

DEVELOPMENT OF NATIONAL ACCOUNTS STATISTICS

Introduction

1.1 The national accounts provide a comprehensive, conceptual and accounting framework for analyzing and evaluating the performance of an economy. As the national accounts are designed to account for all economic transactions, their compilation is a major exercise, which draws information from several diverse data sources. The sources consist of data generated as a by-product of public administration system, such as land records, collection of direct and indirect taxes, as well as data collected directly through censuses and sample surveys conducted by official agencies of the Central and State Governments. For certain newly emerging activities such as software, information available from selective non-official sources is used in the compilation of national accounts statistics (NAS). While the underlying concepts and methodology of compilation has been mostly standardised under the System of National Accounts (SNA) of the international agencies, procedures and approximations are shaped by the country-specific data collection system. For making the estimates comparable internationally and over time, the Central Statistical Organisation (CSO) maintains detailed, well documented methods and procedures unchanged till the revision of the base year. Normally, major methodological changes and incorporation of data from new surveys and censuses are made at the time of revision of base year. Other changes in sources of data and methodology are indicated in the Chapter on "Notes on Methodology and revisions in estimates" in the publication National Accounts Statistics.

Historical Perspectives

1.2 The CSO associates technical experts and representatives of central economic Ministries and State/Union Territory Directorates of Economic and Statistics (DES) with the compilation of National Accounts Statistics (NAS). This is in the form of Advisory Committee on National Accounts (ACNA), which is a permanent standing committee and is reconstituted from time to time. Professor Moni Mukherjee, who was the Secretary to the first National Income Committee after independence, Professor V.M. Dandekar, Prof. Y.K. Alagh, Dr. Rakesh Mohan and Prof. S.D. Tendulkar have chaired the ACNA in the past.

The Beginning

1.3 In India, prior to the development of national

accounting system, which started in sixties, the main focus was on computing nation's income. Before independence several attempts were made to compute nation's income by individual economists and research workers. But all these efforts were based essentially on macro-level data and involved a number of assumptions for want of requisite data and adequate resources. Notwithstanding the limitations, these studies provided the base for post-independence work on the subject. After Independence, due attention was given to the development of official estimates of national income and related aggregates to meet the requirements for planning and policy purposes. Recognising the need for providing estimates of national income on a regular basis, the Government of India set up an Expert Committee in 1949 known as "National Income Committee" under the chairmanship of Prof. P.C. Mahalanobis with Prof. D.R. Gadgil and Prof. V.K.R.V. Rao as members, to make recommendations regarding the compilation of estimates of national income, the improvement of the statistical data on which the estimates were to be based and to suggest measures to promote research in the field of national income. To assist the Committee a 'National Income Unit (NIU)' was set up. It was for the first time that this Committee provided the estimates of national income for the entire Indian Union. The estimates and details of methodology adopted were published in the first and final reports of the National Income Committee brought out by the Ministry of Finance in 1951 & 1954 respectively. The Committee recommended preparation of national income estimates on a regular (annual) basis. Accepting this recommendation, the Government of India transferred the entire establishment of NIU, then working for the National Income Committee, to the Ministry of Finance to take charge of the work on a regular basis. The work of estimation was later transferred to the Central Statistical Organisation (CSO) and a full-fledged National Income Division was created which is now designated as National Accounts Division (NAD) in conformity with the expansion in its activity.

Conventional Series

1.4 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 CSO

with base year 1948-49 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.

1.5 First revision of the base year (Base 1960-61)

- 1.5 With the gradual improvement in the availability of basic data over the years, a review of methodology for national income estimation and its extension to other fields of macro- economic aggregates was undertaken with a view to update the data base and to shift the base year from 1948-49 to a more recent year. Special efforts in this regard were made for a comprehensive review of all available data, both published and unpublished. The first results of these efforts were presented in the "National Income Statistics - Proposals for a Revised Series for National Income Estimates, 1955-56 - 1959-60(CSO, 1961)". These proposals were discussed at a Seminar specially organised for the purpose. In the light of the views expressed in the Seminar, several follow-up studies were undertaken. The `proposals' as improved/amended on the basis of the studies along with estimates as per the revised series of national income with 1960-61 as new base for estimates at constant prices were published in the "Brochure on the Revised Series of National Product, 1960-61 to 1964-65 (CSO, 1967)" replacing the earlier series with base 1948-49. Simultaneously, work on the estimation of related aggregates like "capital formation" and "saving" for the years 1960-61 to 1965-66 was also undertaken. These estimates were published along with the methodology in two special brochures, (i) "National Income Statistics-Estimates of Capital Formation in India, 1960-61 to 1965-66" and (ii) National Income Statistics-Estimates of Saving in India, 1960-61 to 1965-66 (CSO, 1969). With the introduction of this series with base 1960-61 (hereafter referred to as 1960-61 series), the title of the annual publication was changed to "Estimates of National Product". The coverage of the NAS 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.

1.6 Further, to meet the demand of the users a special supplement, "National Accounts Statistics, 1960-61 to 1972-73-Disaggregated Tables (CSO, 1975)" was brought out. This publication included disaggregated tables on output, input, value added, private consumption expenditure, saving and capital formation. While the publication presented the estimates at current prices for the years 1960-61 to 1972-73, those at constant (1960-61) prices were presented for the entire period of 1950-51 to 1972-73. From the subsequent issue, the NAS 1976, all those tables presented in the special supplement became regular features of the NAS.

1.7 Second revision of the base year (Base 1970-71)

1.7 The base year of the revised series was subsequently changed from 1960-61 to 1970-71 (hereafter referred to as 1970-71 series) and the estimates according to 1970-71 series were published in NAS, January, 1978. These estimates had the same scope, coverage and methodology as the earlier estimates included in NAS, October, 1976 and were based on the latest available data from various sources, like population census, livestock census, various sample surveys and ad-hoc studies undertaken in the NAD. Both 1960-61 series and 1970-71 series are known as "revised series". The detailed methodology of estimation used in the revised series was published in the special publication known as "National Accounts Statistics: Sources & Methods, April 1980" (CSO, 1980). The revisions/ changes in the methodology/data base made have been described in the `Notes & Methodology' in various issues of NAS as also in a special article in the Monthly Abstract of Statistics, in its October, 1985 issue. In order to have comparable series of macro-economic aggregates resulting from the change of base year to 1970-71, the estimates for the back years up to 1950-51 at 1970-71 prices were prepared and published in 1979 and 1980 issues of NAS.

1.8 Third revision of the base year (Base 1980-81)

1.8 The CSO revised the 1970-71 series of national account aggregates with 1980-81 as base year (hereafter referred to as 1980-81 series) in February, 1988. This series was introduced after a comprehensive review of the database as well as the methodology employed in the estimation of various

aggregates. It also involved a number of revisions arising out of the conceptual and methodological improvements as well as use of the latest available data. The revisions brought about for the 1980-81 series were the result of a large number of studies including those for the estimation of consumption of fixed capital based on the estimates of fixed capital stock using perpetual inventory method (PIM) carried out by the NAD since 1983, in collaboration with the Reserve Bank of India (RBI), the Directorate of Economics & Statistics (DESAg) of the Ministry of Agriculture & Directorates of Economics & Statistics (DESS) of the State Governments. The coverage of the series was enlarged to include the State of Sikkim. The improvements proposed for the 1980-81 series were also considered in depth at the Pune Seminar and Conference of the Indian Association for Research in National Income & Wealth (IARNIW) held in December, 1984 and November, 1985 respectively. These proposals and the consequential changes were discussed in detail by the Advisory Committee on National Accounts at two meetings specially convened for this purpose in April 1986 and June 1987. The CSO also benefited from the suggestions received from many other experts in the field of national accounts.

Fourth revision of the base year (Base 1993-94)

- 1.9 The CSO revised the 1980-81 series of national account aggregates with 1993-94 as base year (hereafter referred to as 1993-94 series) in February, 1999. In the past, National Accounts Statistics were mostly revised decennially changing the base to a Year synchronizing with the year of decennial Population Census. It was primarily because in the base year estimates, the information on workforce played an important role and workforce estimates were obtained from the Population Census, which is conducted decennially in the years ending with 1. As a sequel to this sequence, this series of National Accounts Statistics should have been with the base year 1990-91. However, it was observed that the data on worker participation rate (WPR) captured by the National Sample Survey Organisation (NSSO) was better than the one estimated through the Population Census. Accordingly, the CSO used the workforce estimates based on National Sample Survey (NSS) workforce participation rates from the NSS 1993-94 (50th Round) survey results, and revised the base year of national accounts to 1993-94. Of the various changes/methodological improvements effected in the new series,

mention may be made of the estimation of working force by economic activities using the worker-population ratio and the workforce participation rates estimates based on the quinquennial survey on employment and unemployment conducted by the NSSO, 1993-94 (50th Round) and the total population as obtained from the 1991 Population Census, using the database on horticultural statistics released by the National Horticulture Board (NHB) of the Ministry of Agriculture, coverage of the agricultural production in the fore/backyard, floriculture, deep sea fishing, valuation of the output of prawns and shrimps separately, data on which is available from the Ministry of Agriculture, estimation of the contribution of tailoring services, public services in the quasi-government bodies and the contribution of Employees Provident Fund Organisation in the GDP. In the 1980-81 series imputed banking charges (financial intermediation services indirectly measured – FISIM) were being allocated to only few organised segments of the user industries and final consumers. In the 1993-94 series, however, FISIM was allocated to all user industries in line with the recommendations of the 1993 SNA (which came into existence in this period and was 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 World Bank). Further, methodology for estimating the output of insurance services was revised in this series, as per the recommendations of 1993 SNA. The 1993-94 series involved a number of revisions arising out of conceptual and methodological improvements as well as use of latest available data. The comprehensive revisions in this series were based on few studies initiated by the CSO. Particular mention may be made of the three Groups (separately for agriculture, industry and services) comprising representatives of the Ministries and outside specialists to examine the issue relating the under estimation of the GDP. The suggestions of these groups were helpful in the base revision exercise particularly in locating areas of underestimation and in identifying the alternative sources of data for the purpose. Some of the proposals leading to the changes employed in the new series were discussed in the Golden Jubilee Seminar of the Indian Association for Research in National Income and Wealth (IARNIW) held at the Institute of Economic Growth, University of Delhi during 24 - 26 July 1998 and also at the joint

International Conference of the IARNIW and International Association for Research in Income and Wealth held at New Delhi during 16-20 November 1998. The changes effected in the new series in terms of methodology, use of alternative data sources and the consequential changes in the estimates were also deliberated upon in detail by the Advisory Committee on National Accounts under the chairmanship of Dr. Rakesh Mohan, in its meetings held on 19th August 1998, 6th November 1998, 19th January 1999 and 27th January 1999.

