NOTES ON METHODOLOGY

BACK SERIES OF NATIONAL ACCOUNTS (Base 2004-05)

1. Brief Background

1.1 The work on national income estimation in India has a long history. Before 1949, it was the individual economists and research workers who had attempted to estimate the income of the country. These estimates were, however, not comparable with each other because of the differences in the sources used for data and assumptions made wherever requisite data were not available. Notwithstanding these limitations, these studies provided a foundation for the scientific preparation of official estimates of national income.

1.2 In order to provide estimates of national income on a regular basis, the Government of India set up a High Powered Expert Committee in 1949, known as the National Income Committee. The National Income Committee was headed by the eminent statistician Prof. P.C. Mahalanobis, with Prof. D.R. Gadgil and Prof. V.K.R.V. Rao as Members. The Committee had the benefit of receiving advisory help of international experts namely, Professor Simon Kuznets, National Bureau of Economic Research, U.S.A, Prof. J.R.N. Stone, Department of Applied Economics, University of Cambridge and Dr. J.B.D. Derksen, National Income Unit, United Nations Statistical Office. The estimates of national income and details of methodology adopted were published in the First and Final reports of the National Income Committee, respectively brought out in April 1951 and February 1954.

1.3 As per the methodology and the pattern of presentation recommended by the National Income Committee, the first official estimates of national income were prepared by the Central Statistical Organisation (CSO) with base year 1948-49 for the estimates at constant prices. These estimates at constant (1948-49) prices along with the corresponding estimates at current prices and the accounts of the Public Authorities were published in the publication, '*Estimates of National Income*' in 1956. This series, commonly known as the 'conventional series' was continued to be published till 1966 under the same title.

1.4 Simultaneously, work on estimation of related aggregates like 'capital formation' and 'saving' for the years 1960-61 to 1965-66 was also undertaken. Estimates of capital formation and saving were published along with the methodology of their compilation, for the first time in 1969. The coverage of the publication was extended gradually from time to time to incorporate the estimates of private consumption expenditure, saving, capital formation, factor incomes, consolidated accounts of the nation and detailed accounts of the public sector. The title of the publication was, therefore, again changed to the present title '*National Accounts Statistics'* (NAS) with effect from January 1975 to depict the expanded scope of the publication.

2. Previous NAS Series

2.1 National Accounts Estimates have been periodically revised. Base year of the series and year of change is presented below:

Base Year	Year Introduced
1948-49	1956
1960-61	1967
1970-71	1978
1980-81	1988
1993-94	1999
1999-2000	2006
2004-2005	2010

3. Current NAS Series

3.1 At the time of revising the NAS series, the Central Statistics Office (CSO) undertakes a comprehensive review of databases and the methodology employed in the estimation of various macro-economic aggregates. Major changes in the choice of alternative sets of data or methodologies are also considered by the CSO for inclusion in the NAS, at the time of the base year revision exercise. It has been the practice, not to make changes every now and then and necessary major changes are kept for implementation at the time of base year revision exercise.

3.2 The Current NAS series is with the base year 2004-05. This series was introduced in January 2010. In the re-basing exercise, 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 recommendations of the System of National Accounts (SNA), 1993 and 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

3.3 In the past, National Accounts Statistics were revised decennially changing the base to a year, which ends with 1. It was primarily because in the base year estimates of national accounts aggregates, the information on work force plays an

important role and work force estimates 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. Since then, 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.

3.4 In continuation with this practice, the new series of national accounts has been released with base year 2004-05 on 29th January, 2010 using the work force data from the results of NSS 61st round (2004-05) on Employment and Unemployment Survey.

3.5 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 61st round (2004-05) on employment and unemployment and consumer expenditure;
(ii) NSS 62nd round (2005-06) on unorganized manufacturing;
(iii) NSS 63rd round (2006-07) on services sectors;
(iv) All India Livestock Census, 2003;
(v) NSS 59th round (2002-03) on All India Debt and Investment Survey;
(vi) Population Census, 2001; and
(vii) Fourth All India Census of Micro, Small and Medium Enterprises, 2006-07.

