



Sources and Methods for Compilation of National Accounts Statistics

Concepts • Data Sources • Methods



September 2026

Government of India
Ministry of Statistics and Programme Implementation
National Statistics Office
National Accounts Division

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MESSAGE

Official statistics are an essential public good and constitute a critical foundation for sound governance, informed policy-making and a deeper understanding of the socio-economic progress of the country. In this context, the National Accounts Statistics occupy a central place in India's statistical system by providing a comprehensive framework for assessing the performance and evolving structure of the economy.

2. The introduction of the new series of National Accounts with 2022-23 as the base year is an important step in the continuing endeavour to strengthen and modernise India's macroeconomic statistical framework. The exercise reflects the commitment of the Ministry of Statistics and Programme Implementation to maintaining a statistical system that is relevant, credible, responsive and aligned with the changing requirements of the economy and its users.

3. The publication "*Sources and Methods for Compilation of National Accounts Statistics*" is an important part of this endeavour. It provides a structured account of the conceptual framework, sources and compilation practices underlying the new series, thereby promoting transparency and facilitating a clear and informed understanding of the National Accounts.

4. I gratefully acknowledge the valuable guidance and contributions of the Advisory Committee on National Accounts Statistics (ACNAS) and its various Sub-committees and expert members whose insights and recommendations have enriched this publication. I also appreciate the dedicated efforts of the officers of the National Accounts Division, National Statistics Office, MoSPI, and the valuable cooperation extended by various Ministries and Departments of the Government of India, State Governments and other stakeholders in this endeavour.

I am confident that this publication will serve as a valuable reference for policymakers, researchers and other users, and contribute to the wider and informed use of India's official macroeconomic statistics.

New Delhi
September, 2026

Dr. Saurabh Garg
Secretary
Ministry of Statistics and Programme Implementation

FOREWORD

The National Statistics Office (NSO), Ministry of Statistics and Programme Implementation (MoSPI) compiles and disseminates the National Accounts Statistics (NAS) annually, provides a comprehensive framework for measuring the economic activities and performance of the Indian economy. It enables an integrated understanding of economic growth, structural transformation, consumption, income and expenditure, and provide a critical evidence base for policy formulation, economic analysis, forecasting and research.

2. The compilation of India's National Accounts has evolved since the preparation of the first official estimates of national income with the base year 1948–49, following the recommendations of the National Income Committee chaired by Prof. P. C. Mahalanobis. Successive base-year revisions have progressively strengthened the National Accounts framework by capturing emerging economic activities, evolving production and consumption patterns, technological advancements, new and dynamic data sources, improved surveys and estimation methodologies, enhanced coverage, and greater alignment with international standards.

3. The latest series, with 2022–23 as the base year, the eighth base-year revision, marks a significant advancement over the earlier 2011–12 series. It incorporates wider use of administrative and regulatory data, updated surveys and sector-specific information, along with methodological refinements to strengthen the coverage, coherence, quality, relevance and timeliness of the estimates, providing a more robust and comprehensive representation of the evolving Indian economy and enhance the reliability and comparability of India's macroeconomic statistics.

4. The present publication, "Sources and Methods for Compilation of National Accounts Statistics", sets out the conceptual framework, data sources, methodologies and compilation practices underlying the new series with 2022–23 as the base year. It is intended to enhance transparency, methodological understanding and informed use of India's official macroeconomic statistics. I am confident that this publication will serve as a valuable reference for users and contribute to a better understanding and informed use of the National Accounts Statistics.

5. I sincerely appreciate the painstaking efforts of the officers and officials of the National Accounts Division (NAD), NSO, MoSPI, and all other stakeholders who contributed to the compilation of the new series and preparation of this publication. I also place on record my special appreciation for Shri Siddhartha Kundu, ADG, whose guidance and encouragement have been instrumental in bringing the new series and the publication to fruition.

New Delhi
September, 2026

Dr. Dalip Singh
Director General
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PREFACE

The compilation of National Accounts Statistics involves the integration of information from a wide range of statistical, administrative and regulatory sources, supported by well-defined concepts, classifications and estimation procedures. The introduction of the new series of National Accounts with Financial Year 2022–23 as the base year in February 2026 represents an important milestone in the continuing endeavour to strengthen the quality, coverage and relevance of these estimates.

2. The publication “*Sources and Methods for Compilation of National Accounts Statistics*” has been prepared to provide a systematic account of the concepts, data sources and methodologies underlying the new series. It seeks to provide users with a comprehensive understanding of the statistical processes and estimation procedures followed in compiling major macroeconomic aggregates and is intended to serve as a reference for users of National Accounts Statistics. It brings together the estimation methodological details in a structured manner, thereby enabling users to better understand the basis of the estimates and the changes introduced in the new series.

3. The publication comprises 30 chapters covering the evolution of the National Accounts framework and the latest base-year revision; relevant concepts and definitions; major methodological changes in the new series; institutional sector-wise and industry-wise compilation of estimates; expenditure-side aggregates; Capital Stock and Consumption of Fixed Capital; Saving; Supply and Use Tables; Quarterly and Advance Estimates; Regional Accounts; and dissemination practices. A summary table at the end provides a consolidated account of the principal data sources and methodologies used for the compilation of estimates across industries and expenditure components.

4. The preparation of this publication has involved extensive efforts by the officers and officials of the National Accounts Division (NAD), NSO, MoSPI. I place on record my appreciation for their valuable contributions and sustained efforts in bringing out this publication.

5. It is hoped that this publication will enhance transparency regarding the compilation of National Accounts Statistics and serve as a useful reference for policymakers, researchers, analysts and other users in understanding and making informed use of India’s official macroeconomic statistics.

