital (CFC) is the replacement value of reduction in the assets used up in the process of production during the accounting period resulting from deterioration, normal obsolescence or normal accidental damage. The CFC is calculated for all fixed assets owned by producers. However, it is not calculated for

- valuables that are acquired precisely because their value, in real terms, is not expected to decline over time;

- livestock;
- non-produced assets such as land, mineral or other deposits
- work in progress; and
- value of fixed assets destroyed by acts of war or major natural disasters, which occur very infrequently.

4.115. The estimates of Net Fixed Capital Stock (NFCS) and CFC, both at current and constant prices, continue to be based on the Perpetual Inventory Method (PIM), wherein method of declining balance is adopted, as recommended under the System of National Accounts. For these estimates, it is essential to have the following:

- Annual series of the estimates of the Gross Fixed Capital Formation (GFCF) at current prices for long period prior to the base year;
- Average economic age of the assets; and
- Appropriate price indices for use as deflator.

4.116. In the new series, GFCF is estimated for four broad categories of assets namely, Dwellings, Other buildings & Structures; Machinery & equipment; Cultivated biological resources; and Intellectual property products. This is further classified into 14 asset types (shown in Table No. 31) for use in estimation of stocks and CFC by PIM as against only two asset categories 'Construction' and 'Machinery & equipment' in the previous series. The opening stocks for the base year 2011-12 have been compiled using detailed information on the opening stocks (book values) from the government companies' annual reports, MCA 21 database, and NSS 67th round Survey on Unincorporated Enterprises, 2010-11. Another major improvement in the new series is that average service lives of assets have been revised keeping in view the latest information available from various departments/organizations such as Railway Board, State Road Transport Corporations, Department of Post, Electricity Boards, Central Building Research Institute, Central Public Works Department, State PWDs, U.P. State Bridge Corporation Ltd. and other agencies. Table 31 shows the average service lives of assets used in the two series for various assets.

Table 31. Average service lives of assets (in years)

Asset	2004-05 series	2011-12 series
1. Dwellings, Other buildings and structures		
1.1 Dwellings	60 to 80	70 to 80
1.2 Non Residential buildings		47 to 70
1.3 Other Structures	25 to 50	25 to 50
1.4 Land Improvements		20 to 30
1.5 Roads & bridges	200 to 400	60 to 100
2. Machinery and equipment		

Asset	2004-05 series	2011-12 series
2.1 Transport Equipment	10 to 20	8 to 15
2.2 Information & Communication Technology equipment	15 to 25	5
2.3 Other Machinery & Equipment		11 to 30
3. Cultivated biological resources		
3.1 Tree, crop & plant resources	30	20 to 30
4. Intellectual property products		
4.1 Research & Development	–	10
4.2 Mineral Exploration	–	14
4.3 Computer software	5	7
4.4 Entertainment, literary or artistic originals	–	7
4.5 Other intellectual property products	–	7

4.117. Tables 32 and 33 present the changes in estimates of CFC in the old and new series, owing to revisions in GFCF, price change and revisions in average service lives of assets.

Table 32. Estimates of CFC, 2011-12 (Institution wise)

(Rs. crore)

S. No	Institution	2004-05 series	2011-12 series	% Difference
1	Public Non-Financial Corporations	156551	131353	-16.1
2	Private Non-Financial Corporations	319106	346443	8.6
3	Public Financial Corporations	3404	3207	-5.8
4	Private Financial Corporations	3144	4370	39.0
5	General Government	73206	99852	36.4
6	Households including NPISH	324484	323432	-0.3
	Total	879895	908657	3.3

Table 33. Estimates of CFC, 2011-12 (Industry wise)

(Rs. crore)

S. No	Industry	2004-05 series	2011-12 Series	% Difference
1	Agriculture, forestry and fishing	101931	95648	-6.2
1.1	Crops	89836	81140	-3.9
1.2	Livestock		5151	
1.3	Forestry and logging	1657	1365	-17.6
1.4	Fishing and aquaculture	10439	7992	-23.4
2	Mining and quarrying	43046	31867	-26.0

S. No	Industry	2004-05 series	2011-12 Series	% Difference
3	Manufacturing	278368	258961	-7.0
4.	Electricity, gas, water supply & other utility services	72803	62365	-14.3
5	Construction	37476	36540	-2.5
6	Trade, repair, hotels and restaurants	51011	45417	-11.0
6.1	Trade & repair services	39985	37126	-7.2
6.2	Hotels & restaurants	11026	8291	-24.8
7	Transport, storage, communication & services related to broadcasting	80197	82603	3.0
7.1	Railways	13879	12510	-9.9
7.2	Road transport	42145	32274	7.4
7.3	Water transport		2508	
7.4	Air transport		3248	
7.5	Services incidental to transport		7220	
7.6	Storage		483	
7.7	Communication & services related to broadcasting	23690	24082	1.7
8	Financial services	6548	7577	15.7
9	Real estate, ownership of dwellings & professional services	105709	154207	45.9
10	Public administration and defence	57742	85197	47.5
11	Other Services	45064	48273	7.1
	TOTAL	879895	908657	3.3

4.118. Following is the step-wise description of the methodology in the new series:

- (i) Rebasing of the price indices at 2011-12, i.e., making it 100 for the year 2011-12;
- (ii) Revision of average life of assets, due to changes in technology or some other reasons on the basis of information from various organizations;
- (iii) Incorporating the latest estimates of Gross Fixed Capital Formation for the year 2011-12 as per the new series;
- (iv) Estimating the stocks and GFCF, by disaggregated assets, for the back years using splicing techniques. The splicing is suitably done upto the year from which the change has taken place;
- (v) Calculation of CFC and NFCS following the declining balance method.

Comparison between estimates in the Old and New Series

Level of GDP

4.119. Normally, when the base year of national accounts statistics is changed, there is some change in the levels of GDP estimates. This happens due to widening the coverage and inclusion of latest survey results. Table 34 illustrates the changes in the levels of GDP due to the introduction of the new series of national accounts in India. The effect of the change in base year and the changes made in the new series ranges from -2% in 2011-12 to -0.1 per cent in 2013-14.

Table 34. GDP at current market prices, 2011-12 to 2013-14

Year	2004-05 Series	2011-12 Series	(Rs. crore)
			% Difference
2011-12	9009722	8832012	-2.0
2012-13	10113281	9988540	-1.2
2013-14	11355073	11345056	-0.1

Growth rates

4.120. There are notable changes in the overall growth rates of GDP as well as industry level GVAs with the change in the base year. The changes in the growth rates of real GDP in the new and old series is given in Table 35.

Table 35. Growth Rates of GDP at constant market prices, 2011-12 to 2013-14

Year	2004-05 Series	2011-12 Series	(Rs. crore)	
			Growth Rate (%)	
			2004-05 Series	2011-12 Series
2011-12	5633050	8832012	-	-
2012-13	5899847	9280803	4.7	5.1
2013-14	6195842	9921106	5.0	6.9

4.121. The growth rates at industry level show some major changes, which are on account of changes in procedures, methodology and data sources and use of latest data from survey results, the details of which have been explained in the previous paragraphs. Table 36.1 and 36.2 show growth rates at current and constant prices in the old and new series, during 2012-13 and 2013-14, at industry level.

Table 36.1 Growth rates of GVA at industry level at current prices
(At factor cost for old series and at basic prices for new series)

S. No.	Industry	2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
1.	Agriculture, forestry and fishing	9.7	10.8	15.9	12.7
1.1	Crops	7.4	9.5		14.2
1.2	Livestock	13.6	13.4		10.5
1.3	Forestry and logging	13.5	10.7		1.3
1.4	Fishing and aquaculture	16.7	18.5		24.1
2.	Mining and quarrying	-0.1	8.4	0.1	4.8
3.	Manufacturing	6.9	11.6	2.2	9.3
4.	Electricity, gas, water supply & other utility services	15.8	10.0	29.2	14.2
5.	Construction	10.2	3.6	7.7	8.3
6.	Trade, repair, hotels and restaurants	10.9	18.5	7.0	20.2
6.1	Trade & repair services	11.2	19.3		21.2
6.2	Hotels & restaurants	7.1	11.0		10.2
7.	Transport, storage, communication & services related to broadcasting	15.3	15.9	10.2	12.1
7.1	Railways	12.6	18.3		10.2
7.2	Transport by means other than railways	15.8	16.3		8.7
7.3	Storage	17.3	18.2		9.4
7.4	Communication & services related to broadcasting	14.5	13.5		22.4
8	Financing, insurance, real estate & business services	17.1	17.4	19.9	14.8
8.1	Financial services	14.1	13.8		11.5
8.2	Real estate, ownership of dwellings & professional services	18.6	19.1	N.A.	16.2
9	Community, social & personal services	16.2	13.4	13.5	16.8
9.1	Public administration and defence	13.8	12.6		13.7
9.2	Other services	18.1	14.1		19.6
10.	TOTAL GVA	11.9	12.9	11.5	13.2

Table 36.2 Growth rates of GVA at industry level at constant prices
(At factor cost for old series and at basic prices for new series)

S.No.	Industry	2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
1.	Agriculture, forestry and fishing	1.4	1.2	4.7	3.7
1.1	Crops	-0.4	-0.1	N.A.	3.3
1.2	Livestock	4.4	5.1		5.5
1.3	Forestry and logging	2.9	-0.7		0.3
1.4	Fishing and aquaculture	7.1	5.5		5.8
2.	Mining and quarrying	-2.2	-0.2	-1.4	5.4
3.	Manufacturing	1.1	6.2	-0.7	5.3
4.	Electricity, gas, water supply & other utility services	2.3	4.0	5.9	4.8
5.	Construction	1.1	-4.3	1.6	2.5
6.	Trade, repair, hotels and restaurants	4.5	10.3	1.0	13.3
6.1	Trade & repair services	4.8	11.1	N.A.	14.3
6.2	Hotels & restaurants	0.5	3.3		3.9
7.	Transport, storage, communication & services related to broadcasting	6.0	8.4	6.1	7.3
7.1	Railways	0.3	18.0	N.A.	9.3
7.2	Transport by means other than railways	6.6	7.4		4.7
7.3	Storage	8.6	12.0		1.4
7.4	Communication & services related to broadcasting	6.5	6.3		13.4
8	Financing, insurance, real estate & business services	10.9	8.8	12.9	7.9
8.1	Financial services	11.8	6.7	N.A.	6.4
8.2	Real estate, ownership of dwellings & professional services	10.0	9.8		8.5
9	Community, social & personal services	5.3	4.7	5.6	7.9
9.1	Public administration and defence	3.4	3.2	N.A.	4.9
9.2	Other services	6.8	6.2		10.7
10.	TOTAL GVA	4.5	4.9	4.7	6.6

Composition of various activities between the two Series

4.122. The weighting pattern of various activities in the GVA in the old and new series for the year 2011-12 also influences to some extent the overall growth rate in GVA. The composition of the various activities in the old and new series, may be seen in Table 37. Marked changes have been observed in the shares of two major industries, namely, 'manufacturing' and 'trade'. In the case of manufacturing, with the availability of the MCA21 database, coverage of the activities other than manufacturing in the companies has improved significantly. Estimates of 'trade and repair services' has become lower than in the old series because of two reasons-

- (i) Trade carried out by manufacturing companies, which has now become part of 'manufacturing', was earlier covered in 'trade' because of establishment approach;
- (ii) In 2004-05, no recent survey of unorganised trade enterprises was available for incorporation and hence the estimates were based on the survey conducted in 1999-2000. This has now been updated with the survey on 'Unincorporated Enterprises' conducted by NSS in 2010-11.

4.123. Share of the other sectors have also undergone change due to adoption of the latest data sources.

Table 37. Weights of various sectors at current prices in the new and old series, 2011-12

(At factor cost for old series and at basic prices for new series)

S.No.	Industry	2004-05 Series	2011-12 Series
1.	Agriculture, forestry and fishing	17.9	18.4
1.1	Crops	11.4	12.0
1.2	Livestock	4.1	4.0
1.3	Forestry and logging	1.6	1.6
1.4	Fishing and aquaculture	0.8	0.8
2.	Mining and quarrying	2.7	3.2
3.	Manufacturing	14.7	18.1
4.	Electricity, gas, water supply & other utility services	1.6	2.4
5.	Construction	8.2	9.4
6.	Trade, repair, hotels and restaurants	17.4	10.8
6.1	Trade & repair services	15.9	9.7
6.2	Hotels & restaurants	1.5	1.1
7.	Transport, storage, communication & services related to broadcasting	7.3	6.5
7.1	Railways	0.7	0.7
7.2	Transport by means other than railways	5.4	4.1
7.3	Storage	0.1	0.1

S.No.	Industry	2004-05 Series	2011-12 Series
7.4	Communication & services related to broadcasting	1.1	1.6
8.	Financial services	5.7	5.9
9.	Real estate, ownership of dwellings & professional services	10.7	12.9
10.	Public administration and defence	5.9	6.0
11.	Other services	7.8	6.5
12.	TOTAL GVA	100.0	100.0

Net Domestic Product and National Income

4.124. Table 38 presents the estimates of GDP, Net Domestic Product (NDP), Net National Income (NNI) (also known as National Income) and per capita income at market prices for the period, 2011-12 to 2013-14 in the 2004-05 series and new series. The estimates are presented in the table at current prices, for the sake of comparison in the levels of estimates between the two series in various aggregates. Also presented in this table are the growth rates alongwith the estimates.

4.125. For assessing the performance of the economy, growth rates at constant prices are used, as they are free from price fluctuations and present the year to year changes in volume terms. For the sake of comparison in growth rates at constant prices between the old and new series, estimates of various aggregates have been provided in Table 39, alongwith the estimates.

Table 38. Estimates of GDP, NDP, NNI and Per Capita Income at current market prices

Year	GDP (Rs. lakh crore)		NDP (Rs. lakh crore)		NNI (Rs. lakh crore)		Per Capita Income (Rs.)	
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
2011-12	90.10	88.32	81.30	79.23	80.53	78.47	66997	64316
2012-13	101.13	99.89	90.97	89.58	89.80	88.42	73791	71593
2013-14	113.55	113.45	101.82	101.96	100.53	100.57	81535	80388
Growth rates (%)								
2012-13	12.2	13.1	11.9	13.1	11.5	12.7	10.1	11.3
2013-14	12.3	13.6	11.9	13.8	11.9	13.7	10.5	12.3

Table 39. Estimates of GDP, NDP, NNI and Per Capita Income at constant prices

Year	GDP (Rs. lakh crore)		NDP (Rs. lakh crore)		NNI (Rs. lakh crore)		Per Capita Income (Rs.)	
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
2011-12	56.33	88.32	50.05	79.23	49.59	78.47	41255	64316
2012-13	59.00	92.81	52.12	83.01	51.47	81.93	42289	66344
2013-14	61.96	99.21	54.42	88.72	53.74	87.52	43587	69959
Growth rates (%)								
2012-13	4.7	5.1	4.1	4.8	3.8	4.4	2.5	3.2
2013-14	5.0	6.9	4.4	6.9	4.4	6.8	3.1	5.4

Implicit price deflators in the new series

4.126. Tables 40 and 41 present the implicit price deflators (IPDs) from the national accounts, economic activity-wise in the old and new series, industry-wise and the annual growth rates in the IPDs. It may be seen from this table that there are changes in the IPDs at economic-activity level and at the overall level, due to changes in the composition in the new series at sub-economic activity level as also in overall GVA.