Current series of National Accounts (Base 1999-2000)

- 1.10 The CSO revised the 1993-94 series of national account aggregates with 1999-2000 as base year (hereafter referred to as new series) in February, 2006. The three major components influencing the present revision exercise include (i) revision of base year to a more recent year (for meaningful analysis of the structural changes in the economy), (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 1993 SNA.
- 1.11 At the time of introducing the previous series with base year 1993-94, the CSO had announced that the future base year NAS series revisions would take place coinciding with the NSS quinquennial Rounds covering employment and unemployment.
- 1.12 In continuation with the practice of adopting NSS employment and unemployment survey data, the new series of national accounts released on 31st January, 2006 adopted 1999-2000 as the base year, as it has used the data on WPR from the NSS 55th Round Quinquennial survey on Employment and Unemployment, conducted in 1999-2000. In the new series, the WPR data has been used in conjunction with population data of the Population Census, 2001.
- 1.13 In addition to using the results of above surveys and censuses, the CSO entrusted a number of studies to the State Governments, the Directorate of Economics and Statistics, Department of Agriculture and Cooperation, Ministry of Agriculture (DESAg) and the Socio-Economic Research Centre (SERC), a Delhi based NGO, for updating the rates and ratios used in the compilation of national accounts. The CSO also conducted a study

on yield rates of meat, meat products and meat by-products through its own personnel to update the old rates and ratios for these items. The results of the type studies considered for incorporation in the new series relate to those conducted by (i) SERC on rates and ratios in agriculture sector, (ii) CSO on yield rates for meat, meat products and meat by-products, (iii) CSO on yield rates of camel hair and pig bristles, (iv) DESAg on market charges paid by the farmers, (v) Directorate of Economics and Statistics, Government of Haryana, on input rates for inland fishing, and (vi) Indian Council for Forest Research Education (ICFRE) on output of forest products.

Improvements in coverage

- 1.14 The improvements in terms of coverage in the new series in the GDP estimates have mainly been inclusion of production of (i) salt through seawater evaporation, (ii) betel leaves (for States of Assam & West Bengal), (iii) toddy, (iv) goat milk (in 16 States/UTs), buffalo milk (in 5 States/UTs) and camel milk having economic value and not presently covered in the production data, (v) duck eggs (in 15 States/UTs), and (vi) meat production from unregistered slaughtering in the States where the same is presently not covered in the production estimates. Further, capital expenditures incurred on (i) seven new tree crops during the gestation period, and (ii) installation of wind energy systems, are included in the estimates of output of construction sector, as well as in the capital formation. A new category of 'valuables', covering the expenditures made on acquisition of valuables namely gold, jewellery, etc. has been included in the gross capital formation, but as a separate category outside the Gross Fixed Capital Formation (GFCF) and Change in Stocks, in line with the recommendations of 1993 SNA.
- 1.15 In addition to the above, economic activities like (i) other private communication, (ii) renting of machinery and other equipment without operator, (iii) computer related activities in unorganized segment, (iv) coaching centres, (v) social work with accommodation, and (vi) recreation and cultural and supporting activities, have been taken into account as per the latest available data from the NSS 55th and NSS 57th Rounds. These activities were not adequately captured in the earlier series, but are explicitly defined in the National Industrial Classification, 1998, according to which the NSSO collected the data in these Rounds.

Improvements in the procedures of compilation

- 1.16 The important procedural changes made in the new series are (i) use of the production data provided by the National Horticulture Board (NHB) for all horticultural crops (with the exception of those covered under principal crops) and the price data provided by the State Directorates of Economics and Statistics (State DESs) for all crops; (ii) introduction of a new basic material, 'fixtures and fittings' in the construction sector in addition to the existing 4 basic materials for estimating the value of output of construction sector; (iii) netting the retained reserves and dividends paid from the property income of mutual funds for the purpose of estimating the output of banking sector; (iv) aligning the estimates of capital formation by industry of use with those of assets/institutions; (v) adjusting for reinvested earnings in India of foreign companies in the estimates of saving of private corporate sector and the consequential changes in the external transactions account; (vi) including in the private corporate sector's GFCF, the domestic consumption of software (net of public sector purchases) and the expenditures incurred on construction of assets by the newly set up companies before they commence production; and (vii) treating the operating losses of departmental commercial undertakings as imputed subsidies, in line with the practice currently followed for irrigation departments.

Implementation of recommendations of 1993 SNA

- 1.17 While undertaking the new base year exercise, efforts have also been made to implement the recommendations of the 1993 System of National Accounts (1993 SNA) to the extent data are available. Some of the recommendations of the 1993 SNA which presently form part of the new series are:
- valuation of non-market agricultural crops on the basis of prices of similar products made by market producers and their inclusion in the production boundary;
 - inclusion of own-account production of housing services by owner-occupiers and of domestic and personal services produced by employing paid domestic staff;
 - inclusion of premium supplements in respect of life and non-life insurance output estimates;
 - inclusion of reinvested earnings of foreign direct investors in the rest of the world account. This treatment affects gross national product, saving and capital formation;
 - imputed value of own-account labour

- treated as mixed income of self-employed;
- expenditures on mineral exploration treated as capital expenditure;
- allocation of financial intermediation services indirectly measured (FISIM) to the users of these services, as intermediate consumption to industries and as final consumption to final users;
- inclusion of expenditures on valuables, which are held as stores of value, and are treated as Gross Capital Formation;
- treatment of expenditures on software as Gross capital formation;
- inclusion of natural growth of livestock as Gross capital formation
- inclusion of expenditures made on few tree crops during the gestation period as Gross capital formation;
- addition of capital expenditure incurred on installing the wind energy systems in the Gross Fixed Capital Formation;
- estimation of consumption of fixed capital of all fixed assets including government buildings, roads, dams etc. by Perpetual Inventory Method (PIM); and
- adopting the practice of changing base year every 5 years.

Consultation with Expert Bodies

- 1.18 The new series involves a number of revisions arising out of conceptual and methodological improvements as well as use of latest available data. The comprehensive revisions in the new series are also the results of a number of studies initiated by the CSO in the recent past and also the outcomes of the two Sub-Committees of the Advisory Committee on National Accounts Statistics, namely, the Working Group on Workforce Estimation under the Chairpersonship of Smt. Grace Mazumdar, and the Sub-Committee to suggest suitable sources of data for area, production and prices for estimating value of output of horticulture crops for the new series under the chairmanship of Shri Pratap Narain.

- 1.19 Some of the proposals leading to the changes employed in the new series were discussed in the Conference and Seminar of the Indian Association for Research in National Income and Wealth (IARNIW) held at Ooty, Tamil Nadu in November, 2004 and at Goa, in December, 2005, respectively. The changes effected in the new series in terms of methodology, use of alternative data sources and the consequential changes in the estimates were also deliberated upon in detail in the last four meetings of the Advisory Committee on National Accounts Chaired by Prof. S. D. Tendulkar and having eminent economists/statisticians and

representatives of Ministry of Agriculture, Finance, Planning Commission, Reserve Bank of India, State Governments as members, held on 6 May, 2004, 14-16 December, 2004, 11-12 August, 2005 and 9 January, 2006. The changes effected in the new series are in accordance with the advice of the Advisory Committee.