New Delhi
September, 2026

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Abbreviations

ACNAS	Advisory Committee on National Accounts Statistics
ADRTC	Agricultural Development and Rural Transformation Centre
AIDIS	All India Debt and Investment Survey
AMC	Asset Management Company
ANA	Annual National Accounts
AOC	Accounts of Companies
API	Application Programming Interface
AR	Actual Receipts
ARPU	Average Revenue Per User
ASI	Annual Survey of Industries
ASUSE	Annual Survey of Unincorporated Sector Enterprises
ATEPFO	Assam Tea Employees Provident Fund Organisation
BAHS	Basic Animal Husbandry Statistics
BE	Budget Estimates
BI	Benchmark-Indicator
BOP	Balance of Payments
BP	Basic Prices
BPM	Balance of Payments Manual
BPM6	Balance of Payments and International Investment Position Manual, Sixth Edition
CAD	Current Account Deficit
CAG	Comptroller and Auditor General of India
CBR	Cultivated Biological Resources
CBRI	Central Building Research Institute
CC	Compilation Category
CCS	Cost of Cultivation Studies
CE	Compensation of Employees
CEA	Central Electricity Authority
CFC	Consumption of Fixed Capital
CGA	Controller General of Accounts
CGST	Central Goods and Services Tax
CIF	Cost, Insurance and Freight
CIFRI	Central Inland Fisheries Research Institute
CII	Change in Inventories
CIN	Corporate Identification Number

CIPHET	Central Institute of Post-Harvest Engineering and Technology
CIS	Change in Stocks
CMFRI	Central Marine Fisheries Research Institute
CMPFO	Coal Mines Provident Fund Organisation
CNG	Compressed Natural Gas
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption According to Purpose
COPNI	Classification of the Purposes of Non-Profit Institutions Serving Households
COPP	Classification of the Outlays of Producers According to Purpose
CP	Current Prices
CPI	Consumer Price Index
CPI-IW	Consumer Price Index for Industrial Workers
CSO	Central Statistics Office
CWC	Central Warehousing Corporation
CWS	Current Weekly Status
DAHD	Department of Animal Husbandry and Dairying
DE	Departmental Enterprises
DES	Directorates of Economics and Statistics
DGCA	Directorate General of Civil Aviation
DGCI&S	Directorate General of Commercial Intelligence and Statistics
DGET	Directorate General of Employment and Training
DMI	Directorate of Marketing and Inspection
DOBS	Dwellings, Other Buildings and Structures
DPE	Department of Public Enterprises
DPIIT	Department for Promotion of Industry and Internal Trade
DPPQS	Department of Plant Protection, Quarantine and Storage
DQAF	Data Quality Assessment Framework
DR	Deposit Rate
DTE	Domestic Travel Expenses
EGWR	Electricity, Gas, Water Supply and Remediation Services
ELI	Effective Labour Input
EMI	Employment Market Intelligence
EPFO	Employees' Provident Fund Organisation
ESO	Employee Stock Option
EXIM	Export-Import
FAE	First Advance Estimates
FAI	Fertiliser Association of India

FCE	Final Consumption Expenditure
FCI	Food Corporation of India
FE	Final Estimates
FFV	Forest Fringe Villages
FISIM	Financial Intermediation Services Indirectly Measured
FOB	Free on Board
FRE	First Revised Estimates
FSI	Forest Survey of India
FTE	Foreign Travel Expenses
GAIL	Gas Authority of India Limited
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GFCE	Government Final Consumption Expenditure
GFCF	Gross Fixed Capital Formation
GG	General Government
GNI	Gross National Income
GRP	Growth Rate Preservation
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
GSTN	Goods and Services Tax Network
GSVA	Gross State Value Added
GVA	Gross Value Added
GVAPW	Gross Value Added Per Worker
GVO	Gross Value of Output
HCES	Household Consumption Expenditure Survey
HFCE	Household Final Consumption Expenditure
HRA	House Rent Allowance
HSN	Harmonized System of Nomenclature
HUF	Hindu Undivided Family
IARNIW	Indian Association for Research in National Income and Wealth
IBM	Indian Bureau of Mines
IC	Intermediate Consumption
ICDS	Integrated Child Development Services
ICPF	Insurance Corporations and Pension Funds
ICT	Information and Communication Technology
IFMS	Integrated Financial Management System
IFSCA	International Financial Services Centres Authority

IGFRI	Indian Grassland and Fodder Research Institute
IGST	Integrated Goods and Services Tax
IIP	Index of Industrial Production
IMF	International Monetary Fund
INDAS	Indian Accounting Standards
I-O	Input-Output
IOCL	Indian Oil Corporation Limited
IOTT	Input-Output Transactions Tables
IPD	Implicit Price Deflator
IPP	Intellectual Property Products
IRDAI	Insurance Regulatory and Development Authority of India
ISFR	India State of Forest Report
ISIC	International Standard Industrial Classification
ISS	Integrated Sample Survey
IT	Information Technology
ITC-HS	Indian Trade Classification – Harmonized System
IVA	Inventory Valuation Adjustment
IW	Industrial Workers
JNU	Jawaharlal Nehru University
KP	Constant Prices
KSRTC	Kerala State Road Transport Corporation
KVIC	Khadi and Village Industries Commission
LC	Livestock Census
LI	Labour Input
LIC	Life Insurance Corporation of India
LLP	Limited Liability Partnership
LLPIN	Limited Liability Partnership Identification Number
LPG	Liquefied Petroleum Gas
LR	Lending Rate
LTC	Leave Travel Concession
LUS	Land Use Statistics
M&E	Machinery and Equipment
MCA	Ministry of Corporate Affairs
MCA-21	MCA-21 e-Governance/Corporate Database
MFP	Minor Forest Products
MGT Forms	Management Forms
MI	Mixed Income

MMF	Money Market Funds
MNRE	Ministry of New and Renewable Energy
MoSPI	Ministry of Statistics and Programme Implementation
MoRTH	Ministry of Road Transport and Highways
MPCE	Monthly Per Capita Expenditure
NABARD	National Bank for Agriculture and Rural Development
NABCONS	NABARD Consultancy Services
NAD	National Accounts Division
NAFSCOB	National Federation of State Co-operative Banks Ltd
NAS	National Accounts Statistics
NBFCs	Non-Banking Financial Companies
NDE	Non-Departmental Enterprises
NDP	Net Domestic Product
NDRI	National Dairy Research Institute
NFCS	Net Fixed Capital Stock
NFPC	Non-Financial Private Corporations
NFSA	National Food Security Act
NHAI	National Highways Authority of India
NHB	National Horticulture Board
NIC	National Industrial Classification
NIC-2008	National Industrial Classification, 2008
NIU	National Income Unit
NNI	Net National Income
NPCMS	National Product Classification for Manufacturing Sector
NPCSS	National Product Classification for Services Sector
NPI	Non-Profit Institution
NPISH	Non-Profit Institutions Serving Households
NPLC	Non-Public Limited Companies
NPS	National Pension System
NQAF	National Quality Assurance Framework
NRCM	National Research Centre on Meat
NSDP	Net State Domestic Product
NSO	National Statistics Office
NSS	National Sample Survey
NSSO	National Sample Survey Office
NTFP	Non-Timber Forest Products
NTKM	Net Tonne Kilometres