Table 40. Implicit price deflators in GVA (%) (2011=100)

(At factor cost for old series and at basic prices for new series)

S.No.	Item	2011-12		2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
1.	Agriculture, forestry and fishing	100.0	100.0	108.2	109.5	119.7	119.1
1.1	Crops	100.0	100.0	107.9	109.7		121.2
1.2	Livestock	100.0	100.0	108.8	107.8		113.0
1.3	Forestry and logging	100.0	100.0	110.3	111.5		112.6
1.4	Fishing and aquaculture	100.0	100.0	109.0	112.4		131.7
2.	Mining and quarrying	100.0	100.0	102.1	108.6	103.6	108.0
3.	Manufacturing	100.0	100.0	105.6	105.1	108.8	109.1
4.	Electricity, gas, water supply & other utility services	100.0	100.0	113.3	105.7	138.2	115.3
5.	Construction	100.0	100.0	109.0	108.3	115.5	114.5
6.	Trade, repair, hotels and restaurants	100.0	100.0	106.1	107.4	112.5	113.9
6.1	Trade & repair services	100.0	100.0	106.1	107.4		113.9
6.2	Hotels & restaurants	100.0	100.0	106.6	107.4		113.9

S.No.	Item	2011-12		2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
7.	Transport, storage, communication & services related to broadcasting	100.0	100.0	108.8	106.8	113.0	111.6
7.1	Railways	100.0	100.0	112.3	100.2		101.0
7.2	Transport by means other than railways	100.0	100.0	108.6	108.2		112.4
7.3	Storage	100.0	100.0	108.0	105.5		113.9
7.4	Communication & services related to broadcasting	100.0	100.0	107.4	106.8		115.2
8	Financing, insurance, real estate & business services	100.0	100.0	105.5	107.9	112.1	114.8
8.1	Financial services	100.0	100.0	102.0	106.7		111.8
8.2	Real estate, ownership of dwellings & professional services	100.0	100.0	107.8	108.4		116.1
9	Community, social & personal services	100.0	100.0	110.4	108.3	118.7	117.1
9.1	Public administration and defence	100.0	100.0	110.0	109.1		118.4
9.2	Other services	100.0	100.0	110.6	107.5		116.0
10.	TOTAL GVA	100.0	100.0	107.1	107.6	114.1	114.3

Table 41. Growth in Implicit price deflators of GVA (%)
(At factor cost for old series and at basic prices for new series)

S.No.	Item	2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
1.	Agriculture, forestry and fishing	8.2	9.5	10.7	8.7
1.1	Crops	7.9	9.7		10.5
1.2	Livestock	8.8	7.8		4.8
1.3	Forestry and logging	10.3	11.5		1.0
1.4	Fishing and aquaculture	9.0	12.4		17.2
2.	Mining and quarrying	2.1	8.6	1.5	-0.5
3.	Manufacturing	5.6	5.1	2.9	3.8
4.	Electricity, gas, water supply & other utility services	13.3	5.7	22.0	9.0

S.No.	Item	2012-13		2013-14	
		2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
5.	Construction	9.0	8.3	6.0	5.7
6.	Trade, repair, hotels and restaurants	6.1	7.4	6.0	6.0
6.1	Trade & repair services	6.1	7.4		6.0
6.2	Hotels & restaurants	6.6	7.4		6.1
7.	Transport, storage, communication & services related to broadcasting	8.8	6.8	3.9	4.5
7.1	Railways	12.3	0.2		0.8
7.2	Transport by means other than railways	8.6	8.2		3.8
7.3	Storage	8.0	5.5		7.9
7.4	Communication & services related to broadcasting	7.4	6.8		7.9
8	Financing, insurance, real estate & business services	5.5	7.9	6.3	6.4
8.1	Financial services	2.0	6.7		4.8
8.2	Real estate, ownership of dwellings & professional services	7.8	8.4		7.0
9	Community, social & personal services	10.4	8.3	7.5	8.2
9.1	Public administration and defence	10.0	9.1		8.5
9.2	Other services	10.6	7.5		8.0
10.	TOTAL GVA	7.1	7.6	6.5	6.2

Net Factor Income from the Rest of the World

4.127. There is no change in the estimates of Net factor Income from the Rest of the world at current prices for the years 2011-12 to 2012-13. In the new series, estimates at constant (2011-12) prices continue to be prepared using single deflation method by adopting Implicit price deflators of service sector on the current price estimate of net factor income from abroad. The estimates at current prices are presented in Table 42.

Table 42. Net Factor Income from Rest of the World, 2011-12 to 2013-14 (Rs. Crore)

Year	At current prices		
	2004-05 series	New series	Difference
2011-12	-76830	-76824	6
2012-13	-116766	-116763	3
2013-14	NA	-139887	NA

SECTION 5

EXPENDITURE AGGREGATES AND SAVING

5.1. The expenditure aggregates of GDP comprise of consumption expenditure (government final consumption expenditure and private final consumption expenditure), gross fixed capital formation, and changes in stocks, valuables, and net exports (exports minus imports). These estimates are compiled at market prices. The GVA at basic prices by economic activity discussed in the previous section is adjusted by adding taxes on products including import duty less subsidies on product to arrive at the estimate of GDP (at market prices), so that it equals the expenditure on gross domestic product. As the expenditure components of the GDP, namely, consumption expenditure and capital formation are measured at market prices, the discussion in the following paragraphs is in terms of market prices.

Private Final Consumption Expenditure (PFCE)

5.2. The basic data on output and prices utilized in the estimation of private final consumption expenditure (PFCE) are mostly the same as those used in the preparation of GVA estimates and as such the improvements/changes in data sources and coverage etc. in GVA estimates are included in the estimates of PFCE. Table 43 presents the estimates of PFCE for the year 2011-12 by object i.e. according to the purpose for which the goods and services are acquired, in the old and new series.

Table 43. Estimates of Private Final Consumption Expenditure, 2011-12

(Rs. crore)

Items	2004-05 Series	2011-12 Series	% Difference
1. Food and non-alcoholic beverages	15,64,033	14,92,455	-4.6
2. Alcoholic beverages, tobacco and narcotics	1,58,123	1,58,311	0.1
3. Clothing and footwear	3,83,347	3,57,504	-6.7
4. Housing, water, electricity, gas and other fuels	6,72,771	7,70,788	14.6
5. Furnishings, household equipment and routine household maintenance	2,08,627	1,82,432	-12.6
6. Health	1,87,954	1,81,334	-3.5
7. Transport	8,16,677	7,61,608	-6.7
8. Communication	67,671	98,012	44.8
9. Recreation and culture	71,463	56,273	-21.3

Items	2004-05 Series	2011-12 Series	% Difference
10. Education	67,440	1,37,067	103.2
11. Hotels & restaurants	1,36,551	1,16,644	-14.6
12. Miscellaneous goods and services	8,32,789	8,03,942	-3.5
Total Private Final Consumption expenditure in domestic market	51,67,446	51,16,371	-1.0

5.3. It may be observed that the total PFCE as per the new series, as a net result of downward/upward revisions of various items, is lower by 1.0% as compared to the old series. The reasons for the major variations are in the estimates of PFCE for the base year 2011-12 are given below.

Quantity Retained for Consumption

5.4. In the 2004-05 series, the quantity retained by producer was estimated using the marketable surplus ratio obtained from Ministry of Agriculture on production of crops and estimating marketable surplus for the years 2003-04 to 2005-06. Subtracting the marketable surplus from total production, the quantity retained (QR) was obtained for the three years. Dividing the QR by projected population for each year, per capita QR for each year was obtained. Finally the average for the per capita QR for the three years was used. This was under the assumption that QR remains constant over a short period. In the new series, quantity retained for consumption has been derived from NSS 68th Consumer Expenditure Survey (CES) for the bench mark year 2011-12. For subsequent years, per capita quantity retained by the producer is multiplied with the population to obtain quantity retained by producer for different agricultural commodities.

Wastage ratios

5.5. In the 2004-05 series, the wastage ratios for agricultural commodities were based on reports of Directorate of Marketing and Inspection, Ministry of Agriculture. In the new series, wastage ratio of crops and livestock products has been updated using a study conducted by Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana on "Harvest and Post-harvest losses of major crops and livestock products in India".

Manufactured goods used for PFCE

5.6. The data base for preparation of estimates of PFCE for majority of manufactured items is same as that for estimating the value added from manufacturing sector. Data on output according to compilation category estimated for compiling GVA by adopting the enterprise approach is utilized. Share of products and by-products for different industries in the total output is worked out from ASI. Also from the detailed

analysis of ASI, items of final consumption as per Classification of Individual Consumption According to Purpose (COICOP) and share of these items in the total value of products and by-products is compiled. Applying these shares on the value of products and by-products estimated from the output compiled by the enterprise approach, for enterprises in Public Sector, Private Corporate Sector and Unincorporated Sector, the total value of products and by-products of different items under this group is estimated.

5.7. For unorganised manufacturing sector, the base year ratio between output of organised and unorganised manufacturing for corresponding industry groups has been used. The total output is then adjusted for excise duty/import duty, trade and transport margin. Finally the adjustment for Government consumption, capital formation and inter-industry consumption has been done using Input-Output Tables, 2007-08 to arrive at PFCE. These ratios have been used for estimating PFCE for subsequent years in respect of manufactured goods.

Food and Non-alcoholic beverage

5.8. For most food items, PFCE is estimated by the commodity flow approach. Two major changes have been introduced in this group. First, the quantity retained for consumption has been estimated using a different approach as mentioned earlier in para 5.4. Second, wastage ratios has been updated for major crops and livestock products as mentioned in para 5.5. Intermediate consumption has also been updated using the Input Output Tables, 2007-08 and Annual Survey of Industries. Besides, estimates in respect of rice products have been derived from the corresponding output in the manufacturing sector. 'Other cereals products and pulses products' are derived from NSS 68th round CES, 2011-12. This has resulted in decrease in the PFCE for the group by Rs.71,578.

Clothing and footwear

5.9. The item-wise data on value of output at NIC (National Industrial Classification, 2008) 3-digit level available from the ASI 2011-12 has been analysed for estimating the PFCE in the new series for this group, as mentioned in para 5.6. The use of the latest ASI data and identification of consumption basket of items resulted in a decrease of Rs.25,843 crore in the PFCE under this Group.

Housing, water, electricity, gas and other fuel

5.10. In the old series, data on electricity sold to domestic consumers is obtained from Central Electricity Authority (CEA) and evaluation was done at the retail prices as available in the report. Base year prices were then moved on the basis of wholesale price index. In the new series, consumption of electricity and retail price for the base year has been derived from NSS 68th round CES, 2011-12. For subsequent years, the base year estimates of consumption of electricity has been moved forward using CEA

data on electricity sold, and base year retail price has been moved forward using WPI of electricity. Besides, PFCE to output ratio has also been updated for the other items of this group, as they are estimated as a percentage of output. This has resulted in an increase in the PFCE estimates for this group by Rs.98,017 crore.

Furnishings, household equipment and routine household maintenance

5.11. PFCE for this group has decreased by Rs.26,195 crore. Reasons for this variation are the same as those mentioned under the group 'clothing and footwear' and the procedure adopted for estimating PFCE for this group is explained in para 5.6. As a result of updation of rates and ratios based on Input Output Tables, 2007-08, the PFCE for this group has decreased by Rs.26,195 crore.

Health services

5.12. In the 2004-05 series, the benchmark PFCE estimates were based on the Nation Health Accounts of India, 2004-05, M/o Health and Family Welfare. The PFCE for subsequent years was estimated using growth rate in the private expenditure during 2004-05 and 2005-06 as given in the Nation Health Accounts. Receipts of Central government on account of Central Government Health Scheme compiled from the Central government budget was also taken as an item of household consumption. In the new series, the base year PFCE estimates are based on the NSS 68th round CES, 2011-12, duly supplemented by the expenditure incurred by NPISH on health. For subsequent years, base year expenditure has been extrapolated by gross value of output on health compiled by CSO. The PFCE estimate on health has decreased by Rs.6,620 crore in the new series.

Transport

5.13. There is variation in the PFCE estimates between the old and new series. The PFCE estimates are based on output in the manufacturing sector and the reasons for variation are same as mentioned under the group, 'clothing and footwear' above and the procedure explained in para 5.6. As a result of updation of rates and ratios based on Input-Output Tables, 2007-08, the PFCE for this group has decreased by Rs.55,069 crore in the new series as compared to the old series in the year 2011-12.

Communication

5.14. The PFCE for this item is estimated as a percentage of output. Rise in the level of estimated output has resulted in an increase in the PFCE estimates for this item by Rs.30,341 crore.

Recreation and culture

5.15. The variation in PFCE estimates for this group is due to reasons similar to those mentioned under the manufacturing items. This has resulted in decrease in the PFCE for this group by Rs.15,190 crore in the new series for the year 2011-12.

Education

5.16. The PFCE in the case of education has risen by Rs.69,627 crore in 2011-12 in the new series. The benchmark PFCE estimates are based on the NSS 68th round CES, 2011-12. The consumption expenditure on education as available in the CES, 2011-12 has been supplemented by the expenditure incurred by NPISH on education. For subsequent years, base year expenditure has been extrapolated by gross value of output on education compiled by CSO.

Hotels & restaurants

5.17. The PFCE for this item is also estimated as a percentage of output. The base year estimates have been taken for NSS 68th round CES, 2011-12 and ratio of PFCE to output worked out for the base year is applied on subsequent years output to arrive at PFCE estimates. This has resulted in a decrease in the PFCE estimates for this item by Rs.19,907 crore on account of decline in the output of this sector.

Miscellaneous goods and services

5.18. The PFCE estimates for this group are also lower in the new series for the year 2011-12 by Rs.28,847 crore. The reasons is as mentioned in para 5.9 for miscellaneous manufacturing goods and variation in output of the service sector for miscellaneous services included in this group.

Level of PFCE

5.19. The above paragraphs explain the reasons resulting in overall downward revision in the estimates of PFCE during 2011-12 in the new series, as can be seen in Table 44. The per capita consumption expenditure in the year 2011-12, which was of the order of Rs.42,778 (2004-05 series), is now estimated at Rs.41,728 in the new series, showing a decrease of Rs.1,050.

Table 44. PFCE and Per Capita PFCE, 2011-12 to 2013-14 (at current prices)

Year	PFCE (Rs. crore)		Per capita PFCE (Rs.)	
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
2011-12	51,41,896	50,90,822	42,778	41,728
2012-13	57,72,059	58,75,111	47,429	47,572
2013-14	64,85,037	67,72,066	52,596	54,133

Growth rates in PFCE

5.20. The annual growth rates in the PFCE at the aggregate level and the per capita levels according to the 2004-05 and the new series are presented in Table 45 for two

year period 2012-13 to 2013-14. The new series shows marginal higher annual growth rates as compared to those in the old series.

Table 45. Growth Rates in PFCE and Per capita Expenditure, 2012-13 to 2013-14

I. At current prices

	PFCE		Per capita PFCE	
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
2012-13	12.3	15.4	10.9	14.0
2013-14	12.4	15.3	10.9	13.8

II. At constant prices

	PFCE		Per capita PFCE	
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series
2012-13	5.0	5.5	3.7	4.2
2013-14	4.8	6.2	3.5	4.8

Capital Formation

5.21. The methodology adopted for compilation of estimates of saving and capital formation of various institutional sectors in the new series is based on System of National Accounts, 2008 (SNA 2008).

Gross Capital Formation

5.22. Gross Capital Formation (GCF) refers to the aggregate of gross additions less deductions of fixed assets (Gross Fixed Capital Formation, GFCF), change in stocks of inventories (CIS) and valuables.