Changes in GDP estimates, by industry

- 1.20 The changes made in the new series in the methodology and in the choice of sources of data in compiling estimates of gross domestic product by economic activity, in brief, are:
- Agriculture and Livestocks**
- 1.21 **Cereals, pulses, oilseeds, sugars, fibers, indigo, and condiments and spices crops:** For valuing the cereal crops for non-procured quantities, the price data furnished by the states has been used.
- 1.22 **Drugs and narcotics crops:** The production of betel leaf in Assam and West Bengal has now been included in the new series at the suggestion of the concerned States.
- 1.23 **Fruits and Vegetables:** The sources for production data for horticulture crops are (i) DESAg for the 5 principal crops of banana, potato, onion, tapioca and sweet potato, and (ii) the National Horticulture Board (NHB) for all other crops. However, for valuing these crops, price data provided by the state governments has been used.
- 1.24 **Other crops:** For updating the rates and ratios used in agriculture sector, a type study was entrusted to the Socio Economic Research Centre (SERC). The SERC study on fodder crops gave new yield rates (state-wise) ranging from 30 tonne/ha to 70 tonne/ha; and also separately for irrigated areas at 50 tonne/ha and un-irrigated areas at 25 tonne/ha. The new yield rates have been used in the new series for estimating the value of output of fodder crops.
- 1.25 **By-products:** Latest data on cost of cultivation studies available from the Ministry of Agriculture has been used for this group of crops.
- 1.26 **Kitchen garden and toddy:** Under kitchen garden, prices for fruits and vegetables given by state governments has been used as value per hectare of fruits and vegetables is applied on the estimated area under kitchen garden to estimate the value added by them. Toddy has been included for the first time, at the instance of DES, Andhra Pradesh. The output
- 1.27 **Milk:** Coverage of milk production has been extended to goat milk, buffalo milk and camel milk (having economic value) in States, where the same are presently not included in the total milk production, as per the state-wise details of production and livestock population provided by the Department of Animal Husbandry, Dairying and Fisheries (DAHD).
- 1.28 **Meat:** The following changes have been made under this item in the new series: (i) inclusion of meat production from places other than registered slaughter houses, in Tamil Nadu, Karnataka and Gujarat; and (ii) revision of yield rates of meat products and meat by-products.
- 1.29 **Eggs:** In the new series, production of duck eggs in States, where the same is presently not covered in the total egg production, has been included.
- 1.30 **Wool, hair and pig bristles:** For estimating the output of camel hair the yield rate per camel per year for single humped camel provided by the NRC, as 800 gm was applied. For the yield rates of pig bristles, the CSO conducted a study on its own in the Pig Fair of Bhongaon, District Mainpuri, Uttar Pradesh. From this study, the average yield rate of pig hair per year is estimated at 155 gm, as against the yield rate of 92 grams used in the old series. The new yield rate has been used in the new series.
- 1.31 **Dung and increment in livestock:** The latest 2003 livestock census data has been used to estimate the population of livestock and dung production in the new series.
- 1.32 **Inputs:** Seed rates which are used are based on the latest data from cost of cultivation studies. For estimating the market charges paid by the farmers, the CSO conducts a study through the DESAg, Ministry of Agriculture at the time of revising the base year. The recent study on this was extended to 8 crops, namely, paddy, wheat, maize, gram, ginger, mango, potato and onion instead of two crops –wheat and paddy undertaken earlier. Based on the results of this study, the market charges paid by the farmers are estimated at 2.358 per cent of total value of output of agriculture sector, which has been adopted for the new series.
- 1.33 **Forestry**
For estimating the production of firewood,

the NSS consumer expenditure data is used. For the new series, the results available from the NSS 55th Round (1999-2000) on consumer expenditure, have been used.

Fishing

- 1.34 There was no change in the procedure.

Mining and quarrying

- 1.35 The economic activity of salt production by solar evaporation has been included in the coverage of national accounts.

Manufacturing

- 1.36 **Registered manufacturing:** The estimates of GDP for the year 1999-2000 have been compiled from the results of ASI, 1999-2000. The changes made in this sector in the new series relate to (i) adoption of National Industrial Classification, 1998 (NIC 1998) in place of NIC 1987 which was followed in old series, (ii) inclusion of the activities of currency, coinage and mint units under public sector, and (iii) exclusion of industry group "repair services" (3-digit codes 394, 398 and 97 under NIC 1987) as a result of adopting the NIC 1998 classification.

- 1.37 **Unregistered manufacturing:** The GVA estimates for the new series for this sector have been prepared separately for the two segments of the unregistered manufacturing sector, namely (i) the segment of Small Scale Industries (SSI) (other than those covered under the ASI), and (ii) the rest of the unorganized manufacturing sector, i.e. the manufacturing sector which is not covered under either the ASI or the SSI. The GVA for the SSI segment for the new series has been estimated using the value of output data available from the results of Third All India Census on Small Scale Industries units, 2001-02 published by the Development Commissioner, Small Scale Industries and the GVA/GVO ratios available from the results of NSS 56th Round survey on unorganized manufacturing (The estimates of GVA are not separately available in the results of SSI Census). Due adjustments have been made to bring the estimates of GVA of the SSI segment to the price levels of 1999-2000.

- 1.38 The estimates of other unregistered manufacturing units, i.e. the units not belonging to SSI group mentioned above, have been compiled using information on GVA per worker from the integrated surveys of enterprises and households in the 56th Round (2000-01). The GVA per worker from 56th Round of NSS that relates to the year 2000-01 has suitably been deflated to 1999-2000. The estimates of work force for this

portion of unregistered manufacturing i.e. for the units neither belonging to ASI nor to SSI, have been obtained from the total work force on manufacturing activities by subtracting the workforce relating to ASI and SSI (non-ASI) segments.

Electricity, Gas and Water supply

- 1.39 **Electricity:** In the new series, the operating losses of departmental commercial undertakings (DCUs) have been treated as imputed subsidies, in line with the treatment for the irrigation departments in the old series.

- 1.40 **Water supply-Public Sector:** The estimates of Net Value Added (NVA) consists of compensation of employees as obtained from budget expenditure on salaries and wages Central and State governments as well as local bodies. Kerala Water Authority data has been included in this sub-sector in the new series.

- 1.41 **Water supply-Private Sector:** The estimates of compensation of employees for the new series for this part have been prepared using the estimates of workforce and average compensation of municipal workers engaged in water supply services.

Construction

- 1.42 The construction sector comprises two components namely (i) accounted construction (pucca construction) and (ii) unaccounted construction (kutchha construction). The former is measured through the commodity flow approach, while the later through the expenditure approach. The broad methodology adopted in the new series for working out the total output, gross value added and the Gross Fixed Capital Formation from construction sector is more or less same as the one used in 1993-94 series except some minor modifications. After the estimates of accounted construction of the entire economy are compiled through the commodity flow approach, the estimates of public sector and private corporate sector are independently compiled utilizing the data sources of budget, profit and loss accounts, and the balance sheets. Some of the components of construction in the household sector are also independently estimated.

- 1.43 In respect of the household sector, the estimates of the new construction and repair and maintenance for (i) rural residential buildings (RRB), (ii) rural non-residential and other construction works (RNRB and OCW), (iii) urban residential buildings, and (iv) urban nonresidential and other construction

works are prepared initially for the benchmark years using the results of All India Debt and Investment (AIDIS). These benchmark estimates are extrapolated with various indicators such as norms derived from various housing censuses and other survey results, and composite price indices, for compiling the estimates for subsequent years. The above said estimates are further apportioned to accounted and unaccounted construction using the norms derived from the results of relevant NSSO surveys. In the new series estimates, additional items included in the coverage, are recorded below.

- 1.44 **Accounted construction:** The item "fixtures and fittings" which was merged with the item "other materials" in 1993-94 series has been segregated from the item "other materials" in the new series, as this item plays an important role and makes significant contribution in construction activities. Further, under item timber and Round wood, the imports of wood and timber products and veneer plywood have also been included in the new series. In addition to these two changes, the detailed results of ASI, 1999-2000 have been used for finalising the item basket and estimates of value of output, at the 4-digit level of NIC 1998, separately for each of the 5 basic materials viz cement and cement products, iron and steel, bricks and tiles, timber and Round wood and fixtures and fittings.
- 1.45 **Unaccounted construction:** In the new series, the coverage under unaccounted (kutcha) construction has been extended to include civilian construction in installing wind energy systems and 7 additional plantation crops (coconut, areca nut, cashew nut, mango, sapota, grapes and citrus fruits) under cultivated assets. The capital expenditure incurred on cultivation of plantation crops during the gestation period is treated as output under kutcha construction of the 'Construction Industry' for that year. In respect of wind energy, 8.7 per cent of the total capital expenditure incurred in constructing the wind energy systems, which include wind mills, aero-generators and wind turbines, has been treated as new construction in un-accounted (kutcha) construction, based on the cost structures of the projects undertaken.
- 1.46 The costs of new construction, repair and maintenance of public and private corporate sectors have been estimated independently from the budget documents/ annual reports. For the household sector, the results of AIDIS, 1991-92 have been used for compiling
- the estimates of construction in rural - urban residential and non-residential buildings, and other construction works by the households both in farm and non-farm business with minor adjustments, because of non-availability of the results of AIDIS, 2002-03. The revised norms used for apportioning the rural residential buildings into accounted and unaccounted constructions are 79:21 in the new series, in place of norms of 72:28 used in the old series and for urban residential buildings, they are 97:3, instead of 80:20, respectively. These norms have been adopted on the basis of results of NSS 58th Round survey on housing conditions. Other construction works taken up by households engaged in farm business has been treated as unaccounted construction and that in non farm business as accounted construction.
- Trade, hotels and restaurants**
Trade
- 1.47 In the new series, there is change in the coverage of trade sector. This sector now comprises the following five categories, as per NIC 1998 classification:
1. 502+50404, "Maintenance and repair of motor vehicles" (new item)
 2. 50-502-50404, "Sale of motor vehicles"
 3. 51+74991, "Wholesale trade except of motor vehicles+ Auctioning activities"
 4. 526, "Repair of personal and household goods" (new item)
 5. 52-526, "Retail trade (except motor vehicles)."
- 1.48 The GVA estimates of Trade sector have been prepared separately for:
- i. Public sector having units engaged in retail and whole sale trade (except of motor vehicles) + Auctioning activities;
 - ii. Private Organised sector consisting of (a) Private Corporate units engaged in retail and wholesale trade (except of motor vehicles) + Auctioning activities, (b) Trading Co-operative units engaged in retail and wholesale trade (except of motor vehicles) + Auctioning activities, (c) Maintenance and repair of motor vehicles and (d) Repair of personal household goods;
 - iii. Private Unorganised sector having units engaged in all the five categories.
- 1.49 The revision in GDP estimates of public, private and unorganized components in 1999-2000 in the new series has been due to the availability of latest data from different source agencies. For public sector trading units, estimates have been compiled by analysing the annual accounts of public trading enterprises and budget documents.