NVA	Net Value Added
OAE	Own Account Establishment
OCT	Other Current Transfers
OECD	Organisation for Economic Co-operation and Development
OPPI	Output Producer Price Index
OPS	Old Pension Scheme
OS	Operating Surplus
OS/MI	Operating Surplus/Mixed Income
PC	Private Corporations
PCI	Per Capita Income
PDS	Public Distribution System
PE	Provisional Estimates
PF	Pension Funds
PFCE	Private Final Consumption Expenditure
PFMS	Public Financial Management System
PIM	Perpetual Inventory Method
PKM	Passenger Kilometres
PLC	Public Limited Companies
PLFS	Periodic Labour Force Survey
PLI	Postal Life Insurance
PM	Passenger Movement
POSB	Post Office Savings Bank
PP	Purchasers' Prices
PPAC	Petroleum Planning and Analysis Cell
PPI	Producer Price Index
PUC	Paid-Up Capital
QNA	Quarterly National Accounts
R&D	Research and Development
R&M	Repair and Maintenance
RBI	Reserve Bank of India
RE	Revised Estimates
REIT	Real Estate Investment Trust
RR	Reference Rate
SAC	Service Accounting Code
SAE	Second Advance Estimates
SAIL	Steel Authority of India Limited
SAS	Situation Assessment Survey

SDRs	Special Drawing Rights
SEBI	Securities and Exchange Board of India
SERC	Socio-Economic Research Centre
SFC	State Financial Corporation
SGST	State Goods and Services Tax
SIAM	Society of Indian Automobile Manufacturers
SMPFO	Seamen's Provident Fund Organisation
SNA	System of National Accounts
SPPI	Service Producer Price Index
STRBI	Statistical Tables Relating to Banks in India
SUT	Supply and Use Tables
TNPDC	Tamil Nadu Power Distribution Company Limited
TOF	Trees Outside Forests
TPDS	Targeted Public Distribution System
TRAI	Telecom Regulatory Authority of India
TTM	Trade and Transport Margin
UPPCL	Uttar Pradesh Power Corporation Limited
UTGST	Union Territory Goods and Services Tax
UVI	Unit Value Index
VAT	Value Added Tax
VPH	Value per Hectare
WPI	Wholesale Price Index
WPR	Worker Population Ratio
XBRL	eXtensible Business Reporting Language

INTRODUCTION

This publication provides an account of data sources and methodologies used in compilation of estimates of various macroeconomic aggregates like Gross Domestic Product, National Income, Private Final Consumption Expenditure, Gross fixed Capital Formation, Saving, etc. in the new series of national accounts with FY 2022-23 as the base year. The publication has been divided in 30 Chapters. Besides, at the end of the publication, a summary table showing data sources and methodologies has been provided.

Chapter 1 presents the chronological account of base year revisions in national accounts including the one carried out in February, 2026 with FY 2022-23 as the Base Year. Various concepts and definition relevant for appreciating the national accounts are given in Chapter 2. This chapter draws heavily on the System of National Accounts, 2008 (2008 SNA). For deeper understanding of underlying concepts given in this chapter, 2008 SNA may be referred to. Major changes – in terms of incorporation of new data sources, introduction of improved estimation methodologies and enhanced coverage – carried out in the new series have been covered under the Chapter 3.

Estimates for various macroeconomic aggregates for each industry are compiled institutional sector-wise. Methodologies and data sources used in compilation of estimates for institutional sectors are covered in Chapters 4 to 8. Compilation of industry-wise estimates have been covered under Chapters 9 to 20. Methodology and data sources used in compilation of estimates for expenditure side aggregates are covered under Chapters 21 to 24. At the end of each chapter, a table having estimates for FY 2022-23 as per 2022-23 as well as 2011-12 series has also been kept.

Compilation of estimates for Capital Stock and Consumption of Fixed Capital has been covered in Chapter 25, whereas compilation of estimates for Saving has been covered in Chapter 26. Supply and Use Tables have been discussed in Chapter 27. Chapters 28 and 29 cover Quarterly & Advance Estimates and Regional Accounts, respectively. Dissemination practices are the subject matter of Chapter 30.

At the end of the publication, methodologies and data sources used in compilation of estimates for each of the industries, estimates for each of the expenditure side components, estimates of the saving, External Transaction Account and capital formation have been annexed in the form of a summary table.

**Conceptual
and
Methodological
Framework**

CHAPTER 1

CHRONOLOGY OF BASE YEAR REVISIONS OF NATIONAL ACCOUNTS

1.1 Introduction

The National Accounts provide a comprehensive, conceptual and accounting framework for measuring the economic performance of the country. The National Accounts constitute the principal statistical framework for measuring the size, structure, and performance of the economy. It presents a comprehensive picture of production, income, consumption, saving, investment and other macroeconomic aggregates, thereby serving as an essential tool for economic analysis and policymaking. As the National Accounts are designed to capture all economic activities and transactions, their compilation is a major statistical exercise that draws upon a wide range of data sources. Traditionally, these sources have comprised administrative data collected by Government authorities for their administrative operations such as tax data and customs data besides primary data collected through censuses and sample surveys.

With the revision of the base year from 2011-12 to 2022–23, the compilation framework has been significantly strengthened through the integration of high-frequency administrative datasets and regular annual surveys, resulting in broader coverage, increased granularity, and enhanced accuracy of the estimates. Key improvements include: dynamic measurement of household sector through annual surveys, segregation of activities in case of multi-activity enterprises, use of either double deflation or single extrapolation in place of single deflation to arrive at constant price estimates, integration of Supply Use Tables (SUT) with National Accounts to minimize discrepancy between estimates from production and expenditure approach, and, use of new data sources and updated rates and ratios from various studies. These improvements have reduced reliance on benchmark indicators and enabled the direct use of more comprehensive and current information for estimating economic activity.