5.23. GFCF estimates in the new series are compiled for four broad categories of assets as per System of National Accounts, 2008. These asset categories are:

- i. Dwellings, Other buildings & Structures;
- ii. Machinery & equipment;
- iii. Cultivated biological resources; and
- iv. Intellectual property products.

Table 46 gives the comparison between categories of fixed assets in the new and old series.

Table 46. Comparison between Fixed Asset categories in 2011-12 Series vs 2004-05 series

Fixed Assets in New (2011-12) Series	Corresponding Fixed Assets in Old (2004-05) Series
Dwellings, Other Buildings & Structures	Construction asset of 2004-05 series excluding Plantation
Machinery & Equipment (M&E)	Machinery & Equipment (M&E) of 2004-05 series excluding Increment in livestock, Software, Expenditure on R&D
Cultivated Biological Resources (CBR)	Increment in Livestock
	Plantation
Intellectual Property Products (IPP)	Expenditure on R&D
	Software

5.24. In the new series, the **GFCF** estimates have undergone revisions mainly due to (i) use of information on financial parameters of non-government companies from MCA 21 database provided by Ministry of Corporate Affairs instead of results from sample studies of non-government companies by RBI, (ii) use of ASI 2011-12 detailed results, (iii) estimation of GFCF for four broad categories of assets as per SNA 2008 namely, Dwellings, Other Buildings & Structures; Machinery & equipment; Cultivated biological resources; and Intellectual property products as against only two asset categories 'Construction' and 'Machinery & equipment' in the previous series, (iv) separating out estimates for quasi-corporations from households and inclusion in private corporations based on recommendations of SNA 2008, and (v) Use of NSS 70th round AIDIS, 2013 and NSS 67th round Survey on Unincorporated Enterprises, 2010-11 for updating ratios for preparing benchmark estimates in the household sector.

5.25. For estimation of **change in stocks of inventories**, the book values of change in stocks for the corporations are now revalued in the new series. Expenditure of households on **valuables** has been included as savings in the form of physical assets of households.

I) GFCF by type of assets

5.26. The estimates of capital formation by type of assets and by type of institutions for the new and old series for the year 2011-12 have been presented in Table 47. The overall revision for the year 2011-12 in GFCF has been from Rs. 28,61,064 crore in the old series to Rs. 29,71,246 crore in the new series. The GCF estimate for the year 2011-12 has been increased to Rs. 34,38,834 crore in new series as against Rs. 32,78,332 crore in 2004-05 series.

Table 47. Capital Formation by type of assets and institutions, 2011-12*(Rs. crore)*

S. No.	Item	2004-05 Series	2011-12 Series	% Diff
1	Gross Capital Formation*	3278332	3438834	4.9
1.1	Public Non-Financial Corporations	379664	347393	-8.5
1.2	Private Non-Financial Corporations	907905	1136119	25.1
1.3	Public Financial Corporations	8136	8428	3.6
1.4	Private Financial Corporations	5379	37735	601.5
1.5	General Government	308034	318574	3.4
1.6	Households including NPISH	1422541	1337552	-6.0
1.7	Valuables	246673	253033	2.6
2	Gross Fixed Capital Formation	2861064	2971246	3.9
2.1	Public Non-Financial Corporations	329625	332240	0.8
2.1.1	Dwellings, Other buildings and structures	157354	139114	-11.6
2.1.2	Machinery & equipment	159173	165977	4.3
2.1.3	CBR	0	199	-
2.1.4	IPP	13098	26950	105.8
2.2	Private Non-Financial Corporations	844796	958217	13.4
2.2.1	Dwellings, Other buildings and structures	239904	251735	4.9
2.2.2	Machinery & equipment	520061	607543	16.8
2.2.3	CBR	163	1169	617.2
2.2.4	IPP	84668	97769	15.5
2.3	Public Financial Corporations	7940	8428	6.1
2.3.1	Dwellings, Other buildings and structures	1701	2220	30.5
2.3.2	Machinery & equipment	6239	6048	-3.1
2.3.3	CBR		0	-
2.3.4	IPP		160	-
2.4	Private Financial Corporations	4474	27970	525.2
2.4.1	Dwellings, Other buildings and structures	812	11193	1278.4
2.4.2	Machinery & equipment	3662	10193	178.3
2.4.3	CBR		9	-
2.4.4	IPP		6576	-
2.5	General Government	301591	316117	4.8
2.5.1	Dwellings, Other buildings and structures	262262	235448	-10.2
2.5.2	Machinery & equipment	39074	68484	75.3

S. No.	Item	2004-05 Series	2011-12 Series	% Diff
2.5.3	CBR	255	157	-38.4
2.5.4	IPP	0	12028	-
2.6	Households	1372637	1328274	-3.2
2.6.1	Dwellings, Other buildings and structures	931680	1122548	20.5
2.6.2	Machinery & equipment	432372	200038	-53.7
2.6.3	CBR	8585	5629	-34.4
2.6.4	IPP	0	59	-
3	Change in stocks	170596	214555	25.8
3.1	Public Non-Financial Corporations	50039	15153	-69.7
3.2	Private Non-Financial Corporations	63109	177902	181.9
3.3	Public Financial Corporations	196	0	-100.0
3.4	Private Financial Corporations	905	9766	979.1
3.5	General Government	6443	2457	-61.9
3.6	Households including NPISH	49904	9277	-81.4

Note:

** Unadjusted for 'Flow of Funds'*

1. In new (2011-12) series, Public Sector is divided into Public Non-Financial Corporations, Public Financial Corporations & General Government, and Private Sector is divided into Private Non-Financial Corporations & Private Financial Corporations.

2. In 2004-05 series, GFCF in Plantation was part of Construction and GFCF from M&E included R&D Expenditure of NDCUs, Fixed Assets in Livestock and Computer Software. In the 2011-12 series, R&D Expenditure of NDCUs and Computer Software are part of Intellectual Property Products (IPP) and GFCF in Plantation and Fixed Assets in Livestock are part of Cultivated Biological Resources (CBR).

3. For comparison of estimates, the 2004-05 series estimates have been classified into asset categories as per 2011-12 series, to the extent possible.

i. Dwellings, Other Buildings & Structures

5.27. The estimates for asset (i) 'Dwellings, Other Buildings & Structures' correspond to the 'construction' asset (excluding capital expenditure on plantations) in the previous series, for which the methodology continues to be the same. Commodity flow approach is adopted at the national level for estimating output of *pucca* Dwellings, Other Buildings & Structures. The output of *kutchra* Dwellings, Other Buildings & Structures are estimated using the expenditure approach. Bitumen & bitumen mixtures, and Glass & glass products have been included in the basic construction materials using detailed information from ASI 2011-12 and NSS 67th round Survey on Unincorporated

Enterprises, 2010-11. Estimates for Cement and cement products, Iron & steel, Bricks & tiles, Timber and Fixtures & fittings have been updated using detailed information from the same sources. The methodology for estimation of value of output used in construction for Bricks & tiles has also been revised. The ratio of 'other materials and service charges' have been updated using study by CBRI, Roorkee. Other rates and ratios are updated using AIDIS, 2013 and results of NSS 65th round Housing Condition Survey, 2008-09. Cost of basic construction materials received from the States and Trade & Transport Margins (TTMs) from IOT, 2007-08, has been incorporated in the compilation. Further details are given in section on estimation of GVA from Construction.

5.28. From the total estimated GFCF for Dwellings, Other Buildings & Structures, which is the expenditure on new Dwellings, Other Buildings & Structures, arrived from commodity flow approach, the GFCF in respect of public and private corporations (Dwellings, Other Buildings & Structures part) is subtracted to obtain the GFCF of the households, as residual. With the revisions in coverage of basic materials, ratios from CBRI study and use of fresh data, the GFCF in the form of Dwellings, Other Buildings & Structures is estimated at Rs. 17,62,259 crore in the new series for the year 2011-12, as against Rs. 15,93,713 crore estimated in 2004-05 series.

5.29. The details of GFCF from Dwellings, Other Buildings & Structures are given in the Table 48, separately in the old and new series for the year 2011-12 and also separately for the pucca and kutcha segments of new Dwellings, Other Buildings & Structures.

Table 48. GFCF from Dwellings, Other Buildings & Structures, 2011-12
(Rs. crore)

S.No.	Item	2004-05 Series	2011-12 Series	% Difference
1	Total	1593713	1762259	10.6
1.1	Pucca	1546851	1703864	10.2
1.2	Kutcha #	46863	58395	24.6

Kutcha DOBS only. This excludes plantation asset for comparability, as it is a part of CBR asset in 2011-12 series.

ii. Machinery & equipment

5.30. Methodology for estimation of GFCF for asset (ii) 'Machinery & equipment' using commodity flow approach is unchanged in the new series. Fixed Assets in livestock, Software and Research & Development (R&D) expenditure, which was a part of machinery & equipment in 2004-05 series, are classified as separate assets, CBR and IPP, in the new series. The ex-factory values of capital goods have been estimated using detailed results of Annual Survey of Industries, 2011-12, appropriately adjusted

with value of output in the manufacturing sector estimated in the new series. Details are given below.

5.31. The data on ex-factory value of products and by products at detailed 7 digit level of NPCMS (National Product Classification for Manufacturing Sector) codes have been obtained at 5 digit National Industry Classification (NIC), 2008 from ASI, 2011-12. The machinery items at 7 digit level of NPCMS have been classified into (i) capital goods; (ii) parts of capital goods; (iii) partly capital goods; and (iv) parts of partly capital goods. The machinery items classified as capital goods are taken as 100% fixed asset; parts of capital goods as 50% fixed asset and remaining as intermediate consumption. To the partly capital goods i.e. dual use goods, ratios of fixed asset to total output have been obtained from IOT, 2007-08, and applied to get the fixed asset. Parts of partly capital goods are taken as further 50% of the ratio applied on partly capital goods. Ratios of fixed assets to ex-factory value of machinery items for each of the machinery-producing NIC 2008 industries derived from the ASI data (organised manufacturing) has been applied to the output of organised manufacturing sector estimated in the new series.

5.32. Use of detailed 7 digit level of NPCMS in ASI data has resulted in capturing all the machinery items produced in the economy irrespective of the principal industry classification of the establishments. To account for fixed assets in the unorganised sector, ratios of fixed assets to ex-factory value of machinery items for each of the machinery-producing NIC 2008 industries derived from the ASI data (organised manufacturing) has been applied to the output of unorganised manufacturing sector.

5.33. The estimates of fixed assets obtained from organised and unorganised manufacturing at NIC-2008 four and two digit levels are then finally classified at the broad category levels as non-electrical (NE), electrical (E), transport equipment (TE) and others (O).

5.34. The estimates at 2 digit level of NIC have been clubbed appropriately to get the estimates at the broad category level. The addition in stock of capital goods in terms of finished and semi-finished materials at 4 digit level of NIC have been obtained from ASI 2011-12 and the same have been clubbed to get the estimates at the NIC 2 digit level and at the broad category level. Thus the estimates of ex-factory value of capital goods at the broad category level are obtained. To these ex-factory values of capital goods, the net import, import duty, excise duty are added to get the domestic availability of GFCF in Machinery & Equipment (M&E). Finally, TTM as obtained from IOT, 2007-08, are added at the broad category level to get the estimate of GFCF in M&E.

5.35. Estimates of GFCF in the form of machinery and equipment for the year 2011-12 has now been estimated at Rs. 10,58,283 crore in the new series as against Rs. 11,60,579 crore in the 2004-05 series. The decrease in GFCF from machinery and equipment by Rs. 1,02,296 crore has mainly been due to the adoption of latest available data and revision in item-baskets of capital goods, as also due to other changes explained above.

iii. Cultivated biological resources (CBR)

5.36. Capital expenditure on plantations and increment in livestock used as capital asset (breeding, dairying and as draught animal) comprises of the 'Cultivated biological resources' in the new series, for which the estimation methodology at the broad level remains unchanged. In the 2004-05 series, capital expenditure on plantations was included in 'Construction' asset and 'increment in livestock used as fixed asset' was a part of 'machinery & equipment' asset, both appearing in the agriculture industry. However, in the new series, this asset category is shown separately. The comparative estimates of GFCF from CBR at current prices for the year 2011-12 in the old and new series are given in Table 49.

**Table 49. GFCF from Cultivated Biological Resources, 2011-12
(Rs. crore)**

Item	2004-05 Series	2011-12 Series	% Difference
Cultivated Biological Resources (CBR)	9003	7162	-20.4

iv. Intellectual property products (IPP)

5.37. The intellectual property products (IPP) consist of expenditure on research & development, mineral exploration, computer software and other intellectual property products. The data for IPP is separately available from the MCA 21 database as well as analysis of annual reports of government companies and autonomous bodies. For Households Sector, IPP information pertains only to software for which information has been obtained from the NSS 67th round Survey on Unincorporated Enterprises, 2010-11. Further, from the total estimate of software estimated using data from NASSCOM and imports, the residual obtained after netting out the corresponding expenditure by corporations and households is added to the private corporations.

5.38. In 2004-05 series, software and research & development were components of 'machinery & equipment' asset. In the new series these are reclassified in a separate category in accordance with SNA, 2008. The comparative estimates of GFCF from IPP at current prices for the year 2011-12 in the old and new series are given in Table 50.

Table 50. GFCF from Intellectual Property Products, 2011-12
(Rs. crore)

Item	2004-05 Series #	2011-12 Series	% Difference
Intellectual Property Products (IPP)	97766	143543	46.8

The estimate pertains to software only

Valuables

5.39. Data on expenditures made on net acquisition of valuables on precious items like gold, gems, ornaments and precious stones etc., has been included under GCF, as a separate category (separately from the GFCF and Change in Stocks) as in the old series. In the new series, valuables include HS codes 7108 (gold), 7106 (silver), 7113 and 7114 (gold and silver ornaments), precious articles with HS codes 710231 (diamonds), 7103 (other gems and stones), and 711019 (platinum). Thus, the coverage is broadly the same as in the old series. However, the ratios of inter-industry use of the output have been updated from ASI, 2011-12 and NSS 67th round Survey on Unincorporated Enterprises, 2010-11 to account for use of these imported products in manufacturing activity.

II) Gross capital formation by industry of use

5.40. The Gross capital formation estimates have been compiled for each industry group and each institutional sector by aggregating the GFCF and CIS estimates, which are estimated separately. The overall revision in GFCF by industry of use for the year 2011-12 has been from Rs. 28,61,064 crore in the 2004-05 series to Rs. 29,71,246 crore in the new series.

GFCF by industry of use

5.41. The estimates for the general government and public corporations are obtained from the budget documents and annual accounts of public corporations. The estimates for private corporations are mainly prepared using information on financial parameters of non-government companies from MCA21 database provided by Ministry of Corporate Affairs instead of results from RBI sample study of companies. Estimates for Limited Liability Partnerships (LLPs), cooperatives, insurance companies and banks have been obtained from MCA, NABARD and annual reports of IRDA and banks, respectively and included in the private corporate sector. As regards the 'Households' sector, benchmark results obtained from various NSS surveys (especially the capital stock to output/GVA ratios) and growth rates in GVO, GVA etc. are used to obtain the GFCF estimates (by extrapolating the benchmark capital stock data with the growth observed in GVO (or GVA) and taking the difference between two years' capital stock data). The estimates

have been prepared for the disaggregated level of assets, as per SNA 2008, based on the information available.