Estimates for private organized (DGET definition) part comprising private corporate sector and co-operative societies engaged in trade have been prepared for 1999-2000 using the results for the RBI study on company finances, total paid-up capital of companies available from Ministry of Company Affairs and information available from the NABARD publication entitled "Statistical statements relating to the Co-operative movement in India 1999-2000".

- 1.50 The contribution of the unorganized segment has been estimated as a product of workforce and value added per worker. The workforce estimates have been prepared using the results of NSS 55th Round survey on Employment-Unemployment (WPRs), 1999-2000 along with the data on population from the Population Census 2001. The estimates of workforce of private unorganized part for all five categories (rural and urban) has been obtained for the benchmark year 1999-2000, by subtracting the estimated workforce in public sector and the private organized segment, available from DGET (assuming that DGET workforce includes the workforce of co-operative as well) from the total workforce of the sector. The GVA per worker used for the new series is that of 'all enterprises' category available in informal sector survey conducted in NSS 55th Round (1999-2000).
- 1.51 In the new series for trading activity, the activities relating to NIC, 1998 codes, 502 and 526 have also been included for the first time.

Hotels and restaurants

- 1.52 This sector comprises activities covered in the categories 551 and 552 as per NIC, 1998. In 1993-94 series, hotel and restaurants corresponded to category 69 of NIC, 1987. The methodology followed for estimating GDP of public, private organized and private unorganized in the new series is the same as that of 1993-94 series. The revision in GDP estimates of public, private and unorganized components is due to latest data made available by different source agencies. For public sector, the estimates are based on analysis of annual accounts of public enterprises and budget documents. Estimates for private organized (DGET definition) part have been prepared for 1999-2000 using the results for the RBI study on company finances, total paid-up capital of companies available from Ministry of Company Affairs. For private unorganized segment, in 1993-94 series, the GVA per worker was taken from Enterprise Survey of 1993-94 on

'Hotels, Restaurants and other lodging places'. The workforce estimates were prepared using EUS 50th Round along with Population Census 1991. For the new series, GVA per worker from Enterprise survey conducted during 57th Round (2001-02) of NSS and workforce estimates from Employment-Unemployment Survey, 1999-2000 along with Population Census 2001 have been used.

Transport by means other than railways and storage

- 1.53 For the new series, the GVA per worker has been taken from the Enterprise Survey of NSS-57th Round (2001-02). GVA estimate has been prepared by multiplying the workforce (duly adjusted for public sector) with GVA per worker available from the Enterprise Survey 2001-02 results for the respective NIC codes. The economic activities of Airport Authority have now been shifted to the sub-sector 'service incidental to transport'. Similarly, supporting service to water transport which was part of water transport, has been shifted to 'service incidental to transport' in the new series.

Communication

- 1.54 **Private Communication Services:** The economic activities covered under this sector are (i) Courier activities (NIC-98, code-64120), (ii) Activities of the cable operators (NIC-98, code-64204) and (iii) Other communication (NIC-1998, code- 642 (-) 64204). The earlier methodology was reviewed and latest available data were used from the year 1997-98 onwards keeping in view the activities covered under "Pvt. Communication" and separate estimates for cellular mobile, courier services, and public call office booths (PCOs) were compiled. Activity-wise methodology of estimation of GVA for the new series is given below.
- 1.55 **Courier Services:** The estimates of GVA for courier services for the year 1999-2000 have been compiled using the estimates of value added per worker (VAPW) from the results of NSS 57th Round survey on services sectors, 2001-02 and workforce estimates, separately for Rural/Urban/organized/un-organised segments. The organized sector estimate has been prepared using DGET workforce and corporate sector value added per worker from the results of NSS 57th Round survey. The estimated GVA for the un-organised sector has been compiled by subtracting the estimated workforce in organized sector (DGET source) from the total workforce and the estimated VAPW for un-organised sector from the results of NSS 57th Round.

- 1.56 **Activities of cable operators:** Separate estimates for this category have been prepared in the new series. The estimates of GVA for these services for the year 1999-2000 have been compiled using the estimated VAPW of rural/ urban from the NSS 57th Round survey results and the estimated workforce in the economic activity.
- 1.57 **Communication services other than those of couriers and cable operators:** This sub-sector covers the activities of cellular and basic telecom services, and the activities of PCOs. The estimates of GVA for other communication services for the year 1999-2000 have been compiled using the estimated VAPW from NSS 57th Round survey results and the estimated workforce in the activity, separately for Rural / Urban / organized / un-organised segments. The private organized sector estimates have been prepared using the data on estimated workforce (from the DGET source) and the estimated VAPW from NSS 57th Round survey results in respect of corporate sector. In the new series the economic activities of internet, cyber cafés, etc. have also been included.
- Banking and insurance**
- 1.58 The estimates of GDP for the banking and insurance sector have changed significantly due to the change in the methodology in the new series. However, there has not been much overall impact on the national level estimates of GDP, due to the corresponding reduction in the Financial Intermediation Services Indirectly Measured (FISIM), which in turn has led to higher GDP in user industries. The details are available in Chapter 18.
- Real estate, ownership of dwellings, legal and business services**
- 1.59 In the new series, research and scientific services have been included under "real estate, ownership of dwelling and business services sector", whereas the same was part of "other services" sector in the old series. The major data sources for estimating the GVA for this sector are, NSS 55th Round survey on Employment and Unemployment, 1999-2000, and Population Census, 2001 for estimates of workforce and the results of NSS 57th Round survey on services sector for estimates of VAPW, annual reports of software companies, The National Association of Software and Service Companies (NASSCOM) data on output of software services, Population Census, 2001 for information on residential houses in urban and rural areas, and the results of NSS 55th Round on consumer expenditure for estimates on rent per household, and various price indices, namely, CPI (agricultural labourers), CPI (industrial workers) and CPI (urban non-manual employees).
- 1.60 **Real estate:** The estimates of Value Added for the base year (1999-2000) from these services in the new series have been prepared using the estimates of VAPW from NSS 57th Round and the estimated workforce from NSS 55th Round, separately for rural / urban /organized/unorganized sectors.
- 1.61 **Renting of machinery and equipment without operator:** The estimates of GVA for these activities have been compiled separately in the new series by using the estimated VAPW and workforce in the activity, from the results of NSS 57th Round and NSS 55th Round, respectively.
- 1.62 **Computer and related activities in private sector:** The estimates of GVA for the new series of NAS have been compiled for organized and unorganised segments, separately. The GVA estimates for organised sector have been prepared using NASSCOM's data on production of software services and the value added ratio estimated from the analysis of annual reports of few software companies. The estimates of GVA for the year 1999-2000 for the unorganised segment have been prepared using the data on workforce and VAPW from the results of NSS 55th Round and NSS 57th Rounds, respectively. The estimates were prepared separately for rural and urban areas.
- 1.63 **Legal activities:** The estimates of GVA for legal services in the new series have been prepared using the data on workforce and VAPW from the results of NSS 55th Round and NSS 57th Rounds, respectively, also separately for rural / urban/organized/unorganised sectors.
- 1.64 **Accounting, book-keeping and related activities in private sector:** The estimates of GVA for accounting and book-keeping services etc. in the private sector in the new series for the year 1999-2000 have been prepared following the labour input method by using the data on workforce and VAPW from the results of NSS 55th Round and NSS 57th Rounds, respectively, separately for rural and urban areas.
- 1.65 **Other Business services:** This compilation category has been introduced after re-grouping the activities under business services and other services. In the 1993-94 series, the estimates of Research and scientific services (NIC-87 code 922) were

included under 'other services'. In NIC-98, this activity is classified under code 73, which is under 'business services', and as such in the new series this activity has been included under 'business services'. Similarly, the GVA estimates of 'press agency activities' falling under NIC-87 code 897 were being compiled, though not exclusively, under the category of 'business services' in the 1993-94 series. Now, this activity falls under 'news agency activities', which is classified under NIC-98 code 922, and the GVA estimates for this activity have been included under 'other services' in the new series. Thus, the comparison of GVA estimates of 'business services' in the 1993-94 series, and the new series, has to be done keeping these aspects in view.

1.66 The estimates of GVA for this compilation category have been prepared separately for organized and unorganised segments and for rural and urban areas for the base year in the new series by using the data on workforce and VAPW from the results of NSS 55th Round and NSS 57th Rounds, respectively.

1.67 **Ownership of dwellings:** The economic activities covered in this sector are ownership of dwellings (occupied residential houses) including imputed value of owner occupied dwellings also. 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. In the new series, the data on dwellings and rent per dwelling, separately for rural and urban areas has been taken from the Population Census, 2001 and the results of NSS 55th Round on consumer expenditure.