3.6 Further, the results of various studies undertaken by the CSO through the Ministry of Agriculture, Ministry of Environment and Forests , State Governments , CSO's input output transactions tables and the Ministry of Agriculture's Cost of Cultivation Studies have been used in the new series for updating the rates and ratios used to estimate the production/consumption of fodder, market charges paid by the farmers, yield rates of meat, meat products and meat by products for different categories of animals, input rates for agriculture and forestry and the trade and transport margins.

4. Compilation of Linked Series

4.1 Whenever a new series of NAS is introduced with an updated base period, it is customary for the CSO to link the old series to the series on the new base period. For the compilation of a linked series (in this case for the years 1950-51 to 2003-04), the two standard concepts used are the splicing method, and reworking the estimates as per the current series methodology, at the component or detailed item level. The major problem in compiling back-series estimates is in maintaining the growth rates of earlier series (volume movements in the case of constant price estimates) at not only the component level, but also at each level of aggregation. If the growth rates are maintained at component level and at each level of aggregation, the components will not add up to the aggregate level, which means that there is loss of additivity between the components and at the aggregate level. On the other hand if the growth rates are maintained at the component level, and the aggregate is derived as a sum of the components, the growth rates of the aggregates in the linked series will be different from those in the earlier series.

4.2 Keeping in view the above stated difficulties in compiling the back-series estimates, and the need to account for the expanded coverage and the new data sources in the linked series, the CSO has adopted the following guidelines for the compilation of present linked series, for the years 1950-51 to 2003-04

- linked series must begin from the earliest year of the previous NAS series, i.e. 1950-51.

- additional coverage of activities that were introduced in the NAS in the new series need also to be accounted for, in all the previous years in which these activities were in existence in the economy.

- results of benchmark surveys adopted in the new series are also to be used for compiling annual estimates of previous years, through interpolation techniques

- linked series of NAS need to be compiled using the same methodology as adopted for the current series. This implies that there would be some changes in the growth rates of various aggregates for the same years between the old series and new series. However, additivity of detailed estimates with the aggregates will be maintained during 1999-2000 to 2004-05.

- For the years prior to 1999-2000, estimates at detailed and aggregate levels are to be compiled by adopting the splicing method. This implies that there would be no change in the growth rates of aggregates for the same years between the old series and new series. However, additivity of detailed estimates with the aggregates will not be maintained.

- basic identities of national accounts (for example, the Net Domestic Product is derived as Gross Domestic Product minus Consumption of Fixed Capital) to be kept intact.

4.3 Following the above guidelines, the CSO carried out the linking of NAS series exercise, separately for two distinct periods, namely (a) the series, for the years 1999-2000 and onwards, and (b) the series, prior to 1999-2000.

4.4 For the years 1999-2000 to 2003-04, the components are re-estimated by following the same procedure as for the new series of NAS. In few sectors, departure from this procedure has been made, the details of which and the reasons for the departure have been indicated in the write-up of these sectors. For these years, besides accounting for the additional coverage in the linked series, the CSO has also used the results of all benchmark surveys, so that annual estimates are made through interpolation techniques (in the previous series they were made through extrapolation as results of the benchmark surveys used for the new series were then not available).

4.5 For the years prior to 1999-2000, the estimates have been prepared by using the splicing technique. Therefore, the data are non-additive between the detailed level and the aggregate level, for the years 1950-51 to 1998-99.

4.6 The Sources and Methodology for the old and the new series is given in Tabular form below:

Sector	***Old series***		***New series***	
	Methodology	***Sources of Data***	***Methodology***	***Sources of Data***
Agriculture Includes crop Production, Livestock and livestock products and operation of irrigation Systems.				