5.42. Estimates for quasi-corporations have been excluded from the Households Sector and included in private corporations in line with SNA 2008 recommendations. These are detailed below:

- (i) *Unincorporated manufacturing enterprises covered under ASI*: The GFCF estimate obtained from ASI 2011-12 for "Individual Proprietorship, Joint Family (HUF), Partnership, Khadi & Village Industries Commission, Handlooms, Others" was earlier a part of Households Sector, but in the new series, it is now a part of quasi-corporations and hence included in private corporations.
- (ii) *Unincorporated manufacturing (excluding enterprises of (i) above) and non-financial services*: Based on information on the variable "whether accounts maintained" in NSS 67th round Survey on Unincorporated Enterprises, 2010-11, separate capital stock to GVA ratios have been obtained for each of the industry, separately, for those enterprises for which accounts are maintained and those for which accounts are not maintained. In case accounts are maintained, these have been classified into quasi-corporations. Enterprises not maintaining accounts belong to the households sector. Applying the ratio on the GVA (at 2011-12 prices) of the respective industries for quasi-corporations, the estimates of stock of fixed assets for the respective industry at 2011-12 prices are obtained. Taking the difference between two successive years' stock data, the estimate of GFCF at 2011-12 prices has been obtained.
- (iii) *Unorganised financial services*: Capital stock to GVA ratio for all unincorporated enterprises engaged in financial services (maintaining and not maintaining accounts) has been obtained from NSS 67th round Survey on Unincorporated Enterprises, 2010-11, and applied on the GVA of unorganised sector banking (comprising of money lenders, insurance agents and other unincorporated financial enterprises) to get stock of fixed assets. Taking the difference between two successive years' stock data, the estimate of GFCF at 2011-12 prices has been obtained.

5.43. The GFCF estimates of 'Dwellings, Other Buildings & Structures' and 'machinery and equipment' obtained from commodity flow approach for the entire economy have been taken as firmer estimates and the industry-wise GFCF estimates for the Households Sector compiled by the expenditure method, have been adjusted proportionately with the estimates compiled by commodity flow approach (separately for 'Dwellings, Other Buildings & Structures' and 'machinery and equipment'). GFCF in respect of CBR and IPP for the households are as estimated by expenditure approach.

Methodology followed for the Households Sector:

5.44. Broad methodology for industry of use for the Households Sector is the same, except for exclusion of estimates of quasi-corporations and updation of ratios and benchmark estimates from latest surveys. Details are given below:

Agriculture (Crops and Livestock)

5.45. In the new series, estimates of the GFCF in machinery and equipment (ME) for agriculture industry is estimated by using the ex-factory value for agricultural implements from Annual Survey of Industries (ASI) 2011-12 and corresponding part from NSS 67th round Survey on Unincorporated Enterprises, 2010-11, to account for production in unregistered manufacturing. From this total estimate, the estimate of GFCF for agricultural machinery for Households Sector has been derived by subtracting the corresponding estimate for corporations. Applying the ratio observed between the construction (land development and other structures) and ME from AIDIS 2013 on the estimate of GFCF in ME in agriculture, the estimate of GFCF in Dwellings, Other Buildings & structures in agriculture industry is arrived at.

5.46. The estimate of Dwellings, Other Buildings & structures are split into crops industry and livestock industry using information from AIDIS 2013. Ratio of capital expenditure on barns & animal sheds in farm sector to total capital expenditure (including—land development and other structures) is applied on the estimate of Dwellings, Other Buildings & structures for agriculture industry to get the corresponding estimate for livestock industry. The residual is taken in crops industry. The estimate of machinery & equipment for agriculture industry is completely considered as that of crops industry.

5.47. The coverage of capital expenditure in plantation crops has been extended to include an additional plantation crop (cardamom) based on data available from NHB and NABARD for the year 2014-15. Using information on the asset 'Tree, crop and plant resources yielding repeat products' available from the MCA 21 database for private corporations and from budgets, annual reports for public corporations, the capital expenditure for the Households Sector is worked out as a residual.

5.48. Increment in livestock used as capital asset (breeding, dairying and as draught animal) has been estimated using Livestock Census 2012. Here again, the corresponding estimates from MCA 21 database for private corporations and from budgets, annual reports for public corporations, have been used for deriving the estimate for the Households Sector as a residual. The estimate of Households Sector is split into crops industry and livestock industry using ratio of feed of livestock in the two industries.

Forestry and Logging

5.49. In the previous series, estimates of public sector were marked up by 5.0% to account for both private corporations and households due to unavailability of separate data for private sector. However, in the new series, GFCF estimates are separately prepared for the private corporations using MCA 21 database. For the Households Sector, Table on "Area by ownership during 2005-06" from Forestry Statistics India 2007, ICFRE has been used to obtain ratio of ownership of private forests to forests owned by public & corporate bodies. This ratio has been used to obtain GFCF for this industry for the Households Sector.

Mining and quarrying

5.50. Capital stock to output ratio used in 2004-05 series for 2011-12 has been used in the 2011-12 series. This ratio has been applied on the estimate of GVO of minor minerals at 2011-12 prices to get the estimate of stock at 2011-12 prices. Taking the difference between two successive years' stock data, the estimate of GFCF at 2011-12 prices has been obtained.

Electricity, gas and water supply

5.51. Average cost of capital expenditure on biogas plants for 2011-12 has been obtained from Ministry of New and Renewable Energy. This average cost is multiplied by the number of biogas plants installed during the year to get the GFCF for 2011-12. This estimate is moved forward using WPI (Electricity) and number of biogas plants installed, for which information is available regularly from the Ministry of New and Renewable Energy to get the GFCF at current prices for other years.

Construction

5.52. In previous series, in the absence of any survey data on investment in this specific industry, the capital stock to output ratio for Central Non-Departmental Construction Enterprises was applied on the GVO of construction in the Households Sector to get the estimate of stock of fixed assets. In the 2011-12 series, capital stock to output ratio has been worked out using information on XBRL non-government companies (about top 400 companies by sales, after removing outliers) from MCA 21 database.

Unorganised Manufacturing and Non-financial Services (Trade, hotels & restaurants, transport, remediation & other utility services, communication, real estate, education, health, other services)

5.53. For these industries, the ratios of capital stock of fixed assets to GVA for unincorporated household enterprises has been obtained from NSS 67th round Survey on Unincorporated Enterprises, 2010-11, and applied on the respective GVA of Households Sector to get estimates of stock of fixed assets for the respective industry

at 2011-12 prices. Taking the difference between two successive years' stock data, the estimate of GFCF at 2011-12 prices has been obtained. GFCF by assets at current price have been estimated by using the index of general pucca construction, WPI for machinery equipment and WPI for transport equipment.

Ownership of dwellings

5.54. AIDIS, 2013 has been used for estimating GFCF in respect of 'Ownership of dwellings'.

5.55. Table 51 gives the comparative estimates of GFCF by industry for the year 2011-12 in the old (2004-05) series and in the new (2011-12) series.

Table 51. GFCF by industry of use, 2011-12

(Rs. crore)

	Industry	2004-05 series	2011-12 series	% Diff
1	Agriculture and allied	241178	267687	11.0
1.1	Crops	223118	233756	13.8
1.2	Livestock		20197	
1.3	Forestry & logging	2026	1972	-2.7
1.4	Fishing & aquaculture	16034	11762	-26.6
2	Mining & quarrying	103128	69078	-33.0
3	Manufacturing	678425	550645	-18.8
3.1	Organised	573589	452199	-21.2
3.2	Unorganised	104836	98446	-6.1
4	Elect., Gas, Water Supply and other utility services	202214	280882	38.9
5	Construction	142583	146177	2.5
6	Trade, repair, hotels & restaurants.	375213	173330	-53.8
6.1	Trade & Repair Services	314375	139719	-55.6
6.2	Hotels & restaurants	60838	33611	-44.8
7	Transport, storage, communication & services related to broadcasting	252994	223019	-11.8
7.1	Railways	25582	31240	22.1
7.2	Road transport	135487	93613	-9.0
7.3	Water transport		6463	
7.4	Air transport		6185	
7.5	Services incidental to transport		17037	
7.6	Storage		3261	

	Industry	2004-05 series	2011-12 series	% Diff
7.7	Communication & services related to broadcasting	88664	62187	-29.9
8	Financial services	12414	36398	193.2
9	Real estate, ownership of dwellings and professional services	424370	821973	93.7
10	Public Admn. & defence	244503	260299	6.5
11	Other Services	184042	141759	-23.0
12	Total (1 to 11)	2861064	2971246	3.9

Change in stocks by industry

5.56. The estimates of change in stock (CIS) at current prices (CP) and constant prices (KP), and of inventory at CP and KP are being compiled for all the institutional sectors and for each industry, separately. WPI for the appropriate industry group is used to convert CP estimates to KP estimates and vice versa for the specific industry.

5.57. For private corporations (non-government companies, data source: MCA 21) and public corporations (NDEs, data source: annual reports), the estimates of change in stocks have been revalued. For General Government, there is no change in methodology.

5.58. For the quasi-corporations (component of private corporations), change in stock is estimated for only organised manufacturing and Trade from available information on these sectors from ASI and NSS 67th round Survey on Unincorporated Enterprises, 2010-11. The methodology adopted to estimate CIS is first to obtain inventory at current price for the bench mark year. Then deflating the current price estimates of inventory by relevant WPI, the 2011-12 price estimate of inventory is obtained and taking the difference between two successive years' inventory estimates at 2011-12 prices, the estimate of CIS at 2011-12 prices is arrived at. Then the current price estimate of CIS is arrived at by again inflating the 2011-12 price estimates of CIS by the same WPI.

Unincorporated Manufacturing establishments covered in ASI

5.59. Registered unincorporated manufacturing establishments from ASI 2011-12, which were earlier a part of Households Sector in old series, are now included in private corporations. Ratio of inventory to output for these establishments as obtained from ASI 2011-12 has been applied to the corresponding estimate of GVO at current price to get the inventory at current price.

Trade & repair services

5.60. The inventory for 2011-12 has been prepared using NSS 67th round Survey on Unincorporated Enterprises, 2010-11, from which stock of inventory to GVA ratio has been obtained for enterprises engaged in 'Trade & repair services' and maintaining accounts. This ratio has been applied to GVA (Trade & Repair Services) for quasi-corporations to get current price estimate for stock of inventory for 2011-12. The indicators used for estimating the current price estimates of inventory for other years are "outstanding credit by scheduled commercial banks (SCBs) to household for trading" and "food credit by scheduled commercial banks (SCBs)".

5.61. For the Households Sector, at the industry level, although the methodology is broadly the same, the rates/ratios have been updated from the latest available surveys. The data sources used are given below:

Agriculture (Livestock)

5.62. In agriculture sector in households, the change in stocks of inventories is only the increment in livestock not used for production purposes. Latest Livestock Census, 2012, has been used for estimating increment in livestock. Ratios for species-wise estimate for fixed asset (used for breeding, dairying and as draught animal) and change in stock have been updated from this livestock census.

Mining and Quarrying

5.63. Ratio between inventory and output for minor minerals has been updated for 2011-12 from Indian Minerals Year Book, 2012, IBM. This ratio is applied on value of output of minor minerals at current prices to get the inventory at current price.

Registered Manufacturing

5.64. This is now a part of quasi-corporate sector and is explained in previous paragraph.

Unregistered Manufacturing

5.65. The ratio between the inventory and output for this industry obtained from NSS 62nd round enterprise survey on unorganised manufacturing sector, 2005-06 has continued to be used as NSS 67th round Survey on Unincorporated Enterprises, 2010-11, gave change in stocks/inventory estimates only for semi-finished goods. Hence the ratio from NSS 62nd round has been applied on the GVO of unregistered manufacturing for Households Sector at current price to get the inventory at current price.

Trade

5.66. The inventory for 2011-12 has been revised using NSS 67th round Survey on Unincorporated Enterprises, 2010-11, from which stock of inventory to GVA ratio has been obtained for enterprises engaged in Trade and not maintaining accounts. This

ratio has been applied to GVA (Trade) for Households Sector to get current price estimate of stock of inventory for 2011-12. The indicator used for moving forward the estimate for 2011-12 to get the current price estimates of inventory for this industry is the same as in the previous series i.e. "outstanding credit by scheduled commercial banks (SCBs) to households for trading" and "food credit by scheduled commercial banks (SCBs)".

Hotel and Restaurants

5.67. Inventory (per enterprise inventory formation) as used in 2004-05 series has been used in the absence of any other information. NSS enterprise surveys for 2006-07 (report No. 529) and 2010-11 (report No. 549) have been used to get the Intra-survey growth rate for number of estimated enterprises- hotels & restaurants. Multiplying the 'per enterprise estimated inventory' at 2011-12 price with the number of enterprises, the estimate of inventory at 2011-12 price for this industry is arrived at. WPI for all commodities is used to estimate of inventory at current price.

Road Transport

5.68. Ratio of inventory to stock of fixed assets as used in 2004-05 series for 2011-12 has been used. Using the stock of fixed assets of transport equipment in the Households Sector for mechanized road transport at 2011-12 prices, stock of inventory at 2011-12 prices is estimated. It has been seen that the inventory is mainly in terms of tyres and tubes etc. Using WPI for tyres, the current price estimates of inventory are obtained.

5.69. Table 52 gives the industry wise break-up of the estimates of CIS for the year 2011-12 along with the old series estimates, at current prices.

Table 52. CIS by industry of use, 2011-12

(Rs. crore)

Industry	2004-05 series	2011-12 series	% Diff
1 Agriculture and allied	10527	7632	-27.5
1.1 Crops	10166	1614	-29.0
1.2 Livestock		5602	
1.3 Forestry & logging	365	251	-31.2
1.4 Fishing & aquaculture	-4	165	-4225.0
2 Mining & quarrying	3278	-2510	-176.6
3 Manufacturing	87889	76753	-12.7
3.1 Organised	85928	75198	-12.5
3.2 Unorganised	1961	1555	-20.7
4 Elect., Gas, Water Supply and other utility services	7596	5363	-29.4

Industry		2004-05 series	2011-12 series	% Diff
5	Construction	11723	62324	431.6
6	Trade, repair, hotels & restaurants.	37579	31356	-16.6
6.1	Trade & Repair Services	37415	29794	-20.4
6.2	Hotels & restaurants	164	1563	853.0
7	Transport, storage, communication & services related to broadcasting	2158	2777	28.7
7.1	Railways	175	142	-18.9
7.2	Road transport	1546	2533	82.7
7.3	Water transport		903	
7.4	Air transport		99	
7.5	Services incidental to transport		-710	
7.6	Storage	789	415	-47.4
7.7	Communication & services related to broadcasting	-353	-605	71.4
8	Financial services	1101	9766	787.0
9	Real estate, ownership of dwellings and professional services	3590	13283	270.0
10	Public Admn. & defence	5003	1249	-75.0
11	Other Services	151	6561	4245.0
12	Total (1 to 11)	170596	214555	25.8

5.70. Table 53 gives the comparative estimates of GCF by industry of use, for the year 2011-12, in the old (2004-05) series and in the new (2011-12) series.