The compilation of the National Accounts continues to be guided by the internationally accepted principles of the System of National Accounts (SNA). While the conceptual framework remains internationally standardized, the estimation procedures and compilation practices are continuously refined to reflect improvements in India's statistical system, the availability of new data sources, and the evolving structure of the economy. To ensure consistency and international comparability, the National Statistics Office (NSO) maintains detailed and well-documented compilation methods throughout the life of the base series.

The 2022–23 base year revision incorporates several important methodological enhancements, improved estimations in accordance with international recommendations, and other refinements aimed at enhancing the quality, coverage, and reliability of the National Accounts Statistics. Details of these changes in data sources and methodology are documented in the Chapter 3 on ‘Major Changes in New Series’ of this publication.

1.2 Historical Perspectives

The Ministry associates central ministries, departments and other Government institutions like NITI Aayog and Reserve Bank of India (RBI), technical experts from academia, and State/Union Territory Directorates of Economic and Statistics (DES) to advise the Ministry on the methodology for compilation and presentation of National Accounts Statistics. This is in the form of Advisory Committee on National Accounts Statistics (ACNAS), which is a 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 Committees in the past.

1.3 The Beginning

In India, prior to the development of national accounting system, which started in 1960s, the main focus was on computing nation's income. Before independence, several attempts were made to compute nation's income by individual economists and researchers. 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. Recognizing 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, to improve 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 and 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 as National Accounts Division (NAD) in conformity with the expansion in its activity. In May 2019, the Central Statistics Office (CSO) and the National Sample Survey Office (NSSO) under the Ministry of Statistics and Programme Implementation (MoSPI) were merged to form the National Statistical Office (subsequently renamed as National Statistics Office (NSO)). The National Accounts Division (NAD) continues as a division of NSO under MoSPI and is, inter-alia, responsible for the compilation and dissemination of the estimates of National Income and other macroeconomic aggregates of the country.

1.4 Conventional Series

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 Year 1960-61)

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 organized 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 year for estimates at constant prices was published in the "Brochure on the Revised Series of National Product, 1960-61 to 1964-65 (CSO, 1967)" replacing the earlier series with base year 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 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.

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.

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

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.

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

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, and Directorates of Economics and 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 and 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.

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

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 organized 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 revision in this series was 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 underestimation 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.

1.9 Fifth revision of the base year (Base Year 1999-2000)

The CSO revised the 1993-94 series of national account aggregates with 1999-2000 as base year. 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.

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. In addition to using the results of above surveys and census, 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 improvements in terms of coverage in the new series of the GDP estimates have mainly been inclusion of production of salt through seawater evaporation, betel leaves (for States of Assam and West Bengal), toddy, 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, duck eggs (in 15 States/UTs), and meat production from unregistered slaughtering in the States where the same is presently not covered in the production estimates. Also, capital expenditures incurred on seven new tree crops during the gestation period, and 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 (GCF), but as a separate category outside the Gross Fixed Capital Formation (GFCF) and Change in Stocks, in line with the recommendations of 1993 SNA. In addition to the above, economic activities like other private communication, (ii) renting of machinery and other equipment without operator, computer related activities in unorganized segment, coaching centers, social work with accommodation, and 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.

The important procedural changes made in the new series were (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) inclusion of 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 in the private corporate sector's GFCF; and (vii) treating the operating losses of departmental commercial undertakings as imputed subsidies, in line with the practice currently followed for irrigation departments. While undertaking the new base year exercise, efforts were also been made to implement the recommendations of the 1993 System of National Accounts (1993 SNA) to the extent data are available.

1.10 Sixth revision of the base year (Base Year 2004-05)

The CSO revised the 1999-2000 series of national account aggregates with 2004-05 as base year (hereafter referred to as 2004-05 series) in January, 2010, to take into account the structural changes in the economy. The existing database and methodology employed in the estimation of various macroeconomic aggregates were reviewed and, to the extent possible, the recommendations of SNA 1993 and 2008 were implemented. CSO started using the workforce estimates from the results of Quinquennial Employment and Unemployment Surveys of National Sample Survey Organisation (NSSO), which were conducted once in every five years, and consequently started revising the base years of national accounts statistics once in every five years coinciding with the years for which the NSSO conducts the Quinquennial Employment and Unemployment Surveys. In continuation with this practice, the 2004-05 series of national accounts was released with base year 2004-05 on 29th January, 2010 using the workforce data from the results of NSS 61st round (2004- 05) on Employment and Unemployment Survey.

In the 2004-05 series, efforts were made to make use of current data as much as possible. Some of the important sources of data, which were used in the 2004-05 series, are as follows: (i) NSS 61st Round (2004-05) on employment and unemployment and consumer expenditure; (ii) NSS 62nd Round (2005-06) on unorganized manufacturing; (iii) NSS 63rd Round (2006-07) on services sectors; (iv) All India Livestock Census, 2003; (v) NSS 59th Round (2002-03) on All India Debt and Investment Survey; (vi) Population Census, 2001; and (vii) Fourth All India Census of Micro, Small and Medium Enterprises, 2006- 07. Further, the results of various studies undertaken by the CSO through the Ministry of Agriculture, Ministry of Environment and Forest and State Governments and also the CSO's Input Output Transactions Tables (IOTT) and the Ministry of Agriculture's Cost of Cultivation Studies were used in the 2004-05 series for updating the rates and ratios used to estimate the production/consumption of fodder, market charges paid by the farmers, yield rates of meat, meat products and meat by-products for different categories of animals, input rates for agriculture and forestry and the trade and transport margins.

The improvements in terms of coverage have been mainly the inclusion of production of industrial wood from trees outside forests (TOF), fodder from forest sources and output of wind power generation in the GDP estimates.

The important procedural changes made in the 2004-05 series were the incorporation of data on (i) area and production of crops as finalized by the States/UTs for the final estimates of GDP; (ii) consumption of fertilizers in agriculture, as provided by the Fertilizer Association of India in lieu of data on dispatches of fertilizers being used in 1999-2000 series from the same source in the estimation of inputs of agriculture sector; (iii) results of the CSO's Annual Survey of Industries (ASI) in place of the Index Of Industrial Production (IIP) for estimating the GDP of registered manufacturing; (iv) labour input on the basis of work-place as against the present practice of using labour input data on the basis of location in respect of estimation of GDP of unorganized manufacturing and services; and (v) labour input for the organized sector from the NSS Employment and Unemployment Surveys in place of the present source, namely, the Annual Employment Market Intelligence (EMI) of the Directorate General of Employment and Training (DGET), Ministry of Labour.