Output - Crops	*Value of Output= Production * Price*	*Directorate of Economics and Statistics, Ministry of Agriculture (DESAg),*	*Same methodology as previous series.*	*Directorate of Economics and Statistics, (DES), States/UTs*
Output – Livestock Products	*Value of each and every by-product was estimated using certain ratio of meat production .*	*Livestock Census 1997,2003*	*Value has been estimated as a percentage of the total value of meat production*	*Livestock Census 2003*
Inputs of agriculture including livestock				
Seed and Diesel oil	*Based on seed rates and consumption of Diesel per tractor/ oil engine*	*Cost of Cultivation Studies, M/Agriculture (DESAg)*	*Same Methodology Revised seed rates and the consumption of diesel oil per tractor/ oil engine*	*Cost of Cultivation Studies, M/Agriculture (DESAg)*
Chemical fertilizers	*the estimates of consumption were based on the material-wise distribution (dispatches) of chemical fertilisers to States/UTs*	*Central Fertiliser Pool, Indian Potash Ltd., and the domestic manufacturers .*	*Actual consumption figures have been used in lieu of the dispatch figures for purpose of evaluating the chemical fertilisers.*	*Fertiliser Association of India.*
Feed of livestock	*Value of concentrates consumed per animal per year*	*Cost of Cultivation Studies, M/Agriculture*	*(i)Revised value of concentrates consumed*	*Cost of Cultivation Studies. (DESAg). Also corroborated by the studies on*

		(DESAg)	*per animal per year* *(ii)Consumption of fodder by the cattle from forest sources*	*feed of livestock by the State DESs of Maharashtra and Himachal Pradesh* *Forest Survey of India, Dehradun*
Market charges				
Agriculture	*CSO conducts a study at the time of revision of Base Year through DESAg for estimating the market charges*	*CSO ,DESAg, Ministry of Agriculture*	*Same Methodology* *The market charges paid by the farmers have been estimated at 3.22 per cent of total value of output of agriculture sector*	*CSO DESAg, Ministry of Agriculture*
livestock	*Market Charges obtained from State DEss*	*DESs States /UTs*	*market charges for slaughtering of animals have been revised to Rs. 25/- per animal for cattle/buffalo, Rs. 5/- per animal for goat/sheep and Rs.7/- per animal for pig*	*DESs States /UTs*
Pesticides & Insecticides	*Estimates on quantity and prices of pesticides*	*Crop Care Foundation of India.*	*Revised estimates on quantity and prices of pesticides*	*Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture,*
Forestry Output				
Fuelwood	*production of*	*NSS 55th*	*Revised*	*Labour Input*

	firewood estimated indirectly from the consumption side.	*Round (1999-2000) .*	*production of firewood estimated indirectly from the consumption side.*	*Estimates from NSS 61st round (2004-05) Employment unemployment (EUS)*
Industrial Wood	*production of industrial wood estimated from forest sources only.*	*State Forest Department*	*To account for considerable production of wood from social forests and other plantations outside forests, trees outside forests, have also been considered.*	*State Forest Department , Forest Survey of India (FSI), Ministry of Environment and Forests*
Minor Forest Products	*Estimates on value of output*	*State Forest Department*	*Fodder from Forest Area included in consultation with the Ministry of Environment and Forests, as part of minor forest products.*	*State Forest Department , Forest Survey of India (FSI), Ministry of Environment and Forests*
Inputs	*inputs in the sector were estimated as 10% of the value of output.*		*Based on the analysis of budget documents of State Forest Departments input rate in forestry has been revised to 15.6% of the value of output*	*Budget documents of the State Forest Departments for the year 2004-05*
Fishing-Output	*Production * Price*	*State Fisheries Department*	*Same Methodology*	*State Fisheries Department for*