Table 53. GCF by industry of use, 2011-12

(Rs. crore)

Industry		2004-05 series	2011-12 series	% Diff
1	Agriculture and allied	251705	275319	9.4
1.1	Crops	233284	235370	12.0
1.2	Livestock		25800	
1.3	Forestry & logging	2391	2223	-7.0
1.4	Fishing & aquaculture	16030	11927	-25.6
2	Mining & quarrying	106406	66568	-37.4
3	Manufacturing	766314	627398	-18.1
3.1	Organised	659517	527397	-20.0
3.2	Unorganised	106797	100001	-6.4

Industry		2004-05 series	2011-12 series	% Diff
4	Elect., Gas, Water Supply and other utility services	209811	286244	36.4
5	Construction	154306	208502	35.1
6	Trade, repair, hotels & restaurants.	412792	204686	-50.4
6.1	Trade & Repair Services	351790	169512	-51.8
6.2	Hotels & restaurants	61002	35174	-42.3
7	Transport, storage, communication & services related to broadcasting	255152	225796	-11.5
7.1	Railways	25757	31382	21.8
7.2	Road transport	137033	96146	-8.0
7.3	Water transport		7366	
7.4	Air transport		6284	
7.5	Services incidental to transport		16327	
7.6	Storage		4050	
7.7	Communication & services related to broadcasting	88311	61582	-30.3
8	Financial services	13515	46164	241.6
9	Real estate, ownership of dwellings and professional services	427960	835256	95.2
10	Public Admn. & defence	249506	261548	4.8
11	Other Services	184191	148320	-19.5
12	Total (1 to 11)	3031661	3185801	5.1
13	Valuables	246673	253033	2.6
14	Total GCF*	3278332	3438834	4.9

* Unadjusted for 'Flow of Funds'

Savings

5.71. The estimates of Savings are prepared separately for each of the six institutional sectors namely, General Government, Public Financial Corporations, Public Non-Financial Corporations, Private Financial Corporations, Private Non-Financial Corporations, and Households. In the new series, the major revisions that have taken place are: (i) Physical assets of quasi-corporations have been excluded from households and included in the private corporations; (ii) Savings estimates for Non-Government Non-Financial Companies, previously taken from RBI, have now been derived from MCA 21 database; (iii) Savings estimates for Non-Government financial companies, life & non-life private insurance companies and non-nationalized banks have been taken from analysis of annual accounts of companies and banks; (iv)

Expenditure of households on valuables has been included alongwith the physical assets of households; (v) Addition of organizations for providing provident and pension fund data of households; (vi) Savings of household sector in mutual funds has been taken from analysis of annual accounts of mutual fund companies. Estimates of financial savings of households are compiled by RBI. Separate information on financial savings of quasi-corporations is not available. Therefore, household savings in the form of financial assets continues to include financial savings of quasi- corporations.

5.72. In the earlier series, expenditure of households on purchase of gold and silver ornaments was treated as consumption expenditure and included in PFCE. In the new series, gold and silver ornaments acquired by the households are treated as savings of households in the form of valuables. This has been estimated using information available from NSS 68th round Consumer Expenditure Survey (CES) for the base year. For the subsequent years, this has been estimated using information on corresponding output in the manufacturing sector, duly adjusted by their imports and exports.

5.73. These revisions have resulted in an increase of Rs. 169,467 crore in the Gross Savings of the economy in the year 2011-12. The private financial and non-financial corporations have been revised upwards by Rs. 60,459 crore and Rs. 135,237 crore, respectively, in 2011-12 which is mainly due to change in data source and also inclusion of physical assets of quasi-corporations. The households' savings in physical assets has been revised downward by Rs.84,989 crore due to revisions in the capital formation estimates and exclusion of physical assets of quasi corporations. However, the financial savings have increased by Rs. 11,231 crore. These changes have decreased the savings of household sector by Rs. 40,124 crore for the year 2011-12 in the new series.

5.74. Table 54 gives the comparative estimates of Gross Savings by institutional sectors for the year 2011-12 in the old (2004-05) series and in the new (2011-12) series.

Table 54. Estimates of Gross Savings by Institutional Sectors, 2011-12
(Rs. crore)

Institutional Sector	2004-05 series	2011-12 series	% Difference
1 Private Non-financial corporations	619295	754532	21.8
2 Private Financial corporations	39133	99592	154.5
3 Public Non-Financial corporations#	293716	122853	-2.6
4 Public Financial corporations	NA	163313	
5 General Government	-182421	-160978	-11.8
6 Households Sector	2054737	2014613	-2.0

Institutional Sector	2004-05 series	2011-12 series	% Difference
6.1 Financial Savings	632196	643427	1.8
6.2 Saving in Physical Assets	1422541	1337552	-6.0
6.3 Saving in form of valuables	NA	33635	
7 Total Economy	2824459	2993926	6.0

includes savings of public financial corporation in 2004-05 series

Rate of Savings and Gross Capital Formation

5.75. The estimates of capital formation for this purpose are obtained from flow of funds approach and are equivalent to the Savings plus the net inflow of capital from rest of the world. The comparative estimates of GCF, as estimated from flow of funds for the year 2011-12 are given in Table 55.

Table 55. GCF from Flow of Funds, 2011-12

(Rs. Crore)

Item	2004-05 Series	2011-12 Series	% Difference
Gross Savings	2824459	2993926	6.0
Net Capital Inflow from ROW	376174	376171	0.0
GCF	3200633	3370097	5.3

5.76. Table 56 presents the rates of savings and gross capital formation for the year 2011-12 for the two series. The rates are worked out as a percentage of Gross Savings to GNDI and Gross capital formation to GDP at current prices.

Table 56. Rates of Savings & Gross Capital Formation, 2011-12 to 2013-14

Rates (%)	2011-12		2012-13		2013-14
	2004-05 Series	2011-12 Series	2004-05 Series	2011-12 Series	2011-12 Series
Gross Savings to GNDI	30.6	33.0	29.4	31.1	30.0
Gross Capital Formation to GDP	35.5	38.2	34.8	36.6	32.3
Gross Capital Formation excluding Valuables to GDP	32.8	35.3	32.2	33.9	31.0

It can be observed that these rates also broadly follow a similar pattern as that of the savings rates.

Changes in allocation of FISIM

5.77. FISIM produced by the domestic financial intermediaries is either consumed by producing units or households or exported. Utilizing the sector wise loan and / or deposit for each of the financial institutions as indicator, total FISIM is allocated to different users (intermediate use or final use).

5.78. In the earlier series, the allocation of FISIM, specifically that generated by the Scheduled Commercial Banks, was made using the aggregate credit and deposit of different industries, as obtained from the RBI. However, in this set of information received from RBI, credit and deposit figures are provided for the Government as well as financial institutions. But, the financial intermediaries themselves produce FISIM. Therefore, FISIM cannot be considered as being consumed by the financial corporations. Further, the RBI clarified that the RBI keeps the accounts of all the Governments, both Central and State, as a banker to the Government. Thus, the Government sector also does not consume any FISIM. Keeping in view the above-mentioned facts, in the new series, allocation of FISIM, generated as an output by the financial corporations, has been made to all the industries in proportion to the aggregate of credits and deposits of these industries, except for two institutional sectors, namely, General Government and Financial Corporations. The industry-wise allocation of FISIM in the old & new series is presented in the Table 57.

Table 57. Industry-wise FISIM at current prices, 2011-12

(Rs. Crore)

S. No.	Industry	2004-05 series	2011-12 Series	% Difference
1	Agriculture	19536	31543	61.5
2	Live Stock	352	216	-38.6
3	Forestry	343	215	-37.3
4	Fishing	23	15	-36.9
5	Mining & Quarrying	1508	1634	8.4
6	Manufacturing	55507	64377	16.0
6.1	Registered	55123	59250	7.5
6.2	Un-registered	384	5127	1234.1
7	Construction	32520	26514	-18.5
8	Electricity	17613	17306	-1.7
9	Gas	399	272	-31.7
10	Transport	5542	5019	-9.4
11	Storage	37	28	-26.2
12	Trade & Repair Services	21723	26017	19.8
13	Hotels & Restaurants	2111	2508	18.8
14	Business and Service	5933	7059	19.0

S. No.	Industry	2004-05 series	2011-12 Series	% Difference
15	Financial	24612	0	-100.0
16	Personal (Household)	105038	157787	50.2
17	Government	45427	0	-100.0
18	Railways	1138	393	-65.4
19	Other Services	8949	10702	19.6
20	Miscellaneous	0	0	
21	Foreign	4351	4648	6.8
22	Communication	2871	3352	16.7
	TOTAL	355536	359606	1.1

ANNEXURE-I**GVA AT BASIC PRICES FOR THE YEAR 2011-12
By Industry and Institutional Sector****(Rs. crore)**

S. No.	Item	GG	DE	NDE	Pvt. Corp	HH	Total
1.	Agriculture, forestry and fishing		40171	2077	37002	1426330	1505580
1.1	Crops		31678	1130	34751	919045	986604
1.2	Livestock				1159	322854	324013
1.3	Forestry and logging		8493	926	174	119512	129105
1.4	Fishing and aquaculture			21	918	64919	65858
2.	Mining and quarrying			161810	43508	57495	262813
3.	Manufacturing		27344	105779	1169029	180006	1482158
3.1	Food Products, Beverages and Tobacco		984	11334	115240	36653	164211
3.2	Textiles, Apparel and Leather Products			63	101673	47959	149695
3.3	Metal Products		3093	19436	246017	26281	294827
3.4	Machinery and Equipment		18057	28541	254695	15193	316486
3.5	Other manufactured Goods		5210	46405	451404	53920	556939
4.	Electricity, gas, water supply & other utility services	19166	10058	111072	48060	6047	194403
5.	Construction	42781	11758	3455	131547	584552	774093
6.	Trade, repair, hotels and restaurants		255	20430	367055	495217	882957
6.1	Trade & repair services		255	19797	327650	445294	792996
6.2	Hotels & restaurants			634	39404	49924	89962
7.	Transport, storage, communication & services related to broadcasting		76692	52552	193297	207622	530163
7.1	Railways		59928	1255	27		61210
7.2	Road transport		3004	17646	44846	195392	260888
7.3	Water transport		655	454	5054	1029	7193
7.4	Air transport		50	980	3424		4454
7.5	Services incidental to transport		369	9975	50247	2982	63573
7.6	Storage			1935	2589	768	5292
7.7	Communication & services related to broadcasting		12686	20307	87109	7451	127553
8.	Financial services		5627	244178	230427		480232
9.	Real estate, ownership of dwelling & professional services	1704		3385	459268	594985	1059342
10.	Public administration and defence	492405					492405
11.	Other services	238919		617	165067	126796	531398
	TOTAL GVA at basic prices	794975	171905	705356	2844259	3679050	8195546

**COMPILATION CATEGORIES ADOPTED IN NEW SERIES (B.Y. 2011-12)
AND THEIR CONCORDANCE WITH NIC 2008**

Sl. No.	Compilation Category	NIC 2008
1.	Agriculture, forestry & fishing	
1.1.	Crops & Livestock	01
1.2.	Forestry	02
1.3.	Fishing & aquaculture	03
2.	Mining & quarrying	05-09
3.	Manufacturing	
3.1.	<i>Manufacturing of food products, beverages and tobacco</i>	
3.1.1.	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	101-104
3.1.2.	Manufacture of dairy products	105
3.1.3.	Manufacture of grain mill products, etc. and animal feeds	106+108
3.1.4.	Manufacture of other food products	107
3.1.5.	Manufacture of beverages	11
3.1.6.	Manufacture of tobacco products	12
3.2.	<i>Manufacturing of textiles, apparel & leather products</i>	
3.2.1.	Manufacture of textiles + cotton ginning	13+01632
3.2.2.	Manufacture of wearing apparel, except custom tailoring	14-14105
3.2.3.	Manufacture of leather and related products	15
3.3.	<i>Manufacturing of metal products</i>	
3.3.1.	Manufacture of Basic Iron and Steel + Casting of iron and steel	241+2431
3.3.2.	Manufacture of basic precious and non-ferrous metals + Casting of non-ferrous metals	242+2432
3.3.3.	Manufacture of fabricated metal products, except machinery and equipment	25
3.4.	<i>Manufacturing of machinery and equipment</i>	
3.4.1.	Manufacture of electronic component, consumer electronics, magnetic and optical media	261+264+268

Sl. No.	Compilation Category	NIC 2008
3.4.2.	Manufacture of computer and peripheral equipment	262
3.4.3.	Manufacture of communication equipment	263
3.4.4.	Manufacture of optical and electronics products n.e.c	265+266+267
3.4.5.	Manufacture of Electrical equipment	27
3.4.6.	Manufacture of machinery and equipment n.e.c	28
3.4.7.	Manufacture of Transport	29+30
3.5.	<i>Manufacturing of other goods</i>	
3.5.1.	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material	16
3.5.2.	Manufacture of paper and paper products	17
3.5.3.	Printing and reproduction of recorded media except publishing	18
3.5.4.	Manufacture of coke and refined petroleum products	19
3.5.5.	Manufacture of chemical and chemical products except pharmaceuticals, medicinal and botanical products	20
3.5.6.	Manufacture of pharmaceutical; medicinal chemicals and botanical products	21
3.5.7.	Manufacture of rubber & plastic products	22
3.5.8.	Manufacture of other non-metallic mineral products	23
3.5.9.	Manufacture of furniture	31
3.5.10.	Other Manufacturing	32
3.5.11.	Repair and installation of machinery and equipment	33
4.	Electricity, gas, water supply and other utility services	
4.1.	Electricity	351
4.2.	Gas – Manufacture & distribution	352+353
4.3.	Water Supply	36
4.4.	Sewerage, waste management and remediation activities	37,38,39
5.	Construction	Industry divisions 41,42,43

Sl. No.	Compilation Category	NIC 2008
6.	Trade, repair, hotels & restaurants	
6.1.	Trade & repair services	
6.1.1.	Trade and repair of motor vehicles (including motor cycles) and retail sale of automotive fuel	45+473
6.1.2.	Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets	46+92001
6.1.3.	Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets	47-473+92002
6.1.4.	Repair of computers and personal and household goods	95
6.2.	Hotels & Restaurants	55, 56
7.	Transport, storage, communication & services related to broadcasting	
7.1.	Transport	
7.1.1.	Transport via Railways	491
7.1.2.	Road transport	492
7.1.2.1.	Mechanized Road Transport	492-49226-49232
7.1.2.2.	Non-mechanized Road Transport	49226+49232
7.1.3.	Water Transport	50
7.1.4.	Air Transport	51
7.1.5.	Services incidental to transport	522
7.2.	Storage	521
7.3.	Communication & services related to broadcasting	
7.3.1.	Postal activities	531
7.3.2.	Courier activities	532
7.3.3.	Activities of cable operators	61103
7.3.4.	Telecommunication	61-61103
7.3.5.	Recording, Publishing and Broadcasting services	58,59,60
8.	Financial Services	64,65,66
9.	Real estate, ownership of dwellings and professional services	
9.1.	Real estate and ownership of dwellings	68
9.1.1.	Real Estate activities	68 – 681 (p)
9.1.2.	Ownership of dwellings	681 (p)
9.2.	Professional services	
9.2.1.	Computer and information related services	62,63

Sl. No.	Compilation Category	NIC 2008
9.2.2.	Professional, scientific and technical activities (including R&D)	70 to 75
9.2.3.	Administrative & support service activities and other professional activities	
9.2.3.1.	Legal activities	691
9.2.3.2.	Accounting & book keeping activities	692
9.2.3.3.	Rental and leasing services	77
9.2.3.4.	Administrative and support services excluding rental and leasing services	78 to 82
10.	Public Administration and defence	84
11.	Other Services	
11.1.	Education (including coaching and tuition)	85
11.2.	Human health activities and care services with/without accommodation	86,87,88
11.3.	Recreational, cultural and sporting activities	90,91,92 (-92001,92002),93
11.4.	Activities of membership organisations	94
11.5.	Personal Services & Other Services, n.e.c	
11.5.1.	Washing & cleaning of textiles and fur products	9601
11.5.2.	Hair dressing and other beauty treatment	9602
11.5.3.	Custom tailoring	14105
11.5.4.	Other personal service activities	9609,9603
11.6.	Private households with employed persons	97