Other services

1.68 The economic activities covered under this sector are (i) coaching and tuition (NIC-98 codes 80903 and 80904), (ii) education excluding coaching and tuition (NIC-98 code 80 (-) 80903 (-) 80904), (iii) human health activities including veterinary activities, (iv) sewage and refuse disposal, sanitation activities (nic-98 code 90), (v) activities of membership organisations (+) social work (NIC-98, code 91+ 853), (vi) recreational cultural and sporting activities (NIC-98, code 92), (vii) washing and cleaning of textiles and fur products (NIC-98, code-9301), (viii) hair dressing and other beauty treatment (NIC-98, code 9302) (ix) funeral and related activities (NIC-98 code 9303+9309), (x) private households with employed person (NIC-98 code 95), (xi) custom tailoring (NIC-98, code 18105), and (xii) extra territorial

organisations and bodies (NIC-98 code 99).

1.69 The method generally followed for estimation of value added for different categories of services in the non-public segment is the labour input method (estimated workforce multiplied by the average value added per person in the activity). For the public sector part, estimates are compiled by analyzing the budget documents of central and state governments and annual reports of public undertakings. For the private organized part, estimates of workforce are from the DGET source and the VAPW from the NSS 57th Round in respect of the enterprises recorded as companies. For the private unorganized part, estimates of workforce are from the NSS 55th Round (total workforce in each economic activity), reduced by the workforce in the public and private organised sectors (available from the DGET), and the VAPW from the NSS 57th Round in respect of enterprises recorded as non-corporate. Following are the major data sources used for the compilation of estimates of GVA in the new series:

- NSS 55th Round (1999-2000) EUS;
- Population Census, 2001;
- DGET-Employment Review, annual data;
- NSS 57th Round (2001-02) on services;
- Budget documents and annual reports for data relating to activities of these services under public sector; and
- Consumer price indices of agricultural labourers and industrial workers

1.70 **Educational services:** In the 1993-94 series, GVA estimates in respect of education were prepared separately for recognized and non-recognized educational institutions. The GVA for the recognised institutions under public sector was taken to be equivalent to the expenditure on salaries and wages of teaching and non-teaching staff of educational services as available from the budget documents of centre and states and consumption of fixed capital (CFC). For the private recognised educational institutions, the estimates of GVA were obtained as a residual from the data on total salaries and wages paid to teaching and non-teaching staff of recognised institutions as available in the publication 'Education in India' for the year 1986-87, after subtracting the public part. For the private unorganised educational institutions, the method adopted for estimating the GVA in the old series was the labour input method. The estimates of workforce in this activity was estimated as a residual from the total workforce by subtracting the workforce in the activity in

the public and private organised sector (DGET source) and the estimates of VAPW were from the Enterprise Survey, 1991-92. The overall workforce was obtained from the NSS 50th Round survey results. The procedure followed in the new series for the base year 1999-2000 is described below:

- 1.71 **Coaching and tuition:** The activities covered under this compilation category are the activities of coaching centres and individuals providing tuitions. The estimates of GVA for coaching and tuition activities have been prepared for the year 1999-2000 following the labour input method using the results of NSS 55th Round on employment and unemployment and NSS 57th Round on services sectors.
- 1.72 **Education excluding coaching and tuition:** The activities covered under this compilation category are the activities of private education institutions, excluding those of coaching centres and individuals providing tuitions. The GVA estimates for education in the new series have been prepared separately for recognised and non-recognised institutions. The GVA for the recognised institutions under public sector is taken to be equivalent to the expenditure on salaries and wages of teaching and non-teaching staff of educational services as available from the budget documents of centre and states and consumption of fixed capital (CFC). The estimates for recognized institutions under private sector have been prepared following the labour input method using the data on workforce available from the DGET and the estimated VAPW from the NSS 57th Round (corporate sector part). The GVA estimates for private un-recognized institutions for the year 1999-2000 have been compiled following the labour input method separately for rural and urban areas, using the results of NSS 55th Round (after excluding the workforce in the organised sector from the DGET source) and the results of NSS 57th Round on VAPW (unorganised part).
- 1.73 **Human health activities and veterinary activities:** The activities covered under this compilation category are the activities of human health and veterinary services. In the new series, estimates of GVA in human health and veterinary services have been prepared separately for public, private organised and private unorganised sectors using the labour input method. The GVA for the public sector has been taken to be equivalent to the expenditure on salaries and wages of medical personnel obtained from the analysis of the budget documents plus
- the consumption of fixed capital. The GVA for private organised sector has been estimated using workforce estimates from DGET, and VAPW of corporate sector estimated from the results of NSS 57th Round survey on services sectors. For the unorganised segment, the labour input method was followed for estimating GVA for 1999-2000, with work force estimates in the unorganised sector compiled as a residual by subtracting the organised sector workforce (DGET source) from the total workforce as per NSS 55th Round survey on employment and unemployment; and the VAPW for the unorganised segment estimated from the NSS 57th Round survey results.
- 1.74 **Sewage and refuse disposal, sanitation activities:** The activities covered under this category are the sewage and refuse disposal, sanitation and similar activities. The GVA estimates for these activities for the new series have also been prepared separately for public and private sectors. Public sector estimates are the sum of expenditure on salaries and wages of activities covered under government and consumption of fixed capital. The public sector workforce (WF) as obtained from DGET has been subtracted from the total EUS workforce estimate from NSS 55th Round to get the WF estimates for private segment. Thus obtained private sector WF estimates have been divided into rural and urban areas and have been multiplied with VAPW of sanitary workers (data obtained from municipal returns) to get the GVA estimates for the base year.
- 1.75 **Activities of membership organisations and social work:** This sub-sector includes the activities of associations of writers, painters, lawyers, doctors, journalists and other similar organizations, activities of trade unions, interested chiefly in the representation of their views concerning their work situation, activities of other membership organizations, activities of religious organisations, activities of political organizations, activities of other membership organizations, social work with accommodation, and social work without accommodation. The GVA estimates in the new series for the base year 1999-2000 from these services have been compiled using NSS 57th Round (2001-02) survey results for estimating the VAPW and NSS 55th Round EUS survey results for estimating the workforce. This has been done separately for rural, urban areas and also by organized and unorganized sectors. This activity corresponds to community services of 1993-94 series.

- 1.76 **Recreational, cultural and sporting activities:** The activities covered in this category are recreational, cultural and sporting activities. In the new series, the estimates of GVA for this activity have been compiled for the base year 1999-2000, separately for public, private organized and private unorganized segments. While the estimates of GVA for the Public Sector are from the budget documents and annual reports of public undertakings, those of private organized and private unorganized have been compiled following the labour input method, with workforce data from the DGET and the NSS 55th Rounds (total workforce), respectively, and the estimates of VAPW for these two segments from the NSS 57th Round survey results.
- 1.77 **Washing and cleaning of textiles and fur products:** The activities covered in this category are washing and dry cleaning of textile and fur products. The GVA estimates for the base year (1999-2000) in the new series in respect of these services have been prepared using NSS 57th Round (2001-02) survey results for the estimates of VAPW and the NSS 55th Round EUS results for workforce, separately for rural and urban areas.
- 1.78 **Hair dressing and other beauty treatment:** The activities covered in this category are hairdressing and other beauty treatment. The GVA estimates for the base year (1999-2000) in the new series from these services have been prepared using NSS 57th Round (2001-02) survey results for VAPW and NSS 55th Round EUS results for the workforce, and following the labour input method, separately for rural and urban areas.
- 1.79 **Custom tailoring:** In the new series, the GVA for these services in the base year has been estimated using NSS 56th Round (unorganized manufacturing) data on VAPW and NSS 55th Round data on work force, separately for rural and urban areas.
- 1.80 **Funeral and related activities:** The activities covered in this category are funeral and related activities (NIC-98, code 9303) and other service activities, n. e. c. (NIC-98, code 9309). The GVA estimates for the base year (1999-2000) in the new series in respect of these services have been prepared using NSS 57th Round (2001-02) results for the VAPW estimates and NSS 55th Round EUS results for workforce, following the labour input method, separately for rural and urban areas.
- 1.81 **Private households with employed person:** The activities covered in this category are private households with employed persons. Data on private households with employed persons was not collected in the NSS 57th Round survey on services sectors, as it was not found to be 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 VAPW for this activity in the new series for 1999-2000 has been estimated on the basis of wage data collected in the NSS 55th Round Employment Unemployment Survey. The total weekly earnings of the workers falling under this category have been divided by the number of workers to arrive at weekly wages/salaries. The GVA estimates in respect of these services have been compiled using average weekly wage per unit of labour input (adjusted for annual wages), separately for rural and urban areas in the base year.
- 1.82 **Extra territorial organisations and bodies:** The activities covered in this category (NIC-98, Code 99) are extra territorial organisations and bodies including the activities of international organizations such as United Nations and its agencies, regional bodies etc., and of International Monetary Fund, World Bank, European Commission, etc. The estimates of GVA of these services are prepared using the results of NSS 55th Round and DGET sources and thrice the VAPW of Public Administration and Defence (as a proxy), separately for rural and urban areas.
- 1.83 **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 i.e. tangible (buildings, other construction, roads and bridges, transport equipment and other machinery and equipment) and intangible fixed assets (software and mineral exploration) owned by producers. Fixed assets must have been produced as outputs from the process of production. Exceptions to the above cases are the following:
- CFC 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.
- 1.84 The estimates of Gross and Net Fixed Capital Stock (GFCS and NFCS) and CFC both at current and constant prices are based on the Perpetual Inventory Method (PIM), as recommended under the System of National Accounts-1993 (1993 SNA). 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;
- 1.85 In the new series, some modifications have been done in terms of transferring the assets from Departmental Commercial Undertakings (DCU) to Non-departmental Commercial Undertakings (NDCU) and from NDCUs to private sector in respect of some units keeping in view their current status, as per the definitions of these institutional sectors (examples are Mahanagar Telephone Nigam Ltd., Bharat Sanchar Nigam Ltd., Videsh Sanchar Nigam Ltd., Prasar Bharati, etc.). Further, on the basis of latest availability of data, the ages of different categories of assets have been modified. Also, the changes made in the coverage of capital formation have a bearing on the estimates of capital stock and CFC in the new series.
- 1.86 Following is the step-wise description of the methodology followed in the new series:
- i. Rebasings of the price indices at 1999-2000, i.e., making it 100 for the year 1999-2000;
 - ii. Review and revision of average life of assets, due to changes in technology or some other reasons;
 - iii. Incorporating the latest estimates of Gross Fixed Capital Formation for the year 1999-2000 as per the new series;
 - iv. Estimating the GFCF for the back years using splicing techniques. The splicing is suitably done upto the year from which the change has taken place; and
 - v. Calculation of GFCS, CFC and NFCS following the PIM.
- Expenditure aggregates and saving**
- 1.87 The expenditure aggregates of GDP comprise consumption expenditure (government final consumption expenditure and private final consumption expenditure), gross fixed capital formation, change in stocks, valuables, and net exports. These estimates are compiled at market prices. The GDP at factor cost by economic activity is adjusted by adding indirect taxes net of subsidies to arrive at the estimate of GDP at market prices, so that it equals the expenditure on gross domestic product.
- Private Final Consumption Expenditure (PFCE)**
- 1.88 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 GDP estimates and as such the improvements/changes in data sources and coverage etc. in GDP estimates are included in the estimates of PFCE.
- 1.89 **Marketable surplus ratios:** In the 1993-94 series, the marketable surplus ratios for agricultural commodities were based on the data for the year 1993-94 provided by the Directorate of Economics and Statistics (DESAg), Ministry of Agriculture. These ratios have been revised in the new series for most items on the basis of latest data available with the DESAg for the years 1999-2000 to 2001-02. In the new series, the average of the marketable surplus ratios for the years 1999-2000, 2000-01 and 2001-02 has been used as the benchmark ratios for the base year, for different agricultural commodities.
- 1.90 In order to estimate the net availability of each item of private final consumption, item wise details of Government Final Consumption Expenditure (GFCE) are required, as compilation of PFCE is mostly through the commodity flow method, in which estimates of PFCE are compiled as residual from the total output of each item by subtracting from it, the estimated inter-industry utilization and other final uses. The item-wise estimates of GFCE are compiled at the time of preparation of 5 yearly Input Output Transactions Tables (IOTT) for the Indian economy. While preparing the IOTTs, item-wise expenditure data, which is otherwise not available in the budget documents, is collected from a sample of departments of Central and State Governments. For the new series, the item-wise GFCE data has been compiled using the norms of IOTT 1998-99 and the budget head-wise expenditures for the year 1999-2000.
- 1.91 **Manufactured goods used for PFCE:** For the majority of manufactured items, database for the preparation of estimates of PFCE is the same as that used for estimating the