Other procedural changes in the new R&D expenditures in series included (i) treating R&D expenditures in public sector as capital expenditures in line with the recommendations of 2008 SNA; (ii) adopting the declining balance (of life of assets) method for estimating the consumption of fixed capital and capital stock; (iii) adopting the user cost approach for estimating the services of owner occupied dwellings in rural areas as against the present practice of imputing these services on the basis of rent per dwelling; (iv) estimating the output of communication in nominal terms on the basis of data available on average revenue per user (ARPU); and (v) improvements in the estimation of output, consumption expenditure, saving and capital formation of autonomous Government bodies and local bodies by analysing their accounts on a sample basis.

While undertaking the base revision exercise, efforts have also been made to implement the recommendations of the System of National Accounts (SNA) 1993 and 2008 to the extent data are available. Some of the recommendations which form part of the 2004-05 series are: (i) Treating R&D expenditures in public sector as capital expenditures in line with the recommendations of 2008 SNA; (ii) Adopting the declining balance (of life of assets) method for estimating the consumption of fixed capital and capital stock; (iii) Adopting the user cost approach for estimating the services of owner occupied dwellings in rural areas as against the practice of imputing these services on the basis of rent per dwelling followed in 1999-2000 series; (iv) Treating the construction component and machinery/transport outlay of Defence Capital Account as capital formation, which was earlier being treated as intermediate consumption.

More details on improvements incorporated in 2004-05 series are available in 'National Accounts Statistics - Sources and Methods, 2012' publication of the MoSPI.

1.11 Seventh revision of the base year (Base Year 2011-12)

The Central Statistics Office (CSO) introduced the new series of national accounts statistics with base year 2011-12, in place of the previous series with base year 2004-05 on January 30, 2015. The 2011-12 series on National Accounts Statistics was introduced after a comprehensive review of both the databases and the methodologies employed in the estimation of various macroeconomic aggregates. The series incorporated the latest available data from surveys and censuses, improvements in methodology, and to the extent possible, the recommendations of 2008 SNA, in the compilation of national accounts.

One of the major improvements in terms of coverage was related to Private Corporate Sector. In the 2004-05 series, the Private Corporate Sector was being covered using the RBI Study on Company Finances, wherein estimates were compiled on the basis of financial results of around 2500 companies. In the 2011-12 series, comprehensive coverage of Corporate Sector was ensured in mining, manufacturing and services by incorporation of annual accounts of companies as filed with the Ministry of Corporate Affairs (MCA) under their e-governance initiative, MCA21. Accounts of about 5 lakh companies were analysed and incorporated for the base year 2011-12.

Other sector where coverage was improved was Private Financial Corporations Sector where coverage was expanded by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as the regulatory bodies- SEBI, PFRDA and IRDA. Besides, in 2004-05 series, estimates for local bodies and autonomous institutions were prepared on the basis of information received for seven autonomous institutions and local bodies of four States – Delhi, Himachal Pradesh, Meghalaya and Uttar Pradesh. In the 2011-12 series, institutions accounting for about 60% of the grants/transfers were covered.

Some of the important sources of data, which were used in the 2011-12 series, are as follows: (i) NSS 68th Round (2011-12) - Survey on Employment and Unemployment and Consumer Expenditure; (ii) NSS 67th Round (2010-11) - Survey on Unincorporated Non-agricultural Enterprises (Excluding Construction); (iii) All India Livestock Census, 2012; (iv) NSS 70th Round (2013) - All India Debt and Investment Survey and Situation Assessment Survey; (v) House-listing and Housing Census, 2010 and Population Census, 2011; (vi) Study on yield rates of meat products and by-products of different livestock species conducted by National Research Centre on Meat, Hyderabad; (vii) Study on the inputs in the Construction sector by Central Building Research Institute (CBRI), Roorkee; and (viii) Study on 'Harvest and Post-harvest losses of major crops and livestock products in India' conducted by Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana.

In the 2011-12 series, a new method called "Effective Labour Input Method" (ELI Method) was adopted for the unincorporated enterprises, viz., all unincorporated manufacturing enterprises, except those covered under the Annual Survey of Industries, unincorporated service enterprises, except those of 'Trade & Repair Services', 'Hotels and Restaurants', 'Non-mechanized Road transport' and 'Telecommunication'. In the Labour Input Method (LI Method), as was being used in the 2004-05 series, while compiling GVA Per Worker (GVAPW) from the Enterprise Survey,

it is assumed that there is equal contribution from all categories of workers engaged in an economic activity, i.e., the productivity of an employer, a casual wage worker, or a family worker is equal. The new method addresses differential labour productivity issue by assigning weights to the different categories of workers engaged in an economic activity based on their productivity. The weights were compiled using the data on establishments covered in the NSS 67th Round Survey on Unincorporated Enterprises, 2010-11. A nested Cobb-Douglas Function was used for computing the weights of different categories of workers. More details are available in the Publication “Changes in Methodology and Data Sources in the New Series of National Accounts, Base Year 2011-12”.

The other important methodological improvements include:

- i) The estimates of FISIM in the 2011-12 series was compiled, as recommended by the 2008 SNA, using the Reference Rate (RR) approach. Earlier, FISIM was based on the difference between total property receipts and total interest payments by the financial corporations.
- ii) All the operations of the central bank, i.e., RBI, in the 2011-12 series were considered as non-market, and the value of its output was computed using the cost approach. Earlier, the issue department of the RBI was considered as non-market producer, a part of the General Government, and the banking operations of the RBI were considered as market operations, therefore, the estimates were computed using a mix of market and non-market approach.
- iii) In the 2011-12 series, an indirect estimate of the value of output of ‘extraction of sand’ at basic prices was derived through the value of commodities used in construction. This approach was adopted because, in 2004-05 series, the estimate of ‘extraction of sand’ under minor minerals was found to be negligible in comparison to its apparent use in construction.
- iv) Two new construction materials, namely, bitumen & bitumen mixtures and glass & glass products were included in the list of basic materials used for estimation of value of output of construction activity. The output for these items was derived from the Annual Survey of Industries, 2011-12. In addition, for the output of glass & glass products, information was also taken from the manufacturing enterprises covered in NSS 67th Round Survey on Unincorporated Enterprises, 2010-11.
- v) In the 2011-12 series, the estimate of the unorganised sector in the financial services, namely, private moneylenders and unincorporated financial enterprises, was derived using the information available from the NSS 70th Round All India Debt and Investment Survey (AIDIS), 2013, RBI’s annual publication - Basic Statistical Returns of Scheduled Commercial Banks in India, RBI’s “Report of the Technical Group to review legislations on moneylenders”, 2007 and NSS 67th Round Survey on Unincorporated Enterprises, 2010-11. Earlier, it was estimated as a fixed ratio (1/3rd) of the GVA of Government Companies and the Non-Government Non-Banking Financial Companies (NGNBFCs).