**Estimates for the base year for Unincorporated Enterprises of
Manufacturing and Non-financial Services**

**III. 1 Estimates of Unincorporated Manufacturing for the Base Year
2011-12 derived using effective LI method**

$$GVA = \text{Effective LI} \times \text{GVA per Effective Worker (GVAPEW)}$$

Sl. No.	Activity	Effective LI (Number)	Effective GVAPW (Rupees)
1	Cotton ginning, cleaning and baling	36743	99752
2	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats	497592	193866
3	Manufacture of dairy product	115027	130753
4	Manufacture of grain mill products, etc. and animal feeds	1035359	132323
5	Manufacture of other food products	1411621	91511
6	Manufacture of beverages	139125	114838
7	Manufacture of tobacco products	1246466	65662
8	Spinning, weaving and finishing of textile+ Other textiles+ Knitted and crocheted fabrics and articles	4747232	105886
9	Wearing apparel, except fur apparel and tailoring	1169420	91728
10	Dressing and dyeing of fur; manufacture of articles of fur and tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	930792	104729
11	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials	1738745	112971
12	Manufacture of furniture	1316920	135545
13	Manufacture of Paper And Paper Products and publishing, printing and reproduction of recorded media	870685	139744

Sl. No.	Activity	Effective LI (Number)	Effective GVAPW (Rupees)
14	Manufacture of coke, refined petroleum products and nuclear fuel and rubber and plastic products	544142	108649
15	Manufacture of chemical and chemical products	824971	89253
16	Manufacture of other non-metallic mineral products	3926903	74233
17	Manufacture of Basic Iron & Steel+ Casting of iron and steel	497674	170256
18	Manufacture of basic precious and non-ferrous metals+ Casting of non-ferrous metals	69254	88923
19	Recycling of metal waste and scrap+ non-metal waste and scrap	368141	87457
20	Manufacture of fabricated metal products, except machinery and equipment	2071843	115431
21	Manufacture of machinery and equipment n.e.c + office, accounting and computing machinery	639241	125067
22	Electrical machinery and apparatus n.e.c.+ radio, television and communication equipment and apparatus	663128	113192
23	Manufacture of medical, precision and optical instruments, watches and clocks+ Manufacturing n.e.c	2392901	80872
24	Manufacture of motor vehicles, trailers and semi-trailers+ manufacture of other transport equipment	446654	143210

III. 2 Estimates of Unincorporated Non-financial Services for the Base Year 2011-12 derived using LI method

LI Method: $GVA = LIR \times GVAPWR(Est) + LIU \times GVAPWU(Directory\ Establishment)$

Sl. No.	Compilation Category	LI (Number)		GVAPW (Rupees)	
		Rural	Urban	Rural (Est.)	Urban (DE)
1.	Maintenance and repair of motor vehicles and motor cycles	727422	1688196	73559	90982
2.	Sale of motor vehicles	227743	669317	357360	218259
3.	Whole sale trade except of motor vehicles	1738747	3678356	96490	191436
4.	Repair of personal and household goods	1492616	1471320	45926	71139
5.	Retail trade (except motor vehicle)	17682870	19842156	101884	191015
6.	Hotel & Restaurants	2979529	4908952	69283	104105
7.	Other non-scheduled passenger land transport	1197822	746105	72871	49942
8.	Freight transport other than by motor vehicles	632143	511749	86216	71929
9.	Other communication	53798	193699	32130	275232

III. 3 Estimates of Unincorporated Non-financial Services for the Base Year 2011-12 derived using effective LI method

$GVA = Effective\ LI \times GVA\ per\ Effective\ Worker\ (GVAPEW)$

Sl. No.	Compilation Category	Effec. LI (Number)	Effec. GVAPW (Rupees)
1.	Scheduled passenger land transport	1097186	260483
2.	Non-scheduled passenger land transport by motor vehicles	3554937	231756
3.	Freight transport by motor vehicles	4394989	216125
4.	Services incidental to transport	795790	168063
5.	Courier activities	164002	112566
6.	Cable operator	154745	134293

Sl. No.	Compilation Category	Effec. LI (Number)	Effec. GVAPW (Rupees)
7.	Professional, scientific and technical activities (including R&D)	1999441	141299
8.	Activities Of Membership Organisations n.e.c.+ Social work with accommodation	527049	119164
9.	Recreational, cultural and sporting activities	1068650	170725
10.	Washing and cleaning of textile and fur products	441101	129476
11.	Hair dressing and other beauty treatment	1071007	118551
12.	Custom Tailoring	3240627	96049
13.	Funeral and related activities	1782189	135856

III. 4 Estimates of Unincorporated Non-financial Services for the Base Year 2011-12 derived using modified effective LI method

$$\text{GVA} = \text{Effective LI (rural)} \times \text{GVAPEW (rural establishment)} + \text{LI (urban)} \times \text{GVAPEW (urban directory establishment)}$$

Sl. No.	Compilation Category	Effective LI (Number)		GVAPEW (Rupees)	
		Rural	Urban	Rural (est.)	Urban (DE)
1.	Water Transport	65200	356971	20405	26554
2.	Storage	80736	150968	101557	53132
3.	Real Estate Activities	110972	435604	205832	540849
4.	Renting of machinery & equipment without operator, personal / household goods	62521	88157	249304	287894
5.	Computer and Related activities	82364	197529	77131	606262
6.	Legal activities	106022	692120	150029	441462
7.	Accounting, book-keeping	138657	228116	36682	259623
8.	Coaching centres + Activities of the individuals providing tuition	41609	359832	664541	848240
9.	Education excluding (Coaching centres + Activities of the individuals providing tuition)	75821	94201	1668175	2287797
10.	Human health activities	106059	167162	704927	1344153
11.	Sewerage And Refuse Disposal, Sanitation And Similar Activities	84592	112315	106721	74572

ANNEXURE-IV

IV.1 List of indicators used for estimating Value Added in the Manufacturing Sector in the Old Series (B.Y. 2004-05) and in the New Series (B.Y. 2011-12) – Current Prices

S. No.	Institution	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
1	Factories Registered Under Factories Act (covered by ASI)	Compilation category wise IIP & WPI till ASI result available	-
2	Quasi corporate - Proprietary, Partnerships, KVI- from ASI	-do-	Compilation category wise IIP & WPI till ASI result available
3	DEs (incl Railway Workshops)	Revised Estimates from Budget followed by Actual Estimates	Revised Estimates from Budget followed by Actual Estimates
4	NDEs	<i>Not taken separately</i>	Growth from accounts of common Companies, applied to all Companies till final accounts become available
5	Private Corporate	<i>Not taken separately</i>	-do-
6	Unorganised	Estimates compiled compilation category-wise by using IIP and WPI	Estimates compiled compilation category-wise by using IIP and WPI, till ASI data becomes available

IV. 2 List of indicators used for estimating Value Added in the Manufacturing Sector in the Old Series (B.Y. 2004-05) and in the New Series (B.Y. 2011-12) – Constant Prices

S.No.	Institution	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
1	Factories Registered Under Factories Act (covered by ASI)	Current price estimates deflated by relevant WPI	-
2	ASI (Quasi corporate) - Proprietary, Partnerships, KVI	-do-	Actual estimates of current price deflated by relevant WPI
3	DEs (incl Railway Workshops)	-do-	-do-
4	NDEs	<i>Not taken separately</i>	-do-
5	Private Corporate	<i>Not taken separately</i>	-do-
6	Unorganised	Benchmark estimates moved using IIP	-do-

ANNEXURE-V

V. 1: List of indicators used for estimating Value Added for each Compilation Category in the Unorganised Non-Financial Services Sector in the Old Series (B.Y. 2004-05) and in the New Series (B.Y. 2011-12) – Current Prices

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
1.	Maintenance and repair of motor vehicles and motor cycles	GTI index	Motor vehicles Sales growth * WPI
2.	Sale of motor vehicles	GTI index	Total sales tax converted to turnover and adjusting for private corporate and NDEs give turnover for sales tax paying unorganised sector. Growth is used as an indicator
3.	Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets	GTI index	As in 2
4.	Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets	GTI index	As in 2
5.	Repair of computers and personal and household goods*	GTI index	Service tax growth
6.	Hotels & Restaurants	GTI index	Corporate growth
7.	Scheduled passenger land transport	Growth in registered vehicles * WPI	Growth in registered vehicles * CPI (Transport & Communication)
8.	Non-scheduled passenger land transport by motor vehicles		
9.	Freight transport by motor vehicles		
10.	Other non-scheduled passenger land transport		
11.	Freight transport other than by motor vehicles	LI method	
12.	Water Transport	Index of cargo handled at major and	Index of cargo handled at major and

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
		minor ports X WPI	minor ports X WPI
13.	Storage and warehousing	LI method	Corporate growth
14.	Services incidental to transport*	Combined growth of Road, Water and Air transport	Combined growth of Road & Water Transport
15.	Courier activities	LI method	Service tax growth
16.	Cable operator	LI method	Service tax growth of cable operators
17.	Telecommunication #	Growth in subscribers/minutes of usage & Implicit price deflator of Private corporate	
18.	Recording, Publishing and Broadcasting services^		Corporate growth
19.	Real Estate Activities	LI method	Corporate growth
20.	Computer and information related services*	Private corporate growth	
21.	Professional, scientific and technical activities (including R&D)*	LI method	
22.	Administrative & support service activities excluding rental and leasing services*	LI method	
23.	Rental and leasing services	LI method	
24.	Legal activities	LI method	
25.	Accounting, book-keeping	LI method	
26.	Ownership of dwellings	Rural : User cost approach Urban : Gross rentals – R&M	Same as in earlier series.
27.	Coaching centres + Activities of the individuals providing tuition	LI method	Growth in consumer expenditure
28.	Education excluding Coaching centres +	Growth in consumer	

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
	Activities of the individuals providing tuition)	expenditure	
29.	Human health activities and care services with/without accommodation*	Growth in consumer expenditure	
30.	Sewage And Refuse Disposal, Sanitation And Similar Activities	LI method	Now a component of utilities sector
31.	Activities Of Membership Organisations*	LI method	Service tax growth
32.	Recreational, cultural and sporting activities*	LI method	Growth in non-food consumer expenditure
33.	Washing and cleaning of textile and fur products	LI method	-do-
34.	Hair dressing and other beauty treatment	LI method	Service tax growth
35.	Custom Tailoring	LI method	Growth in non-food consumer expenditure
36.	Other personal services	Population Growth	-do-
37.	Private households employing staff	LI method	LI method

Earlier classified as Other Communication.

^ New category

* Modified category

V. 2: List of indicators used for estimating Value Added for each Compilation Category in the Unorganised Non-Financial Services Sector in the Old Series (B.Y. 2004-05) and in the New Series (B.Y. 2011-12) – Constant Prices

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
1.	Maintenance and repair of motor vehicles and motor cycles	GTI index	Motor vehicles Sales growth
2.	Sale of motor vehicles	GTI index	Current prices using deflated WPI/CPI
3.	Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets	GTI index	
4.	Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets	GTI index	
5.	Repair of computers and personal and household goods*	GTI index	
6.	Hotels & Restaurants	GTI index	
7.	Scheduled passenger land transport	Growth in registered vehicles	
8.	Non-scheduled passenger land transport by motor vehicles	Growth in registered vehicles	
9.	Freight transport by motor vehicles	Growth in registered vehicles	
10.	Other non-scheduled passenger land transport	Moved using LI growth	
11.	Freight transport other than by motor vehicles	Moved using LI growth	
12.	Water Transport	Index of cargo handled at major and minor ports	Moved using Index of cargo handled at major and minor ports.
13.	Storage and warehousing	Moved using LI growth	Current prices deflated using WPI
14.	Services incidental to transport*	Combined growth of Road, Water and Air transport	Moved using combined growth of Road & Water Transport

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
15.	Courier activities	Moved using LI growth	Current prices deflated using CPI (Transport & Communication)
16.	Cable operator		
17.	Telecommunication #	Growth in subscribers	Moved using growth in minutes of usage
18.	Recording, Publishing and Broadcasting services^		Current prices deflated using CPI (Transport & Communication)
19.	Real Estate Activities	Moved using LI growth	Current prices deflated by CPI (misc. services)/WPI
20.	Computer and information related services*		
21.	Professional, scientific and technical activities (including R&D)*		
22.	Administrative & support service activities excluding rental and leasing services*		
23.	Rental and leasing services		
24.	Legal activities		
25.	Accounting, book-keeping		
26.	Ownership of dwellings	Rural: current price deflated by CPI (AL) Urban: Using growth in no. of dwellings	Current price deflated by CPI (R) Same as in earlier series.
27.	Coaching centres + Activities of the individuals providing tuition	Moved using LI growth.	Current prices deflated by CPI (Education)
28.	Education excluding (Coaching centres + Activities of the individuals providing tuition)		
29.	Human health activities and care services with/without accommodation*		Current prices deflated by CPI (Health)
30.	Sewage And Refuse Disposal, Sanitation And Similar Activities		Now a component of utilities sector
31.	Activities Of Membership Organisations*		Current prices deflated by CPI (misc. services)

S.No.	Compilation Category	Earlier Indicator (2004-05 series)	Present Indicator (2011-12 series)
32.	Recreational, cultural and sporting activities*		Current prices deflated by CPI (recreation)
33.	Washing and cleaning of textile and fur products		Current prices deflated by CPI (misc. services)
34.	Hair dressing and other beauty treatment		
35.	Custom Tailoring		
36.	Other personal services	Population Growth	
37.	Private households employing staff	Moved using LI growth	Current prices deflated by CPI (general index)

Earlier classified as Other Communication.