		for production and State DESs for Prices.	*as in old series*	*production and State DESs for Prices.*
Inputs	***Fixed percentage of value of output***	*State Fisheries Department and State DESs .*	*Same Methodology as in old series*	*State Fisheries Department and State DESs .*
Mining and quarrying-Output	*Production * Prices*	*Coal Controller of India , Indian Bureau of Mines ,ONGG, OIL, Neyveli Lignite Corporation , State Geological Departments, Salt Commissioner' s Office.*	*Same Methodology as in old series*	*Coal Controller of India , Indian Bureau of Mines ,ONGG, OIL, Neyveli Lignite Corporation , State Geological Departments, Salt Commissioner's Office.*
Mining and quarrying-Inputs	***Value of Material Inputs are directly available from the source agencies***	*Coal Controller of India , Indian Bureau of Mines ,ONGG, OIL, Neyveli Lignite Corporation , Salt Commissioner' s Office.*	*Same Methodology as in old series*	*Coal Controller of India , Indian Bureau of Mines ,ONGG, OIL, Neyveli Lignite Corporation , Salt Commissioner's Office.*
Manufacturing (Registered)	*GVA estimated by production approach from production data in respect of units registered under factories Act. Contribution of activities of Railway workshops, currency coinage & mints*	*Annual Survey of Industries(ASI) 1999-2000, Index of Industrial production(CSO), Centre State Budgets for Railway workshops, Whole Sale Price Index, M/ Industry.*	*Actual ASI Data is being used instead of moving by IIP as in the old series.*	*Annual Survey of Industries(ASI) 2004-05 Index of Industrial production(CSO), Centre State Budgets for Railway workshops, Whole Sale Price Index, M/ Industry. M/Defence for Defence Production*

	and security , output of production units under Defence are also included.	*M/Defence for Defence Production.*		
Manufacturing (Unregistered)	*The estimates of GVA are obtained as a product of workforce and GVA per worker.*	*NSS 56th round(2000-01) Population Census for workforce.*	*GVA estimates prepared separately for two segments namely (i) the segment of micro, small and medium enterprises (MSMEs) (other than those covered under the ASI), and (ii) the rest of unorganized manufacturing , i.e. the manufacturing activity which is not covered under either the ASI or the MSME.*	*NSS 62nd round(2005-06) Fourth All India Census on Micro Small and Medium Enterprises 2006-07 by Ministry of MSME. Labour Input(LI) based on Employment unemployment Survey 61st round and population Census 2001.*
Electricity, Gas and Water supply				
Electricity	*Both value of Output and value of material Inputs are available from source Agencies.*	*Centre/State Budget Documents, State Electricity Boards and Reports of Public & private*	*No change in Methodolgy .However output of wind energy included in this sector*	*Centre/State Budget Documents, State Electricity Boards and Reports of Public & private companies generating Electricity , (DES) for Wind Energy.*

		companies generating Electricity		
Gas	*(i)Both value of Output and value of material Inputs are available from source Agencies. (ii)Value of production treated as value added for Gobar Gas.*	*Annual Accounts of Gas Authority of India Limited, Indraprastha Gas Limited etc., Ministry of New and Renewable Energy Sources,Khadi and Village Industries Commission.*	*No change in Methodolgy*	*Annual Accounts of Gas Authority of India Limited, Indraprastha Gas Limited etc., Ministry of New and Renewable Energy Sources,Khadi and Village Industries Commission.*
Water supply	*The GVA estimates are obtained as the sum of compensation of employees and consumption of fixed capital.*	*Centre/State Budget Documents, Municipal Data on Compensation of Employees, Population Census 2001, DGET*	*NO change in Methodology except workforce estimated from NSS 61st round, Employment unemployment Survey (EUS) instead of DGET for public part. .*	*Centre/State Budget Documents, Municipal Data on Compensation of Employees, Population Census 2001 and Labour Input Estimates from NSS 61st round (2004-05) Employment unemployment (EUS)*
Construction	*Comprises of (i) accounted construction (pucca construction) and (ii) unaccounted construction (kutcha construction*			
Accounted construction	*Comprises of pucca construction. Estimates*	*Cement Manufacturers Association, ASI, Office of*	*Same Methodology as old series.*	*Cement Manufacturers Association, ASI, Office of Coal*