- domestic product. While data on output according to products and industries is available from the Annual Survey of Industries (ASI) every year, such data is not available for the unregistered manufacturing sector. Therefore, for estimating the item/group-wise value of output of unregistered manufacturing sector, the value added to output ratios of registered manufacturing sector for the corresponding industry groups have been used. Once the value of output of manufacturing sector is estimated at item/group level, it is necessary to know the extent of PFCE out of this output. For this purpose, the item basket, against which data on value of products and byproducts for consumable/durable goods for the year 1999-2000 are available from the Annual Survey of Industries (ASI), 1999-2000, has been examined to identify the items of final consumption. The total value of output of identified items of consumption has been estimated from the ASI detailed results and with this; ratios of PFCE out of the total output have been developed at broad group level for use in the new series. These ratios at broad group level (at which annual ASI data on output are available) have been used for estimating PFCE for subsequent years in respect of manufactured goods.
- 1.96 **Medical care and health services:** In the 1993-94 series, the estimates of expenditure of households on health care were based on the results of NSS 50th Round Consumer Expenditure Survey data. For subsequent years, the estimates were compiled by extrapolating the base year estimates with the inter-survey growth rate observed between the NSS 43rd (1987-88) and 50th (1993-94) Round survey results. This inter-survey growth rate was quite high and resulted in consumption expenditure of households under this Group reach higher levels. For the new series, the benchmark PFCE estimates are based on the 52nd Round NSS Health Care Survey results, which showed estimated PFCE under this Group at much lower level as compared to the projected figures in the old series for the same year. The PFCE for subsequent years has been estimated using the inter-survey growth rate in the per capita consumption expenditure observed between NSS 52nd and 57th Round survey results. Further, estimates of PFCE for the new series have also been prepared in consultation with the Ministry of Health and Family Welfare and the World Health Organisation, who were also engaged at the same time in compiling the National Health Accounts for the country. Thus, it has been ensured that the consumption data for this group appearing in the National Health Accounts and the PFCE are consistent.
- 1.92 **Food, beverages and tobacco:** For most food items, PFCE is estimated by the commodity flow approach. Increase in Marketable Surplus Ratios (MSR) has resulted in higher quantity of market supply, and the same has been valued at retail prices. For 'salt and spices' group, the PFCE for the base year is estimated using the results of NSS Consumer Expenditure Survey. For subsequent years, the base year estimates are extrapolated with the inter-survey annual growth in the per capita consumption expenditure (PCCE) on these items.
- 1.93 **Clothing and footwear:** The item-wise data on value of output at NIC (National Industrial Classification, 1998) 3-digit level available from the ASI 1999-2000 has been analysed for estimating the PFCE in the new series for this group.
- 1.94 **Gross rent, fuel and power:** The PFCE for this group is estimated as a percentage of output/GDP.
- 1.95 **Furniture, furnishing appliances and services:** Under this Group, major variation is noticed in the PFCE in respect of the items (i) furnishing appliances and repairs, (ii) refrigeration, cooking and washing appliances and (iii) other goods.
- 1.97 **Transport and communication:** The major variation in the PFCE estimates between the old and new series is in the case of (i) personal transport equipments, (ii) operation of transport services and (iii) communication. Regarding item (i), the PFCE estimates are based on ASI 1999-2000 and unregistered manufacturing data. The PFCE for communication is estimated as a percentage of output/GDP.
- 1.98 **Capital Formation(CF)**
The methodology adopted for compilation of estimates of saving and capital formation of various institutional sectors in the new series, is mainly based on reports of 'Capital Formation and Saving in India: 1950-51 to 1979-80' (Raj Committee) and 'Saving and Capital Formation in India 1950-51 to 1994-95' (Chelliah Committee) and on the changes suggested in concepts and methodology by the Advisory Committee on National Accounts Statistics from time to time in accordance with the framework of System of National Accounts 1993.

Gross Capital Formation(GCF)

- 1.99 Gross Capital Formation (GCF) refers to the aggregate of gross additions to fixed assets (fixed capital formation), increase in stocks of inventories or change in stocks (CIS) and valuables. Gross Fixed Capital Formation (GFCF) comprises two main components, (i) construction, and (ii) machinery and equipment. Only new 'Construction' forms part of GFCF from construction. The GFCF from machinery and equipment includes the ex-factory value of capital goods produced in the registered and unregistered manufacturing sectors and the excise duties paid on them, net imports of capital goods and TTMs, software production, fixed assets in livestock and installation charges of wind energy systems. Besides the above, a new category 'valuables' which covers the expenditures made on acquisition of valuables, has been included for the first time in the gross capital formation, in accordance with the recommendations of 1993 SNA. The estimates of gross capital formation are compiled separately by type of assets and by industry of use. Under type of assets, the estimates in respect of (i) construction and (ii) machinery and equipment are derived at the aggregate level through the commodity flow approach. The estimates of GFCF and change-in-stocks by industry of use, on the other hand, are prepared by expenditure approach, separately for each of the institutional sectors.
- GCF by type of assets**
- 1.100 **Construction:** The broad methodology adopted in the new series for working out the total output and gross fixed capital formation from construction sector is more or less same as the one used in 1993-94 series. However, some minor modifications in norms, inclusion of imports of wood products, and use of ASI 1999-2000 results on basic materials etc., have been made in the case of accounted (pucca) construction. The coverage in un-accounted (kutcha) construction has been further extended to include civilian construction in installing wind energy systems and 7 more additional plantation crops in cultivated assets. The revised norms used are based on latest available NSSO Survey Results and the additional items taken into account in the construction have been discussed in the compilation of GDP of construction sector. From the total estimated GFCF of construction, the GFCF in respect of public and private corporate sectors (construction part) is subtracted to obtain the GFCF of the households, as residual. Among the public and private corporate sectors, revision in estimates is mainly due to
- inclusion of the extended coverage of cultivated assets and wind energy in the new series.
- 1.101 **Machinery and equipment:** The main changes that have been made in the new series under this are (i) preparation of a revised capital goods item basket using the detailed results of ASI 1999-2000 based on NIC 1998 classification and (ii) use of results of NSS 56th Round unregistered manufacturing survey, 2001-02 results. For the registered manufacturing sector, the estimated value of capital goods at four/ three/two digit level was prepared considering the nature of capital goods - fully capital goods (FCG), parts of fully capital goods (PCG), partly capital goods (Ply CG) and parts of partly capital goods (PPlyCG) for the year 1999-2000. At 2-digit NIC 1998 level, the value of capital goods have been regrouped into the four categories, namely (i) non-electrical, (NIC 1998 codes 29 and 30), (ii) electrical (NIC 1998 codes 31 and 32), (iii) transport and other transport equipment (NIC 1998 codes 34 and 35), and (iv) others (NIC 1998 codes 20, 21, 22, 25, 27, 28, 33, 36, 37). For the succeeding years, the ratio observed between the value of capital goods and the value of products and byproducts (GVO) at 4-digit level in the base year has been used to compile the value of capital goods.
- 1.102 For the unregistered manufacturing sector, results of NSS 56th Round survey (2000-01) on unorganized manufacturing enterprises (GVO estimates at three and four digit level) have been used in compiling the estimates of value of capital goods from unorganized sector. Using the GVO estimates at the relevant 4-digit level from this survey and the ratio of value of capital goods to the GVO as available from the ASI 1999-2000, the estimates of value of capital goods at 4-digit levels have been compiled for the unorganized sector.
- 1.103 Besides the ex-factory value of capital goods produced in registered and unregistered manufacturing sectors, GFCF in respect of machinery and equipment includes excise duties & VAT, net imports of capital goods and trade and transport margins (TTM) on capital goods, expenditures made on the purchases of software, fixed assets in livestock and installation charges in the Wind Energy Systems.
- 1.104 **Valuables:** In accordance with the recommendations of 1993 SNA and in consultation with the Advisory Committee on National Accounts Statistics, the 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 under "produced fixed assets" (separately from the GFCF and Change in Stocks).