^ New category

* Modified category

ANNEXURE-VI

**ESTIMATES OF GVA FOR THE NON-FINANCIAL PRIVATE
CORPORATE SECTOR FOR THE YEAR 2011-12**

(Rs. crore)

Sl. No.	Compilation Category	GVA in Rs. Cr. 2011-12						
		2011-12 Series					2004-05 Series	% diff
		23 AC/AC A	XBRL	NPL	LLP	total		
(1)	(2)	(3)	(4)	(5)	(6)	(7) =(3)+(4) +(5)+(6)	(8)	(9)
1.	Agriculture, forestry & fishing	5173	3678	18	9	8878	35591	-75.1
1.1.	Crops & Livestock	4735	3026	17	9	7787		
1.2.	Forestry	105	68	0	0	173		
1.3.	Fishing & aquaculture	333	584	0	0	917		
2.	Mining & quarrying	4946	34203	1	9	39159	23001	70.2
3.	Manufacturing	138522	841623	26	281	980452	761593	28.7
4.	Electricity, gas, water supply and other utility services	31674	20177	3	397	52252	19658	165.8
4.1.	Electricity	30330	15376	1	391	46098		
4.2.	Gas – Manufacture & distribution	302	4267	0	0	4569		
4.3.	Water Supply	755	234	1	6	996		
4.4.	Sewerage, waste management and remediation activities	287	300	1	0	588		
5.	Construction	35357	102415	16	454	138242	101355	36.4
6.	Trade, repair, hotels & restaurants	29234	70743	19	582	100578	274582	-63.4
6.1.	Trade & repair services	21565	59104	17	567	81253		
6.1.1.	Trade and repair of motor vehicles (including motor cycles) and retail sale of automotive fuel	1679	2018	0	2	3699		
6.1.2.	Wholesale trade except of motor vehicles and motor cycles + Wholesale of lottery tickets	17281	46970	17	484	64753		
6.1.3.	Retail trade except of motor vehicles and motor cycles + retail sale of lottery tickets	2605	10116	0	81	12802		
6.2.	Hotels & Restaurants	7669	11639	2	15	19325		
7.	Transport, storage, communication & services related to broadcasting	35578	119763	108	47	155495	91705	69.6
7.1.	Transport	30666	41547	93	46	72351		
7.1.1.	Transport via Railways	0	27	0	0	27		
7.1.2.	Road transport	7130	8910	22	11	16072		
7.1.3.	Water Transport	1434	3591	68	0	5093		

Sl. No.	Compilation Category	GVA in Rs. Cr. 2011-12						
		2011-12 Series					2004-05 Series	% diff
		23 AC/AC A	XBRL	NPL	LLP	total		
(1)	(2)	(3)	(4)	(5)	(6)	(7) =(3)+(4) +(5)+(6)	(8)	(9)
7.1.4.	Air Transport	0	3476	0	0	3476		
7.1.5.	Services incidental to transport	22102	25543	3	35	47683		
7.2.	Storage	1371	381	0	0	1752		
7.3.	Communication & services related to broadcasting	3541	77835	15	1	81392		
7.3.2.	Courier activities	875	1569	0	0	2444		
7.3.4.	Telecommunication	252	66097	0	1	66350		
7.3.5.	Recording, Publishing and Broadcasting services	2414	10169	14	0	12597		
9.	Real estate, ownership of dwellings and professional services	122190	274384	234	1124	397932	321750	23.7
9.1.	Real estate and ownership of dwellings	21088	12499	12	560	34160		
9.1.1.	Real Estate activities	21088	12499	12	560	34160		
9.1.2.	Ownership of dwellings					0		
9.2.	Professional services	101102	261885	222	564	363773		
9.2.1.	Computer and information related services	42826	183750	4	189	226769		
9.2.2.	Professional, scientific and technical activities (including R&D)	57762	69875	198	373	128208		
9.2.3.	Administrative & support service activities and other professional activities	514	8260	19	2	8795		
11.	Other Services	54470	18163	1204	164	74001	143796	-48.5
11.1.	Education (including coaching and tuition)	3243	3149	354	8	6754		
11.2.	Human health activities and care services with/without accommodation	10065	9290	169	31	19555		
11.3.	Recreational, cultural and sporting activities	2449	3515	93	4	6061		
11.4.	Activities of membership organisations	151	264	108	1	523		
11.5.	Personal Services	3823	1945	481	120	6369		
11.6.	Other Services n.e.c	34738				34738		
	Total Non-financial Corporations	457144	1485149	1628	3067	1946989	1773031	9.8

Note: Financial Services, Postal services, Repair Services and Public Administration are not shown in the table since they do not belong to the 'Non-financial Corporations' Sector.

Classification of Taxes and Subsidies as Production/Product

VII.1 List of Taxes treated as Product Taxes

Major Head	Minor Head	Description of Product Tax
Major Head 0023: Hotel Receipts Tax		
0023	101	Collections from Hotels which are companies
0023	102	Collections from Hotels which are non-companies
Major Head 0024: Interest Tax		
0024	102	Collection under the Interest Tax Act
Major Head 0028: Other Taxes on Income & Expenditure		
0028	109	Expenditure Tax Act, 1987
Major Head 0037: Customs		
0037	101	Imports
0037	102	Exports
0037	103	Cesses on Exports
0037	108	Safeguard Duty
0037	109	Additional Duty of Customs on Tea And Tea Waste
0037	504	Primary Education Cess
0037	505	Secondary & Higher Education Cess
Major Head 0038: Union Excise Duties		
Sub Major Head 01: Shareable Duties		
0038	101	Basic Excise Duties
0038	102	Auxiliary duties of Excise
0038	103	Additional Excise Duties on Mineral Products
0038	104	Special Excise Duties
0038	700	Receipts under Kar Vivad Samadhan Scheme,1998
Sub Major Head 02: Duties assigned to State		
0038	101	Additional Excise Duties in lieu of Sales Tax
0038	102	Excise Duty on Generation of Power
Sub Major Head 03: Non-Shareable Duties		
0038	101	Regulatory Excise Duties
0038	102	Auxiliary Duties of Excise
0038	103	Special Excise Duties
0038	104	Additional Excise Duties on Textiles and Textile Articles
0038	105	Additional Excise duty on T.V Sets
0038	106	Additional Excise Duties on indigenous Motor Spirit
0038	107	Additional Excise Duty on High Speed Diesel Oil

Major Head	Minor Head	Description of Product Tax
0038	108	National Calamity Contingent Duty
0038	109	Special Additional Duty of Excise on Motor Spirit
0038	110	Additional Duty of Excise on Tea & Tea waste
0038	111	Additional Duty of Excise on Pan Masala & certain Tobacco Product
0038	112	Clean Energy Cess
0038	504	Primary Education Cess
0038	505	Secondary & Higher Education Cess
0038	700	Receipts under Kar Vivad Samadhan Scheme,1998
<i>Sub Major Head 04: Cesses on Commodities</i>		
0038	101	Cess on Coal and Coke
0038	102	Cess on Jute
0038	103	Cess on Tea
0038	104	Cess on Copra
0038	105	Cess on Oil and Oil Seeds
0038	106	Cess on Cotton
0038	107	Handloom Cess on Rayon and Artsilk Fabs
0038	108	Handloom Cess on Woollen Fabrics
0038	109	Handloom Cess on Cotton Fabrics
0038	110	Cess on Iron Ore
0038	111	Cess on MICA
0038	112	Cess on Limestone and Dolomite
0038	113	Cess on Salt
0038	114	Cess on Bidi
0038	115	Cess on Tobacco
0038	116	Cess on Rubber
0038	117	Cess on Crude Oil
0038	118	Cess on Coffee
0038	119	Cess on Sugar
0038	120	Cess on Condenser
0038	121	Cess on Manganese
0038	122	Cess on Cardamom
0038	123	Handloom Cess on Manmade Fabrics
0038	124	Cess on Paper
0038	125	Cess on Straw Board
0038	126	Cess on Electricity
0038	127	Cess on Vegetable Oils
0038	128	Cess on Automobiles
0038	129	Cess on Textiles and Textile Machinery
0038	130	Cess on Feature Films

Major Head	Minor Head	Description of Product Tax
0038	131	Cess on Matches
0038	200	Cess on Other Commodities
Major Head 0039: State Excise		
0039	101	Country Spirit
0039	102	Country Fermented Liquor
0039	103	Malt Liquor
0039	104	Liquor
0039	105	Foreign Liquors and spirits
0039	106	Commercial and denatured spirits and medicated wines
0039	107	Medicinal and toilet preparations containing alcohol, opium etc.
Major Head 0040: Taxes on Sales, Trade etc.		
0040	101	Receipts under the Central Sales Tax Act
0040	102	Receipts under State Sales Tax Act
0040	110	Trade Tax
Major Head 0041: Taxes on Vehicles		
0041	102	Receipts under State Motor Vehicle Taxation Act
Major Head 0042: Taxes on Goods & Passengers		
0042	103	Tax Collections-Passenger Tax
Major Head 0043: Taxes & Duties on Electricity		
0043	101	Taxes on consumption and sale of Electricity
Major Head 0044: Service Tax		
0044	101	Tax on Telephone Billing
0044	102	Tax on General Insurance Premium
0044	103	Tax on Stock Brokerage Commission
0044	104	Advertising Services
0044	105	Courier Services
0044	106	Radio and Paging Services
0044	107	Custom House Agent Services
0044	108	Steamer Agent Services
0044	109	Air Travel Agent Services
0044	110	Mandap Keeper Services
0044	111	Clearing and Forwarding Agent Services
0044	112	Rent a cab scheme operator Services
0044	113	Outdoor Caterers Services
0044	114	Pandal or Shamiana Contractor Services
0044	115	Consulting Engineer Services
0044	116	Manpower Recruitment Services
0044	117	Tour Operator Services
0044	118	Goods Transport Operator Services

Major Head	Minor Head	Description of Product Tax
Major Head 0044: Service Tax		
0044	119	Architect Services
0044	120	Interior Decoration/Designers Services
0044	121	Mechanised Slaughter House Services
0044	122	Under Writer Services
0044	123	Credit Rating Agency Services
0044	124	Chartered Accountant Services
0044	125	Cost Accountant Services
0044	126	Company Secretary Services
0044	127	Real Estate Agent/ Consultant Services
0044	128	Security/ Detective Agency Services
0044	129	Market Research Agency Services
0044	130	Management Consultant Services
0044	131	Scientific and Technical Consultancy Services
0044	132	Photography Services
0044	133	Convention Services
0044	134	Leased Circuit Services
0044	135	Telegraph Services
0044	136	Telex Services
0044	137	Facsimile Services
0044	138	Online Information and Database Access and/or Retrieval Services
0044	139	Video Tape Production Services
0044	140	Sound Recording Services
0044	141	Broadcasting Services
0044	142	Insurance Auxiliary Services
0044	143	Banking and other Financial Services
0044	144	Port Services
0044	145	Service on Repair Provided by Authorised Service Station for Motor Car and Two Wheeled Vehicles
0044	146	Life Insurance Services including Insurance Auxiliary Services
0044	147	Cargo Handling Services
0044	148	Storage and Warehouse Services
0044	149	Event Management Services
0044	150	Rail Travel Agent Services
0044	151	Health club and Fitness Centres Services
0044	152	Beauty Parlour Services
0044	153	Fashion Designing Services
0044	154	Cable Operator Services
0044	155	Dry cleaning Services

Major Head	Minor Head	Description of Product Tax
Major Head 0044: Service Tax		
0044	156	Business Auxiliary Services
0044	157	Commercial Training and Coaching Centre
0044	158	Commissioning and Installation Agency
0044	159	Franchise Services
0044	160	Internet Cafe
0044	161	Maintenance and Repair Services
0044	162	Technical Testing and Analysis-Technical Inspection and Certify
0044	163	Business Exhibition Services
0044	164	Airport Services
0044	165	Transport of Goods by Road
0044	166	Transport of Goods by Air
0044	167	Survey & Exploration of Minerals
0044	168	Opinion Poll Services
0044	169	Intellectual Property Services other than copyright
0044	170	Forward Contract Services
0044	171	TV Radio Programme Production
0044	172	Construction Services in respect of Commercial or Industrial Buildings and Civil Structures
0044	173	Travel agents (other than AIR/Travel Agents)
0044	174	Transport of Goods through Pipeline etc.
0044	175	Site formation & Clearance, Excavation & Earth moving & Demolition Services other than those provided to Agriculture, Irrigation & Water shade Development
0044	176	Dredging Service of River, Port, Harbour, Backwater Estuary
0044	177	Survey & Map making other than those by Govt. Deptt.
0044	178	Cleaning Services other than in relation to Agriculture, horticulture
0044	179	Membership of Club or Association with specified exclusions
0044	180	Packaging Services
0044	181	Mailing List Compilation and Mailing
0044	182	Construction of Residential Complex having more than Twelve Houses
0044	183	Service provided by a registrar to an issue
0044	184	Service provided by a share transfer agent
0044	185	ATM operations, maintenance or management
0044	186	Service provided by a recovery agent
0044	187	Sale of space or time for advt. other than print media
0044	188	Sponsorship services provided to anybody, corporate, firm other than sponsorship of sports events

Major Head	Minor Head	Description of Product Tax
Major Head 0044: Service Tax		
0044	189	Transport of passengers embarking on international journey by air, other than economic class passengers
0044	190	Transport of goods in container by rail by any person
0044	191	Business support services
0044	192	Auctioneer services other than auction of property
0044	193	Public relations service
0044	194	Ship management services
0044	195	Internet telephony services
0044	196	Transport of persons by cruise ship
0044	197	Credit /debit card, change card or payment card related services
0044	198	Services provided by a telegraph authority in relation to telecom
0044	199	Services provided in relation to mining of minerals, oil or gas
0044	200	Services provided in relation to renting of immovable property for use in course of further some of business or commerce
0044	201	Services provided in relation to execution of work contract
0044	202	Services provided in relation to development, supply of content for use in telecom services, advertising agency services and database access or retrieval services
0044	203	Services provided to any person except banking company or FI including NBFC or any other body, corporate or commerce concerned in relation to asset management including portfolio management and all forms of fund management
0044	204	Services provided in relation to design services
0044	205	Professional Services
0044	206	Services Provided by an Insurer on Life Insurance Business in Relation to Management of Investment, Under Unit Link Insurance Business, Commonly Known as Unit Linked Insurance Plan-Ulip Scheme
0044	207	Services Provided by a Recognized Stock Ex. in Relation to Assisting, Regulating or Controlling the Business or Dealing in Securities
0044	208	Services Provided by a Recognized/Registered Association in Relation to Assisting, Regulating or Controlling
0044	209	Services Provided by a Processing and Clearing House in Relation to Processing, Clearing and Settlement of Transaction in Securities
0044	210	Services Provided by any Person in Relation to Supply of Tangible Goods including Machinery, Equipment and Appliances for use
0044	211	Cosmetic Surgery or Plastic Surgery Service

Major Head	Minor Head	Description of Product Tax
Major Head 0044: Service Tax		
0044	212	Transport of Coastal Goods & Goods Through National Waterways
0044	213	Legal Consultancy Service
0044	214	Services of Promoting, Marketing or organizing of Games of Chance including Lottery, Bingo or Lotto
0044	215	Health Services Like (A) Health check up undertaken by Hospitals on Medical Establishment for employees
0044	216	Services provided maintenance of medical records of Employee business entity
0044	217	Services of promoting brand of goods services events business entity
0044	218	Services of permitting commercial use of exploitation of any event organised by person or organisation
0044	219	Services provided by Electricity exchange
0044	220	Services related to (A) transferring temporarily or (B) permitting the use or enjoyment of any copy right
0044	221	Special services provided by a builder etc. to the prospective buyers such as providing preferential
0044	222	Services of Airconditioned Restaurants
0044	223	Services of providing of accommodated in Hostels/Inns/Clubs/Guesthouse/Camp site for continuous period of less than 3 months
0044	224	All taxable Services
0044	225	Other Taxable Services
0044	504	Primary Education Cess
0044	505	Secondary & Higher Education Cess
0044	700	Receipts Under Kar Vivad Samadhan Scheme, 1998
Major Head 0045: Other Taxes & Duties on Commodities & Services		
0045	101	Entertainment Tax

VII.2 List of Taxes treated as Production Taxes

Major Head	Minor Head	Description of Production Tax
Major Head 0026: Fringe Benefit Tax		
0028	107	Taxes on Professions, Trades, Callings and Employment
Major Head 0029: Land Revenue		
0029	101	Land Revenue Tax
0029	103	Rates and Cesses on land
Major Head 0030: Stamps & Registration fees		
0030	101	Court fees realised in Stamps
0030	102	Sale of stamps
0030	103	Duty on Impressing of Documents
0030	104	Fees for registering documents
Major Head 0031: Estate Duty		
0031	101	Ordinary Collections
Major Head 0036: Banking Cash Transaction Tax		
0036	101	Collection under Banking Cash Transaction Tax
Major Head 0041: Taxes on Vehicles		
0041	101	Receipts under the Indian Motor Vehicles Act
Major Head 0045: Other Taxes & Duties on Commodities & Services		
0045	105	Luxury Tax
0045	110	Receipts under Water(Prevention and Control of Pollution) Cess Act
0045	112	Receipts for Cesses under other Acts
0045	117	Receipts under Research and Development Cess Act, 1986