	prepared through commodity flow method	*Coal Controller, DES, National Building Organisation.*		*Controller, DES, National Building Organisation.*
Unaccounted construction	*Kutcha construction. Estimates prepared through the expenditure approach.*	*AIDIS 2002-03 ,Centre/State Budget Documents, NSS 58th Round.*	*Same Methodology as old series.*	*AIDIS 2002-03 ,Centre/State Budget Documents, NSS 58th Round.*
Transport by other means includes *Road Transport, Water Transport, Air transport , supporting and Auxilliary Activities.*	*Estimates are compiled for public and private . Public directly from Budget documents and annual reports , private =LI*Value added per worker except air transport where GVA is based on Analysis of Annual reports separately for Public and private.*	*NSS 57th round survey on services sectors, 2001-02 for value added per worker. Work force Estimates from NSS 55th round (1999-2000) Employment unemploymen t (EUS) along with Population Census 2001.*	*Same Methodology as old series.*	*NSS 63rd round (2006-07)on services sectors Labour Input Estimates from NSS 61st round (2004-05) Employment unemployment (EUS) along with Population Census 2001. Number of registered transport vehicles according to NIC codes; Consumer price index of Industrial Workers (IW) & Consumer price index of Agricultural Labour; and Index of Cargo handled at major and minor ports from Ministry of Shipping, Road Transport and Highways. .*
Trade, hotels and restaurants ***Trade***	*Estimates prepared separately for Public, Private Organised Sector and Private unorganised*	*Public: Analysing Budget Documents and Annual reports. Private organised:*	*No change in methodology*	*As trade has not been covered in 63rd round of NSSO service sector , the GVA of each of the five categories of unorganised trade sector for the year*

	*Sector. For Unorganised Sector GVA = GVA per worker*work Force estimates.*	*Information Available from Company Affairs, NABARD, RBI Study. Private unorganised GVA per worker 'all enterprises' category available in informal sector survey conducted in NSS 55th round (1999-2000). Work Force estimates from NSS 55th round on Employment unemployment*		*1999-2000 has been moved to 2004-05 using the growth in Gross trading Income (GTI) of the sector which takes into account the growth in output as well as workforce.*
Hotels and restaurants	*Same as Trade*	*Same as Trade*	*Same as Trade*	*Value added per worker (VAPW) has been estimated from Enterprise Survey, 2006-07 and labour input estimates from Employment–Unemployment Survey, 2004-05 & Population Census 2001.*
Storage and Warehousing	*This sector includes : (i) Warehousing Corporations (ii) Cold Storage corporate (covered under ASI) (iii) Storage not elsewhere*	*Annual Accounts of Warehousing Corporations, Annual Survey of Industries, 55th round of NSSO and population Census 2001*	*Same methodology as previous series.*	*Annual Accounts of Warehousing Corporations, Annual Survey of Industries, 63rd round of NSSO , Labour Input Estimates from NSS 61st round (2004-05) Employment*

	classified (n.e.c).			*unemployment (EUS)and population Census 2001*
Communication Services (Private) includes Courier Services Cable Operators Other communication	***The estimates of GVA compiled** using the estimates of value added per worker (VAPW) and workforce estimates separately for Rural/Urban/ organized/un-organised segments.*	*NSS 57th round survey on services sectors, 2001-02 organized sector estimate were prepared using DGE&T workforce and corporate sector value added per worker from the results of NSS 57th round survey.*	*Same methodology as previous series. However The private corporate sector workforce estimates have been obtained from Employment/ Unemployment survey, NSS 61st Round 2004-05 against DGE&T employment data in the old series. In the new series the GVA for other communication Services for private corporate Sector has been estimated as a product of Average Revenue per user (ARPU) per month and no. of subscribers. The GVO/GVA ratio (obtained from annual accounts) of sample private*	*NSS 63rd round (2006-07)on services sectors Labour Input Estimates from NSS 61st round (2004-05) Employment unemployment (EUS) along with Population Census 2001. .*