While revising the base year, efforts were also made to implement the recommendations of the System of National Accounts (SNA) 2008 to the extent data are available. Some of the recommendations which form part of the 2011-12 series are:

- i) Valuation of various GVA, NVA and related aggregates at basic prices and GDP at market prices instead of factor cost.
- ii) Estimates of the institutional sectors-Non-Financial Corporations and Financial Corporations, General Government and Households - are shown separately, in view of the intrinsic difference in their economic objectives, functions and behaviour.
- iii) Distinction between General Government and public corporations was made.
- iv) Unincorporated enterprises belonging to the Household Sector, which have complete sets of accounts, tend to behave in the same way as corporations. Therefore, as recommended by 2008 SNA, such enterprises have been treated as quasi-corporations. Some examples of quasi-corporations in the Indian context are proprietorship and partnership enterprises maintaining accounts.
- v) The head office was treated as non-financial corporation unless all or most of its subsidiaries are financial corporations, in which case it is treated as a financial auxiliary in the Financial Corporations Sector. In the 2004-05 series, the recommendation had been adopted for service sector wherein GVA estimates were compiled from enterprises in this sector. In the 2011-12 series, this approach was adopted for the mining and organised manufacturing sectors also.
- vi) Expenditure on Research & Development (R&D) has been capitalised in Government, Public Corporations and Private Corporations and hence has become part of capital formation.
- vii) FISIM was calculated using a reference rate for units engaged in financial intermediation.
- viii) Non-financial assets in the 2004-05 series were classified as 'construction' and 'machinery'. In the 2011-12 series, as recommended by SNA2008, non-financial assets have been classified as 'dwellings, other buildings and structures', 'machinery and equipment', 'cultivated biological resources' and 'intellectual property products'.

1.12 Eighth revision of the base year (Base Year 2022-23)

The Ministry of Statistics and Programme Implementation (MoSPI) released the new series of national accounts with base year 2022–23 on 27th February 2026, which replaced the previous series with base year 2011–12. Subsequently, the Ministry released the updated series of estimates with base year 2022-23 on 31st August 2026. As per the international best practices, base year revision is undertaken periodically and differs from regular revisions in national accounts primarily because of nature of changes. In annual revisions, changes are made only based on updated data becoming available without making any changes in the conceptual framework or using any new data source, to ensure strict comparison over years. However, in base year revision exercise, new data sources as well as improved methodologies are introduced in compilation of accounts. Base year is revised periodically to a more recent period to better capture the structure of economy.

Base year of the national accounts has been revised after a period spanning more than a decade. A normal economic year is preferred as a base year. FY 2016-17 was not considered a normal economic year due to demonetization led disruption. As GST was rolled-out in July 2017 (*middle* of the financial year), FY 2017-18 was also not found a normal economic year. Survey results for

measuring household sector were not available for FY 2018-19. FY 2019-20 and FY 2020-21, which were impacted by COVID-19 pandemic, were obviously not normal economic years. FY 2021-22 witnessed recovery in economic activities after COVID-19 induced shocks, and GDP grew sharply, largely due to base effect. So, FY 2021-22 was also not a suitable choice for base year. FY 2022-23 was the first year after FY 2015-16 which was a normal economic year. Besides, the results of major surveys such as Household Consumer Expenditure Survey (HCES), Annual Survey of Unincorporated Sector Enterprise (ASUSE) and Periodic Labour Force Survey (PLFS), etc., used in compilation of estimates of national income were also available for 2022-23.

In general, the sources and methods document of National Accounts of India are brought out following the release of base year results. Considering the demand of users the document for 2022-23 series is released during the same year the base year results are released. The following Table 1.1 shows the chronology of the release of base year results and the publication of 'sources and methods'.

Table 1.1: Year of release of base year results and the publication of 'sources and methods'

S. No.	Base Year	Year of release of data on new base year	Year of Publication of Sources and Methods
1	1960-1961	1967	1980
2	1970-1971	1978	1980
3	1980-1981	1988	<i>A brief document was released in February 1988 mentioning important changes and improvements</i>
4	1993-1994	1999	-
5	1999-2000	2006	2007
6	2004-2005	2010	2012
7	2011-2012	2015	<i>A brief document was released in June 2015 mentioning important changes and improvements</i>
8	2022-2023	2026	September, 2026

1.12.1 Consultation with Expert Bodies

MoSPI constituted the Advisory Committee on National Accounts Statistics (ACNAS) under the Chairmanship of Prof. Bishwanath Goldar through a Gazette Notification dated 27.06.2024. The mandate of ACNAS, inter-alia, was to review the existing databases and advise MoSPI on inclusion of new data sources for improving the estimates of National Accounts and to advise on the methodology for compilation and presentation of National Accounts Statistics for purposes of economic analysis and policy.

Under ACNAS, following five Sub-committees, first four dealing with base revision exercise, were constituted to simultaneously deliberate upon specific subjects:

- i) Sub-committee for Incorporation of New Data Sources, Rates and Ratios
- ii) Sub-committee for Methodological Improvement
- iii) Sub-committee for Constant Price Estimates

- iv) Sub Committee on Regional Accounts
- v) Sub-Committee for SNA 2025 Update

The reports of the above-mentioned Sub-Committees related to new series (s. no. i to iv) are available on the website of the Ministry.