1.105 As per SNA 1993 (Page 308), valuables are classified as given below:

- Precious metals and stones that are not held for use as inputs into production processes;
- Other valuables such as collections of jewelry of significant value fashioned out of precious stones and metals; and
- Antiques and other art objects such as paintings and sculptures.

1.106 In the new series the coverage of valuables has been restricted to include the precious articles with HS codes 7102 (diamonds), 7103 (other gems and stones), 7106 (silver), 7108 (gold), 7110 (platinum), 7113 and 7114 (gold and silver ornaments), keeping in view the data availability. The total production of valuables and net imports has been taken into account for compiling the estimates of valuables. Since these valuables also have industrial use, norms of 5% and 90%, respectively for gold and silver, have been used, to arrive at the estimates on acquisition of these items as store of value. Suitable adjustments have been made on the export data on valuables to account for value addition done in the country, so that imports and exports on valuables are on comparative quantity terms. The monetary gold was not regarded as 'Valuables'. The estimated purchases of jewellery and ornaments by the households reported in the NSS 55th Round survey on consumer expenditure has been treated as 'Valuables' and the same has not been accounted under PFCE in the new series.

GCF by industry of use

1.107 The Gross capital formation estimates are prepared for each industry group by aggregating the GFCF and CIS estimates, which are prepared separately. Broadly, institution wise estimates of GFCF are prepared wherever possible and aggregated to arrive at the industry level estimate. Data from budget documents and books of accounts are used in compiling the estimates of Public and Private Corporate Sector. However, for the household sector for some specified items, benchmark results obtained from various NSSO surveys and growth rates in GVO, GVA etc are used to obtain the GFCF estimates. The GFCF estimates obtained from commodity flow approach for the entire

economy have been taken as firmer estimates and the industry wise GFCF estimates for Private Corporate and Household Sectors compiled by the expenditure method, have been adjusted proportionately with the estimates compiled by institutions through the commodity flow approach.

1.108 **Agriculture:** In the new series, estimates of the GFCF in respect of farm business in the household sector are based on the results of the AIDIS, 2002-03. The governments' capital transfers to the agricultural households (purpose item no 8.2) have also been accounted for in the new series. The coverage of plantation crops has been extended to seven more crops instead of 3 crops in the earlier series.

1.109 **Mining and quarrying:** Under Household Sector for minor minerals, the Enterprise Survey results for the year 1992-93 are used. For compiling the estimate of GFCF for other years, the revised output of this part of the sector has been applied on the benchmark level GFCF output ratio estimate.

1.110 **Registered manufacturing:** The estimates of GFCF are prepared separately for each of the three institutional sectors, namely, public sector, private corporate sector and household sector. While the estimates for the public sector are from the budget documents, those of private corporate sector are on the basis of data provided by the RBI on joint stock companies. The estimates for the household sector are compiled from the results of Annual Survey of Industries (ASI) in respect of units under individual proprietorship, joint family and partnership factories. While current data is available for public and private corporate sectors, those of household are prepared from the ASI for the benchmark years and for the subsequent years, the benchmark data is extrapolated with the growth rate observed in the output of registered manufacturing. For the new series, the ASI, 1999-2000 results have been adopted.

1.111 **Unregistered manufacturing, construction, trade and other transport:** For these four industries, namely (i) unregistered manufacturing, (ii) household construction, (iii) trade and (iv) transport other than Railways, the ratios of capital to output is used to estimate the GFCF. In the construction sector, the ratio of output to capital stock for the year 1998-99 has been used and the difference in successive years' estimates of capital stock gives the estimate

of GFCF. For the other three sectors, the GVA to capital stock ratios of 1998-99 have been used.

- 1.112 **Electricity, gas and water supply:** The capital investment made in the bio-gas plants has been continued to be covered in the new series by estimating the same with the data available from the Ministry of Non-Conventional Energy Resources. In respect of water supply, the capital transfers from government to corporations for the purposes of water supply (purpose item no. 8.4) have been taken as fixed capital formation in the new series. The capital expenditure incurred in the installation of wind energy systems has been estimated separately using the NABARD data on cost structures and data on year-wise installation capacities released by the Ministry of Non-Conventional Energy Resources. For this purpose, wind mills, aero generators and wind turbines have been considered. The total capital expenditure estimated by this method has been distributed to the three institutional sectors, and by type of assets.
- 1.113 **Hotels and restaurants:** For the household part of this sector, the bench mark GFCF estimate has been prepared using the data available from the enterprise survey, 1993-94. For subsequent years, the benchmark estimates have been extrapolated with the growth rate in the number of enterprises (obtained from the results of enterprise surveys 1988-89 and 1993-94) to obtain the GFCF estimate at constant prices. The WPI of construction and machinery has been used to arrive at GFCF estimate at current prices.
- 1.114 **Communication:** The estimates of GFCF for private sector have been prepared using the ratio of GFCF to GVA of public sector.
- 1.115 **Financing, real estate, ownership of dwellings and business services:** The data obtained from AIDIS, 2002-03 in respect of 'Ownership of dwellings' has been used. The governments' capital transfers to the households under this sector have also been accounted for in the new series.
- 1.116 **Public administration and defence:** The GFCF by type of assets for public sector is from the budget documents.
- 1.117 **Other services:** The results of Enterprise survey, 1991-92 on other services in the unorganised sector have been made use of in the case of services other than educational and medical services. The estimates of GFCF of quasi-government bodies of private
- 1.118 **Change in stocks(CIS) by industry of use** In the current series there was no major change effected in the methodology for compilation of change in stock estimates of private corporate sector and household sector except in agriculture industry, where, in case of livestock, the methodology has been slightly modified for two species of cattle and donkeys. For poultry and piggery, the entire change in population has been taken as CIS, whereas for other 15 species only that proportion of the species which is not used as capital asset (breeding, dairying and as draught animal) is considered for compilation of the CIS estimate. In public sector, the methodology for compilation of CIS has been slightly modified from the previous series. In the 1993-94 series, a specified norm was applied for estimating the book value of inventory during the year in the case of administrative departments and DCUs, whereas actual value from the budget documents and books of accounts has been used for the new series.
- 1.119 **Saving** The estimates of domestic saving are prepared separately for three institutional sectors namely, household, private corporate and public. In the new series, income accrued to households but not paid on account of investment to the units of Unit Trust of India (UTI) has been included in the estimates of households' saving in the form of shares and debentures. Earlier the same was being treated as saving of UTI and included under public sector. Household investment in the life funds of private insurance companies has also been included in its saving since the year 2002-03. The saving in provident fund has undergone revision due to incorporation of data in respect of provident fund contributions of local authorities. The data on households' net deposits have also been revised downward due to revision in the deposits with non-banking companies and advances by co-operative societies to households.
- 1.120 The Estimates of reinvested earnings of foreign companies, a component of foreign direct investment (FDI) in India has been excluded from the saving of private corporate sector and included in the property and entrepreneurial income from rest of the world. The same, now, forms part of net factor income from the rest of the world in the new series. Also, there is an upward

revision in the estimates of gross saving of co-operative societies and quasi corporate bodies on account of availability of fresh data on co-operative societies and revision of consumption of fixed capital (CFC).

- 1.121 The saving of public sector has also been revised due to exclusion of undistributed profit accrued to the unit holders from the saving of UTI and inclusion of estimates of saving of Kerala Water Authority and Indraprastha Gas Limited under Non departmental commercial undertakings. The undistributed profit of UTI accrued to the unit holders has now been included under household sector. The savings of Public authorities have been revised due to segregation of current and capital expenditures from "Office expenses" and treatment of losses of departmental enterprises as subsidies.

TRANSACTIONS OF PUBLIC SECTOR

Non-departmental commercial undertakings (NDCUs)

- 1.122 In the new series, changes both in the coverage and estimation procedures have been made in the compilation of national income aggregates for non-financial and financial Sectors of NDCUs. These are discussed in the following paragraphs.