			cellular companies has been applied on the revenue obtained to get the total GVA.	
Banking and Insurance includes commercial banks, banking department of RBI ,Non Banking Financial institutions Post office Saving Bank, Employees Provident Fund Organisation and postal life insurance.	*Data available directly from source agencies. Except unorganised financial sector , where GDP =one third GDP estimates in organised Sector(Non Banking Financial Companies NBFC)*	*RBI for data on income expenditure, Earnings and expenses of banks, Annual Reports of NBFC, LIC, Insurance companies, private financial companies, NABARD.*	*Same methodology as previous series.*	*In addition 3 studies published by RBI in 2006, 2007,2008.*
Real estate, ownership of dwellings, legal and business services	***The estimates of GVA compiled*** *using the estimates of value added per worker (VAPW) and workforce estimates separately for Rural/Urban/ organized/un-organised segments except ownership of dwellings. GVA =Gross Rental – Repairs and Maintenance.*	*NSS 57th round survey on services sectors, 2001-02 organized sector estimate were prepared using DGE&T workforce and corporate sector value added per worker from the results of NSS 57th round survey.*	*Same methodology as previous series. However, the private corporate sector workforce estimates have been obtained from Employment/ Unemployment survey, NSS 61st Round 2004-05 against DGE&T*	*NSS 63rd round (2006-07)on services sectors, Labour Input Estimates from NSS 61st round (2004-05) Employment unemployment (EUS) along with Population Census 2001. .*

			employment data in the old series.. In urban dwellings GVA =Gross Rental –Repairs and Maintainenance whereas in case of rural dwellings GVA is Based on user cost approach.	
Other Services *includes Coaching and Tuition, Education excluding Coaching and Tuition, Human health activities including veterinary activities, Sewage and refuse disposal, sanitation activities, social work, recreational cultural and sporting activities, Washing and cleaning of textiles and fur ,Hair Dressing and other Beauty Treatment, Funeral and related activities, Pvt. households with employed person, Custom*	*public sector, private corporate sector and private unorganized sector. Estimates of GVA under public sector ompiled by analyzing budget documents and annual reports , private organised and private unorganized segments are prepared by labour input method*	*NSS 57th round on services sectors work force Estimates from NSS 55th round (1999-2000) Employment unemployment (EUS) along with Population Census 2001, Budget Documents, CPIAL.CPI IW and Annual Reports of Prasar Bharati.*	*Same methodology as previous series. However The private corporate sector workforce estimates have been obtained from Employment/ Unemployment survey, NSS 61st Round 2004-05 against DGE&T employment data in the old series.*	*NSS 63rd round (2006-07)on services sectors Labour Input Estimates from NSS 61st round (2004-05) Employment unemployment (EUS) along with Population Census 2001, Budget Documents, CPIAL.CPI IW Annual Reports of Prasar Bharati*

Tailoring, and , Extra Territorial organisations and Bodies.				

5. TRANSACTIONS OF PUBLIC SECTOR

5.1 **Administrative departments, departmental enterprises, and quasi-government bodies**

Three issues namely, classification issue in Defence Services, methodological issue in autonomous institutions (quasi-government bodies) and improvements in local body accounts based on sample data, have been included in the new series in pursuance of the recommendations of the High Level Committee (HLC) on Estimation of Saving and Investment under the chairmanship of Dr. C. Rangarajan. Estimates in this sector are mainly based on the analysis of Central and State Government's budget documents. The expenditures on various items are taken according to economic and purpose classification. Significant improvements brought out in the new series are as follows:

5.2 ***Defence Capital Expenditure***-In the old series as per recommendations of the 1993 System of National Accounts all capital expenditures by the defence forces on fixed assets e.g roads, hospitals and other buildings or structures were treated as gross fixed capital formation. On the other hand, military weapons, vehicles and equipment were treated as intermediate consumption. In the new series in line with the recommendations of 2008 SNA. the construction component and machinery/transport outlay of Defence capital account has been treated as capital formation, which was earlier being treated as intermediate consumption.