1.12.2 Introduction of new data sources

The 2022-23 series incorporates the latest and improved data sources to enhance the quality, coverage, and reliability of the national accounts estimates. Major new data sources introduced in the 2022-23 series are as follows:

A) Major Surveys:

- i) Annual Survey of Unincorporated Sector Enterprises (ASUSE),
- ii) Periodic Labour Force Survey (PLFS),
- iii) Household Consumption Expenditure Survey (HCES) 2022-23 and 2023-24
- iv) All India Debt and Investment Survey (AIDIS) 2019
- v) Land and Livestock Holding of Households and Situation Assessment of Agricultural Households (2019)
- vi) Pilot Survey on the Construction Sector (2025)

B) Administrative Data Sources:

- i) Public Finance Management System (PFMS)
- ii) Goods and Services Tax (GST)
- iii) Vahan Portal
- iv) MPLADS Portal

C) Specialized Sectoral Studies:

- i) Study by Central Marine Fisheries Research Institute (CMFRI) and the Central Inland Fisheries Research Institute (CIFRI) to update input-output ratios of fisheries sector
- ii) 'A Study on Productivity of Fodder and Grass' by Indian Grassland and Fodder Research Institute (IGFRI), Jhansi
- iii) 'Study to determine post-harvest losses of Agriculture produces in India 2022' of M/o Food Processing Industries by NABARD Consultancy Services (NABCONS).
- iv) 'Assessment of Livestock Feed and Fodder – An All India study' by Agricultural Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bengaluru
- v) Study by the National Dairy Research Institute (NDRI) to update utilization rates and retail prices for milk and milk products
- vi) Road Transport Study by Jawaharlal Nehru University (JNU) to determine earnings per vehicle and maintenance costs for personal transport in PFCE

- vii) State-wise Unit Cost for plantation crops from NABARD for plantation
- viii) 'Assessment of Dependence of Inhabitants of Forest Fringe Villages (FFVs) on Forests for Fuelwood, Fodder, Small Timber & Bamboo: Quantified Estimation of Removals' conducted by Forest Survey of India (2018)
- ix) 'Study to estimate percentage of sugarcane used for chewing, seed, khandsari and estimate of conversion rate of sugarcane to gur/jaggery, khandsari & bagasse' conducted in State Agricultural Universities of Karnataka, Maharashtra and Tamil Nadu during 2023-24

1.12.3 Improvement in Methodology

The major methodological improvements introduced in the new series with base year 2022-23 include the followings:

(A) Institutional Sectors

(I) General Government:

In National Accounts, for defined benefit pension schemes, the present value of future pension entitlements accruing to serving employees in each accounting period are imputed and included as part of Compensation of Employees. In the 2011-12 series, the annual pension outgo to retired employees was used as a proxy for this imputed liability, assuming the entire workforce was under the Old Pension Scheme (OPS). With the introduction of the New Pension Scheme (NPS), both the Government contribution and the employees' own contribution toward pension are directly available from budget data. These are now directly included in Compensation of Employees. Consequently, the pension disbursement under OPS has been proportionately adjusted to reflect only the liability attributable to employees still covered under OPS.

To accurately capture the compensation to Government employees who receive Government accommodation instead of House Rent Allowance (HRA), imputation has been done for the value of the housing service provided by Government to its employees. This ensures that the value of the in-kind benefit is captured in the output estimate for General Government.

The issue of re-classification of institutional units in various institutional Sectors have also been examined. Accordingly, units currently in the General Government sector that consistently earn significant revenue to cover their production costs and generate profit have been moved to the public-corporations category as market producers. Conversely, market-producer units whose revenues are well below expenses over several years have been re-classified as non-market producers and moved into General Government. The reclassification of units in various institutional sectors will be reviewed regularly and updated as needed. Accordingly, Government financing to FCI have been treated as a social transfer in kind as part of GFCE.

(II) Non-Financial Private Corporations (NFPC) Sector:

In 2022-23 series, MGT-7 and MGT-7A data provided by Ministry of Corporate Affairs (MCA) has been used to assign major activity to companies as well as to segregate activities of multi-activity enterprises in different industry groups for Non-Financial Private Corporations (NFPC) Sector. MGT-7/7A data contains information on number of business activities undertaken by the enterprise, description of business activity as per NIC 2008 and percentage turnover from each business activity for each year. At the time of base year revision with 2011-12 as base year, industrial activity codes were assigned either by manual profiling of bigger companies or by using the information of NIC Code embedded in Corporate Identification Number (CIN). In case of multi-activity companies, entire contribution of the company was used to be allocated to major activity.

In 2022-23 series, for NFPC Sector, multiplier to account for contribution of companies for which MCA data is not available has been applied at industry X Size Class (as per Paid up Capital (PUC)) level. In 2011-12 series, multiplier was applied at economy level (though separately for Public Limited Companies (PLC) and companies other than PLCs).

(III) Financial Corporations:

The new series incorporates several methodological and data-related improvements in the estimation of GVA of the Financial Corporations sector. These include the use of RBI's Statistical Tables Relating to Banks in India (STRBI) for public sector banks, enhanced coverage of private Non-Banking Financial Companies (NBFCs) using MCA annual accounts, strengthened estimation of moneylenders and financial auxiliaries using AIDIS and ASUSE data, improved coverage and classification of pension funds and provident fund organisations.

(IV) Households:

In comparison to the benchmark indicator method adopted in 2011-12 series for estimating GVA of unincorporated sector, a labour input method has been adopted in 2022-23 series with annual data on both productivity as well as workforce estimates. For estimation of GVA of unincorporated sector (including cooperatives, quasi-corporations and households), GVA per worker (GVAPW) from Annual Survey of Unincorporated Sector Enterprises (ASUSE) and workforce estimates from Periodic Labour Force Survey (PLFS), after adjusting with projected population (based on the Report of M/o Health & Family Welfare), have been used. This major change in methodology is applicable to all industries, except agriculture and construction.

(B) Industries

(I) Agriculture and Allied Sector:

Crop:

In 2022-23 series, coverage of individual fruits and vegetables have been increased in comparison to old series. Estimation methodology for prices of other category and some combined crops (viz. small millets and other pulses) have been updated suitably. Production of fodder and grass have been updated based on State-wise productivity derived from a study conducted by Indian

Grassland and Fodder Research Institute, Jhansi. Quantity of sugarcane used for *gur* production, conversion of sugarcane into *gur* and yield rate of bagasse have been updated based on studies done by State Agricultural Universities of Karnataka, Maharashtra and Tamil Nadu. In addition to use of Cost of Cultivation Study data, seed expenses have been updated using crop-wise data available from Situation Assessment Survey of Agricultural Households conducted by NSS in 2019. Amount of diesel oil consumed by tractors and diesel engines for agricultural purpose has been derived from Cost of Cultivation Study data for new series. For certain States, crop specific market charges borne by the producer, as reported by States, have been used to estimate market margin of crop sector.