Non-financial NDCUs

- 1.123 The national income aggregates in respect of industries, electricity, gas and water supply sector, relating to NDCUs have been revised to the extent of inclusion of estimates of Kerala Water Authority (KWA) and Indraprastha Gas Pvt. Ltd.(IGPL).

Electricity, gas and water supply

- 1.124 In the new series, Kerala Water Authority (KWA) has been included under the coverage of NDCUs. It is the only NDCU under the industry 'water supply'. The KWA was notified on 30th December 1992 as an Autonomous Authority by the Government of Kerala; vide Gazette Notification No. 19615/Leg. C2/92/Law. It was declared as a market producer, necessitating its inclusion as an NDCU of 'water supply' sub-sector. In the new series, a new State PSU, Indraprastha Gas Pvt. Ltd. (IGPL) has been included in the Gas sector. The activity of the sector has been expanded to include transmission of Compressed Natural Gas (CNG) and Piped Natural Gas (PNG). The methodology for estimation of macro-aggregates for these units has been the same as that followed for any other NDCU.

Financial NDCUs

- 1.125 The estimates of GDP for the banking and insurance sector have changed significantly due to the change in the methodology adopted for the new series. However, there has not been much overall impact on the national level estimates of GDP, due to the corresponding reduction in the Financial Intermediation Services Indirectly Measured (FISIM), as the same has led to higher GDP of user industries.

- 1.126 **GVA from mutual funds (MFs):** The Unit Trust of India is considered as a financial intermediary. In the 1993-94 series, the imputed value of services in respect of UTI was estimated in the same manner as that of banks and other financial intermediaries. The income side represents the income from assets, namely, equity as well as debt instruments. This income includes income from dividend, interest and profit on sale/redemption of investment. Since, MFs do not work on deposits of other sectors, the interest payments are either nil or negligible. The MFs work on the funds raised by collective investments made by its unit holders. Hence, the major returns to unit holders/shareholders are dividends, unlike the interest payments in the case of banks. The subtraction of only interest paid in the 1993-94 series (being insignificant in MFs) had resulted in an output of the MFs, which was not an appropriate measure of its implicit output, as the entire property income becomes the implicit output. In the new series the imputed value of services of UTI has been calculated as total income on account of dividend, interest, profit on sale/redemption of investment minus interest, dividend paid to the unit holders and undistributed profit.

- 1.127 **Non-government non-banking financial companies (NGNBFCs):** In the 1993-94 series, the current price estimates of GVA and FISIM of this sub-sector were prepared by analysing the data on income, expenditure and profits provided in the RBI sample study on "Performance of non-government financial and investment companies" published annually. The GVA for the population (excluding two major NBFCs namely, ICICI (prior to 2002-03) and HDFC) was obtained by blowing up the sample estimate. The ratio of the paid up capital of the population to the paid up capital of the sample formed the blowing up factor. The accounts of two major companies in the NGNBFCs sector, namely, ICICI and HDFC were analysed separately and their GVA was subsequently added. However, it may be noted that the ICICI Ltd

has merged later with the ICICI Bank in the year 2002-03, hence now only the GVA of HDFC is estimated separately under 1.130 NGNBFCs

1.128 The sample study publication of RBI presents the data for three consecutive financial years for a common set of companies. Thus, for a particular year, three different estimates of GVA can be derived based on the successive sample studies. However, it has been observed that at times, the results of the study for a financial year vary considerably and therefore, have a bearing on the estimates of GVA and other aggregates. Further, the Quick Estimates of GDP (which are released with 10 months time-lag) are prepared by applying the growth rate observed in the paid up capital of these sample companies to the GDP estimate of the previous year. It has been observed that growth rate based on PUC is always positive, while the sector itself may actually have a negative growth. Such situations give scope for arbitrariness in using a particular set of estimates. In the new series, current price estimates of GVA of NGNBFCs have been prepared using the RBI studies of a particular year appearing in 3 studies. The pooling of the sample companies has been done to get a more stable estimate. For the Quick Estimates, the present methodology remains unchanged as no study is available for that year.

1.129 **Banking department of RBI:** In the 1993-94 series, volume index prepared on the basis of deflated aggregate deposits and credits of all scheduled commercial banks was used to move the base year GVA, for arriving at the constant price estimates of the Banking department of RBI. However, it has been observed that income of the RBI in the recent years is negative, as large part of its earnings is from foreign securities, which are out of the purview of GVA. Hence, the current price GVA of RBI's banking department is becoming negative in the recent years, whereas due to the method of moving the base year estimates by deflated aggregate deposits and credits of all scheduled commercial banks, the estimates of GVA at constant prices had been positive, thus resulting in an anomalous situation due to mis-match between current and constant price GVA estimates of the activity. In the new series, the implicit price indices, as observed from current and constant price GVA estimates of commercial banks have been used to deflate current price estimates of GVA of Banking Department of RBI, to arrive at the constant price estimates of GVA

for the Banking Department of RBI.

Life insurance: In the 1993-94 series, estimates of GVA for the activity at constant prices were prepared as cumulative amount of sum assured + bonuses and life fund at the end of the year, provided in the annual reports of LIC, deflated separately with the help of WPI. Two volume indices were constructed separately and averaged (simple average) to get a combined volume index. This combined Volume Index was used to move the base year value added of life insurance for subsequent years.

In the new series, the annual changes in the life fund and sum assured, have been deflated to get a volume index for these two separately. The simple average of two indices, one each for life fund and sum assured, thus prepared has been combined to get the volume index for moving the base year estimates of GVA of life insurance to obtain the estimates of GVA for subsequent years, at constant prices.

1.131 **Changes in allocation of FISIM:** Due to the change in the methodology of estimation of GDP of UTI and NBFIs, there are consequential changes in the allocation of FISIM to user industries and households.

Administrative departments, departmental enterprises, and quasi-government bodies

1.132 Estimates in this sector are mainly based on the analysis of Central and State governments' budget documents. The expenditures on various items are reckoned according to economic and purpose classification. Main improvements brought out in the new series are as follows:

Adoption of detailed purpose classification

1.133 In the new series, the new purpose classification, Classification of Functions of Government (COFOG) has been adopted as per recommendations of 1993 SNA and Government Finance Statistics (GFS), 2001.

Changes in economic classification

1.134 **Identification of capital expenditure incurred under object head office expenditure:** It has been observed that some capital expenditure is being incurred for procurement of machinery and equipments like furniture, photocopiers, computer hardware, software and other accessories under the object head, office expenditure. In consultation with some states as well as central government departments, it has been observed that this

expenditure is around 25 % of total office expenditure. Out of this, 10% is on machinery outlay, 2% is on software outlay and the remaining 13% is other capital outlay. Assuming such expenditure has gone up along with IT expansion over the years, the ratio for IT is considered to be 13, 15, 17 and 20 per cent in the years 1999-00 to 2002-03 respectively (However, it is expected that in future data on expenditures on IT will be available separately from the budget documents). In the old series, this expenditure was treated as purchase of commodities/services and thus formed part of consumption expenditure. Due to the proposed treatment of 'office expenditure' in the new series (to treat part of this as capital expenditure), there is fall in the estimated consumption expenditure with corresponding increase in the estimates of saving and Gross Fixed Capital Formation (GFCF). The upward revision of GFCF estimates has also resulted in an upward revision of estimates of consumption of fixed capital (CFC) and thus, the GVA of public administration and defence (which is sum of salaries and wages and CFC). However, there is no change in the estimates of NVA.

- 1.135 **Inclusion of data in respect of some government schemes like Indira Awaas Yojana (IAY), Prime Minister Grameen Sadak Yojana (PMGSY), Rural water supply and sanitation programme (RWSP) in the GFCF:** In the old series, the outlays on IAY & PMGSY were taken as other capital transfers and not included in the Gross fixed capital formation (GFCF) of the Administrative Departments of the government. These schemes are basically aimed at improving the rural infrastructure. The entire 100% outlay of IAY is for construction of houses for the people below poverty line and the entire outlay of PMGSY is for construction of link roads for rural villages. Like wise 100% of outlay on RWSP is intended for improving infrastructure of

local bodies. In the new series expenditures under these schemes have been included under GFCF of administrative departments.

- 1.136 **Analysis of schemes like Sarva Shiksha Abhiyan (SSA), District Primary Education Programme (DPE) and Mid-day meal scheme (MDM):** In the old series, outlays on above three plan schemes were taken as other current transfers. Therefore, consumption expenditure or capital formation taking place with the use of funds from these schemes were not accounted for. Central components of these schemes are basically to improve the elementary education by recruiting more teachers and improving infrastructure of schools by construction of new buildings, shades, laboratories etc. In 1999-2000, a total outlay of Rs. 2180 crore was allocated for the above three schemes as central components. Based on the discussions with the concerned authorities, it was assessed that in the case of DPE and SSA, nearly 40% of funds is spent on salaries, 50% for construction of buildings, 5% for purchase of commodities and 5% on maintenance. Therefore 50% of DPE and SSA are covered in GFCE and remaining 50 % is earmarked to GFCF. On the other hand 100% of MDM scheme is covered under GFCE. As a result of this analysis, estimated GDP, GFCE, GFCF and Savings have gone up in the new series.

Imputed Subsidies

- 1.137 In the old series, operating losses of Departmental Enterprises in electricity, manufacturing, transport etc., with the exception of irrigation, were treated as negative operating surplus. The Departmental Enterprises incur losses as a result of government policies on pricing of the final products. Such losses due to charging non-market prices for the products have been treated as imputed subsidies in the New Series, as per the 1993 SNA recommendations.