5.3 ***Autonomous Institutions***- In the new series macro-economic estimates for Quasi-Government Bodies (Autonomous Institutions) have been included

5.4 ***Local Bodies-*** Besides sample data from some State DESs, data on local bodies available on the C A &G website has been used to compile estimates of Local Bodies for new series.

5.5 **Non-departmental commercial undertakings (NDCUs)**

In the new series, changes in NDCUs are mainly due to treating R&D expenditures in Non-financial NDCUs as capital expenditures in line with the recommendations of 2008 SNA.

6. GVA Construction

The estimates of GVA from Construction for the years 1999-2000 to 2003-04 have been prepared by adding the separately spliced estimates of accounted and unaccounted construction. For years i.e. 1950-51 to 1998-99, the estimates are

prepared by splicing. Estimates of Repairs and maintenance have been worked out using splicing. Additivity is maintained for Value of Output.

7. GFCF estimates

The GFCF estimates at current prices are prepared for the years 1950-51 to 2003-04 using splicing method for each component - sector wise viz. administrative departments (inclusive of autonomous institutions), departmental enterprises and non-departmental enterprises in public sector; Co-operatives, Joint Stock Companies in Private Corporate sector and Households; within each industry, as per the industry of use table format, for construction and machinery separately. The constant (2004-05) price estimates have been prepared by using appropriate price deflators. At the aggregate level, both at current and 2004-05 prices, the GFCF estimates have been arrived at by adding the component level estimates.

8. Savings

The estimates of domestic savings for the years 1950-51 to 2003-04 have been revised mainly on account of revisions in the estimates of household saving in physical assets and saving of public sector. The savings of public sector have been prepared by splicing. Corresponding changes in the estimates of capital formation necessitated adjustments in the estimates of domestic savings. The estimates relating to other components of saving are same as published in the old series.

9. Consumption of Fixed Capital (CFC) and Net Fixed Capital Stock (NFCS)

9.1 In the new series (2004-05), CFC and Stock has been compiled by using the method of declining balance of depreciation of assets. The method of declining balance involves applying the depreciation rate against the non-depreciated balance. Instead of spreading the cost of the asset evenly over its life, this system expenses the asset at a constant rate, which results in declining depreciation charges each successive period. In this method, the available economic value of the stock for the current year would be current year's stock reduced by the amount charged as previous year's CFC. This method has been applied to time series data beginning from 1950-51. The declining balance will never exhaust the full value of the asset. As decided by the Advisory Committee on national accounts, estimates of CFC have been worked out by the method of declining balance by reducing the scrap value to 10%. This adjustment has been done on the opening stock in 1950-51. Hence the stock of assets in the earlier years in the 2004-05 series is less as compared to 1999-00 series though in the later years the NFCS is higher than the NFCS estimated in the old series. At the aggregate level for all years, both at current and 2004-05 prices, the CFC estimates have been arrived at by adding the industry wise estimates of CFC.

9.2 The NFCS estimates are generated using the Perpetual Inventory Method and are based on the expected life of each class of separately distinguished assets. These estimates are used for estimation of CFC. At the aggregate level, both at current and 2004-05 prices, the NFCS estimates have been arrived at by adding the component level estimates.

10. Change in stocks

The estimates of change in stock for the years 1950-51 to 1998-99 have been prepared by industry of use through splicing for the industries agriculture, trade, hotels & restaurants and transport by other means, public administration & defence and other services, both at current and constant (2004-05) prices. Estimates for the subsequent years at current prices were prepared by using the methods followed in the new series, at industry level. For other industries, the estimates for change in stocks (CIS) at current prices for the years 1950-51 to 2003-04 are the same as published in the old series. The industry wise estimates at constant (2004-05) prices have been prepared by using the implicit price deflator (IPD) of the old series. The CIS estimates, at the aggregate level, have been arrived at by adding the industry wise estimates of CIS.