VII.3 List of Subsidies treated as Production Subsidies

Major Head	Minor Head	Sub Head/Description of Production Subsidy
-	-	Losses of Departmental Enterprises (Imputed Production Subsidy)
Major Head 2401: Crop Husbandry		
2401	103: Seeds	23: Expenditure on seeds
2401	105: Manures and Fertilisers	16: Distribution of Fertilizers
2401	107: Plant Protection	02: Plant Protection Scheme
2401	108: Commercial Crop	03: Coconut
Major Head 2402: Soil and Water Conservation		
2402	001: Direction and Administration	02: Soil Conservation Unit
Major Head 2408: Food Storage & Warehousing		
2408	800: Other Expenditure	01: Subsidy for maintenance of Buffer Stocks of Sugar
2408	800: Other Expenditure	08: Scheme for Extending Financial Assistance to Sugar undertaking 2007
2408	902: Amount met from sugar Development Fund	03: Subsidy for maintenance of Buffer stocks of Sugar
Major Head 2435: Other Agricultural Programme		
2435	800: Other Expenditure	04: High Yielding Programme
Major Head 2552: North-Eastern Areas		
2552	223: Tea- Other Expenditure	01: Assistance to Tea growers and others
2552	224: Coffee- Other Expenditure	01: Assistance to Coffee growers and others
2552	225: Rubber- Other Expenditure	01: Assistance to Rubber growers and others
2552	318: New and Renewable Energy Grid Interactive and Distributed Renewable Power	01: Grid Interactive Renewable Power
2552	236: Village and Small Industries small Scale Industries	21: Other Grants
2552	475: Spices- Other Expenditure	01: Assistance to Spice growers and others
Major Head 2810: Non-Conventional Sources of Energy		
2810	101: Grid Interactive and Distributed Renewable power	01: Grid Interactive Renewable Power

Major Head	Minor Head	Sub Head/Description of Production Subsidy
2810	101: Grid Interactive and Distributed Renewable power	02: Off Grid/ Distributed and Decentralized Renewable Power
2810	102: Renewable Energy for Rural Applications	02: Renewable Energy for all villages
2810	103: Renewable Energy for Urban, Industrial and Commercial Applications	01: ST, SPV and other RE Systems
Major Head 2852: Industries		
2852	202: Textiles	16: Procurement of cotton by cotton corporation of India under price support
2852	600: Others	04: Jute
Major Head 3051: Port and Light Houses		
3051	108: Assistance to port Trusts	01: Maintenance and dredging in Haldia Channel by Calcutta Port Trust
3051	108: Assistance to port Trusts	02: River Dredging and Maintenance of river Hooghly and Haldia channel by Calcutta Port Trust
Major Head 3053: Civil Aviation		
3053	191: Schemes for NE Region	01: Payment for Helicopter Services in North Eastern Region
Major Head 3075: Other Transport Services		
3075	101: Subsidy to Railways towards Dividend relief	01: Payment to Railway
3075	101: Subsidy to Railways towards Dividend relief	02: Reimbursement of losses to Railways on operating strategic Railway lines
Major Head 3451: Secretariat Economic Services		
3451	090: Secretariat	07: Essential Air services to Remote & Inaccessible areas
Major Head 3453: Foreign Trade and Export Promotion		
3453	194: Assistance for Export Promotion and Market Development	03: Assistance to Export Promotion and Market Development Organisations
3453	800: Other Expenditure	08: Marine Products Export Development Authority
Major Head 3456: Civil Supplies		
3456	195: Assistance to Consumer Cooperatives in Rural Areas	01: Managerial Subsidy

VII.4 List of Subsidies treated as Product Subsidies

Major Head	Minor Head	Sub Head/Description of Product Subsidy
Major Head 2235: Social Security & welfare		
2235	800: Other Expenditure	09: Payment to Public Sector General Insurance Co. for community based Universal
2235	800: Other Expenditure	10: Payment to Life Insurance Corporation of India for Pension Plan for Senior Citizens
Major Head 2401: Crop Husbandry		
2401	105: Manures and fertilizers	14: Payment for concessional sale of Indigenous decontrolled fertilizers
2401	105: Manures and fertilizers	15: Payment for concessional sale of imported decontrolled fertilizers
2401	106: Import of fertilizers	02: Import of Urea
2401	129: Issue of special bonds to fertilizers companies as compensation towards fertilizers subsidy	04: Compensation for loss on Account of sale of fertilizer bonds for concessional sale of imported decontrolled fertilizers
2401	800: Other Expenditure	06: Comprehensive Crop Insurance
Major Head 2408: Food Storage & Warehousing		
2408	102: Food Subsidy	09: Subsidy for meeting losses on import of pulses
2408	102: Food Subsidy	02: Subsidy payable to food corporation of India and others on food grains transactions
2408	102: Food Subsidy	04: Sugar subsidy payable to FCI and others on account of levy sugar, Import of sugar etc.
2408	102: Food Subsidy	07: Subsidy for Imported Edible Oils for distribution through States/ UTs Govt.
2408	800: Other Expenditure	03: Departmental Canteen National Sugar Institute
2408	800: Other Expenditure	06: Re imbursement of Internal Transport and freight charges to sugar factories on export shipment and payment of other permissible

Major Head	Minor Head	Sub Head/Description of Product Subsidy
		claims
2408	902: Amount met from sugar Development Fund	06: Re imbursement of Internal Transport and freight charges to sugar factories on export shipment and payment of other permissible claims
Major Head 2416: Agricultural Financial Institutions		
2416	800: Other Expenditure	02: Interest Subvention for providing short term credit to Farmers
Major Head 2552: Development of North Eastern Region		
2552	238: Development of backward areas subsidies	01: Transport Subsidy
Major Head 2802: Petroleum		
2802	102: Subsidy to oil Marketing Cos.	01: Subsidy on domestic LPG and PDS Kerosene
2802	102: Subsidy to oil Marketing Cos.	02: Freight subsidy on retail products for far flung areas
2802	102: Subsidy to oil Marketing Cos.	04:Subsidy to oil cos for supply of Natural Gas to North Eastern Region
2802	103: Payment to oil marketing companies as compensation for under recoveries in their domestic LPG and Kerosene (PDS) operations	01: Govt. of India Special Bonds to oil Marketing companies
Major Head 2803: Coal and Lignite		
2803	101: Assistance to Coal & Lignite Companies	03: Payment against collection of cess on coal and coke
Major Head 2851: Village and Small Industries		
2851	105: Khadi and Village industries	07: Janshree Bima Yojana for Khadi artisans
Major Head 2852: Industries		
2852	101: Fertilizer Subsidy	01: Payment under fertilizers Retention Price scheme
2852	129: Issue of special bonds to fertilizers companies as compensation towards fertilizers subsidy	02: Payment under fertilizer Freight subsidy scheme

Major Head	Minor Head	Sub Head/Description of Product Subsidy
2852	102: Transport Equipment Industries	10: Ship Building Subsidy
2852	102: Transport Equipment Industries	21: Subsidy to non-Central PSU Shipyards and private sector shipyards
Major Head 2885: Other Outlays on Industries & Minerals		
2885	101: Assistance to Industrial Financial Institutions	06: 1% interest subvention on Housing Loans
2885	800: Other Expenditure	03: Subsidy in lieu of concession in the rate of interest on Loans
2885	101: Subsidies	03: Transport subsidies to industries
2885	101: Subsidies	09: Transport Subsidy
2885	101: Subsidies	12: Investment Subsidy-Old
Major Head 3053: Civil Aviation		
3053	800: Other Expenditure	06: Subsidy for operation of Haj Charters
Major Head 3056: Inland Water Transport		
3056	800: Other Expenditure	03: Interest Subsidy to Banks/ Financial Institutions for loans to IWT entrepreneurs
Major Head 3453: Freight Trade and Export Promotion		
3453	107: Export Subsidy	04: Interest Subvention to Schd. Commercial Banks
Major Head 3456: Civil Supplies		
3456	103: Consumer Subsidies	01: Transport Subsidy

VIII. Estimation of Feed of Livestock using Consumption Approach and its segregation into crop sector and livestock sector

VIII.1. In 2004-05 Series, the feed consumption of animals used for cultivation activities as well as production of livestock and livestock products, was considered as input. Livestock feed comprises of (i) roughages; (ii) concentrates including salt, medicines and other miscellaneous feed. Roughages include cane trash, grass, fodder, stalks, straw etc., while concentrates are made up of oil cakes, crushed pulses, grains, grams, rice bran, husk, oil seeds, gur etc. As regards roughages, the entire production of fodder, cane trash and grass and 95 per cent of production of stalks and straws in the agriculture sector were considered to be consumed by entire livestock population. An adjustment was made for the consumption of these items by animals, which are not used in agriculture sector viz., bullocks, horses, camels etc., mainly used for transportation purposes. Stalks and straws and cane trash were the by-products of the corresponding food grain crops and sugarcane. The estimates of concentrates fed to livestock were largely based on the Cost of Cultivation Studies, done by the Ministry of Agriculture. The value of concentrates fed per animal per year for Cattle/ Buffalo was Rs. 685.26, for Sheep, Goat, Pigs was Rs.164.82, and for Poultry was Rs. 121.38 for the base year 2004-2005. Major part of roughages includes by-products of crop sector which is estimated as a percentage of Value of Output of crops using CCS data.

VIII.2. In the 2011-12 series, the estimate of per animal feed (Dry Fodder, Green Fodder, and Concentrates) has been taken from a research study done on "India's Livestock Feed Demand: Estimates and Projection", jointly conducted by Centre of Economics and Social Research and National Centre for Agricultural Economics and Policy Research, published in the year 2010. The study has estimated the feed consumption rates for different Livestock Species by age, sex at National level. The paper made use of the data from a feed consumption survey undertaken as part of a larger project, 'India's livestock feed balance and its environmental implications', funded by the Indian Council of Agricultural Research (ICAR) under the National Agricultural Technology Project (NATP), and carried out jointly by the National Centre for Agricultural Economics and Policy Research (NCAP) and the Society (now Centre) for Economic and Social Research (SESR), Delhi. The design of the feed consumption survey was developed at the SESR, which also carried out the survey.

VIII.3. The feed consumption rates for different livestock species, population as per latest Livestock Census, 2012, and price of feed calculated from CCS 2010-11 have been used to estimate total value of feed consumed by livestock. All-India feed

consumption rates of different types of feed fed to different categories of livestock at the household premises and grazing per day as estimated the study are given in Table VIII.1.

Table VIII.1: Quantities of Feed (per day in kg) fed to different species including intake through grazing

Animal Category	Feed Types		
	Green Fodder	Dry Fodder	Concentrates
Cattle			
in milk	5.92	5.5	0.64
Dry	4.66	4.02	0.4
Adult male	7.12	6.03	0.33
Young stock	3.95	2.13	0.18
Buffalo			
in milk	8.9	6.34	1.05
Dry	9.72	4.95	0.52
Adult male	7.11	7.47	0.36
Young stock	6.1	2.22	0.19
Goat	1.5	0.2	0.06
Sheep	1.65	0.2	0.04
Others	15.65	6.72	0.49

VIII.4. The study also concluded that almost the entire quantity of dry fodder comes from the cultivated crops, mainly from cereals as straws and gathered dry fodder comprises only 2 per cent of the total fodder. Out of total green fodder consumed by livestock, about 40% contribution is from grazing, 27% is from cultivated fodder crops and remaining 33% comes from grasses, weeds and tree leaves gleaned and gathered from cultivated fields and uncultivated lands such as pastures, public lands, wastelands, fallows and forests. Feed fed to animals within the house hold premise excludes the grazing part. Quantities of Feed (in Kg) fed to different species within Household premises is given in Table VIII.2.

Table VIII.2: Quantities of Feed (per day in Kg) fed to different species within Household premises

Animal Category	Feed Types		
	Green Fodder	Dry Fodder	Concentrates
Cattle			
in milk	4.75	5.5	0.64
Dry	3.4	4.02	0.4

Animal Category	Feed Types		
	Green Fodder	Dry Fodder	Concentrates
Adult male	4.06	6.03	0.33
Young stock	2.18	2.13	0.18
Buffalo			
in milk	5.96	6.34	1.05
Dry	5.44	4.95	0.52
Adult male	4.04	7.47	0.36
Young stock	2.29	2.22	0.19
Goat	1.04	0.2	0.06
Sheep	1.01	0.2	0.04
Others	2.35	6.72	0.49

VIII.5. In the feed of livestock, 'Concentrates' refers to a mixture of Cereals, Pulses (grains), Oilcakes and Manufactured feed. The composition of Cereals, Pulses, Oilseeds & Oilcakes and Manufactured Feed in the Concentrate varies with the species of animal. The study also provides information on the Cereals, Pulses, Oilseeds & Oilcakes and Manufactured feed consumption for different species of Animal which can be used to estimate percentage composition of Cereals, Pulses, Oilseeds & Oilcakes, and Manufactured Feed in Concentrates. Percentage composition of Cereals, Pulses, Oilseeds & Oilcakes, and Manufactured Feed in Concentrates is given in Table VIII.3.

Table VIII.3: Composition of Concentrates in the Feed of Different animals

Species	Cereals	Pulses	Oilseeds & Oilcakes	Manufactured Feed	Total
Cattle	49.24	7.23	36.97	6.56	100.00
Buffalo	39.55	10.62	43.20	6.63	100.00
Goat	82.05	4.03	13.55	0.37	100.00
Sheep	100.00	0.00	0.00	0.00	100.00
Others	90.48	0.00	0.00	9.52	100.00
Total	48.23	8.30	37.35	6.12	100.00

VIII.6. For Price of Feed, unit level data of Cost of Cultivation Studies (CCS) for 2010-11 from Ministry of Agriculture, Government of India has been analyzed. As the prices from CCS pertained to the year, 2010-11, Wholesale Price Index (WPI) was used to estimate the prices for the year 2011-12. WPI of cattle feed has been used for fodder dry and green whereas for oil cakes & concentrates and grains WPI of respective grains have been used, and further composition of Concentrate for

different species of Livestock has been used to get State wise price of Fodder-Dry, Fodder-Green and Concentrate. Also for the State where prices were not available, (State which are not covered under CCS Scheme), weighted average price at all India level or neighboring State Prices (wherever it was reasonable to assume similarity in consumption of feed) were used. Weighted Average price at all India Level has been calculated using State-wise average price for Dry Fodder, Green Fodder, Grains, and Oilseeds & Oilcakes and corresponding production of Straw, Grass, Cereals & Pulses (85% of Cereals and 15% Pulses) and Oilseed in the State to get appropriate representation of State Price in estimation of National Average Price.

VIII.7. Using the rates of feed (in kg) fed to Cattle, Buffalo, Goat and Sheep and Price of per kg Feed (Green Fodder, Dry Fodder and Concentrates), the value of feed (in Rs.) fed per Cattle, Buffalo, Goat and Sheep is estimated. The above values have been applied on the estimated livestock population to estimate total feed consumption. The value of feed of livestock at All India level using above methodology is Rs. 186857 Crore.

VIII.8. Estimate of Roughage and Concentrate as per 2004-05 Series and in 2011-12 series is presented in Table VIII.4.

**Table VIII.4: Value of Roughage and Concentrate in Feed, 2011-12
(Rs. crore)**

	2004-05 Series	2011-12 Series	% Difference
Roughage	113316	113441	0.1
Concentrate	70740	73416	3.8
Total Feed	184056	186857	1.5

VIII.9. Further, assuming that only Adult Buffalo (Male) and Adult Cattle (Male) are used in the cultivation of crops, the total feed consumed by Adult Buffalo (Male) and Adult Cattle (Male) has been apportioned to the crop sector. This value of the feed consumed by the livestock used in crop sector has been subtracted from the total estimated value of the feed to arrive at the value of the feed for the livestock sector. At All India level, feed of livestock consumed in the crop sector is estimated as 15.6% and the feed consumed in livestock sector is estimated as 84.4%.