Livestock:

Quantity of feed consumed by livestock has been updated in the new series, using information from relevant studies and total fodder and grass production in the country. Details mentioned in Chapter 9. For better coverage of feed consumption across livestock and crop sectors in the new series, all adult male cattle and buffalo population have been considered, along with use-category wise information as available from latest livestock census data. Species-wise slaughtering charges have been revised based on data received from states.

(II) Forestry & Logging:

The production of industrial wood from trees outside forests is available from biennial publication India State of Forest Report (ISFR) by Forest Survey of India. The production of industrial wood from TOF is extrapolated in the intermittent year using state-wise Compound Annual Growth Rate (CAGR) of growing stock. Prices of industrial wood from TOF are being provided by state DESs from a survey conducted on registered sawmills. Share of fodder consumed by livestock which is sourced from forests is estimated using survey conducted by FSI during 2018-19 of forest fringe villages and updated state-wise. In the 2022-23 series, State-wise dynamic input-output ratios used to calculate GVA of forestry sector as derived from Central and State budget documents every year.

(III) Fisheries:

Instead of a fixed input-output ratio adopted across all States for marine and inland fisheries in 2011-12 series, state-wise ratios have been updated based on studies conducted by Central Marine Fisheries Research Institute (CMFRI) and Central Inland Fisheries Research Institute (CIFRI) and included for GVA compilation in new series.

(IV) Mining & Quarrying :

There has been methodological improvement in the constant price estimates for Mining & Quarrying wherein the mineral-wise index of production is being used for volume extrapolation. The constant price estimates are derived at disaggregated level. The mineral-wise index of production compiled by Indian Bureau of Mines (IBM) for major minerals and mineral-wise index of production for minor minerals constructed by using data provided by State/UT Directorates of Economics & Statistics have been used for volume extrapolation . Since physical output (volume

measure) is generally more complete and reliable than aggregate use of weighted price indices covering diverse product categories, the constant price estimation has improved in the new series for Mining & Quarrying.

(V) Manufacturing:

The constant price estimates of GVA for manufacturing industry are compiled using ‘Double Deflation’ method in new series as against single deflation in 2011-12 series. Double deflation has inherent advantage that it doesn't assume that output and input prices move together. The method has significance in constant price estimation of Manufacturing where input costs (say, raw materials or energy) change differently than output prices. Under single deflation, this real margin compression is invisible — the volume measure just tracks the output price movement and misses the fact that real value added has actually been squeezed. Double deflation captures this correctly, since it independently tracks how much real output grew versus how much real input use grew, and the residual genuinely reflects the change in real value added — not a distorted figure that implicitly assumes constant margins. Hence, double deflation is the preferred method for estimating GVA at constant prices. Except for two out of 30 compilation categories namely NIC-2008 code 101-104 (Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats) and NIC-2008 code 21 (Manufacture of pharmaceutical; medicinal chemicals and botanical products) wherein single extrapolation has been used, compilation categories wise input and output structure have been derived using the ASI unit level data for the corresponding year. Item-level producer price indices have been used for carrying out double deflation. The input-output structure is re-derived from ASI data every year — so the compilation never relies on a frozen base-year commodity/input mix. Each year's real GVA calculation reflects that year's *actual* structure of output and inputs. Because item-level (highly disaggregated) price indices are used rather than a single blended/aggregate PPI, there's no implicit assumption that the *composition* of output or inputs within a broad category has stayed fixed since a base year. Hence, this approach gives the practical benefit akin to that of chain-linking i.e. current-year-relevant weighting, applied consistently every single year, rather than compounding distortion the further you get from a fixed base.

(VI) Construction:

In 2011-12 series, output was derived from the availability of seven basic materials (cement, iron & steel, bricks & tiles, timber, fixtures & fittings, bitumen, and glass), with CBRI Roorkee-derived ratios applied to estimate the value of other materials and factor inputs, giving overall construction output. Organized-sector output (General Government, Departmental Enterprises, Public and Private Corporations) was compiled independently from budgets, annual reports, and MCA filings; the unincorporated sector's GVO was then derived as a residual — total output minus organized-sector output. A modified Commodity flow of material inputs has been used in new series to estimate total material inputs, not total output directly. The input material consumed by General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations is subtracted from this total to derive material inputs available for the unincorporated sector. GVO and GVA for the unincorporated sector is then estimated by applying GVO to

material-input and GVA-to-GVO ratios drawn from MoSPI's Pilot Survey on Construction conducted in 2025.

The material basket has also been expanded from 7 to a broader set of items — now including cement and cement products, iron, steel and metallic products, bricks and tiles, bitumen and bitumen products, glass and glass products, timber and wood products, fixtures and fittings, paints and varnishes, sand, stone, granite, marble and related products, other construction materials which also includes, clay, mud, straw and other kutchha materials and services inputs. Underlying rates and ratios (inter-industry consumption, trade and transport margins) are updated dynamically using the latest ASI, ASUSE, and Supply-Use Table results, supplemented by data from AIDIS and plantation cost data from NABARD.

Constant price estimates are compiled using single extrapolation in new series as against single deflation in the old series. Due to non-availability of asset, the single extrapolation used in constant price estimates have advantage because construction output itself is estimated via the Commodity Flow Approach (built from input used), the input data and price indices needed for this extrapolation are already part of the compilation process.

(VII) Electricity, Gas, Water Supply and Remediation, Sewerage & Other Utility Services:

Own account generation of electricity by households has been included in the estimation of GVA of household sector for electricity sector. The constant price estimates for the new series have been compiled by volume extrapolation in r/o Electricity and Gas industry (as was done in 2011-12 series). However, the volume index used for extrapolation of GVA of Gas is based on consumption of natural gas as against the index of quantum sales of gas based on data sourced from Gas Authority of India Limited (GAIL). The constant price estimation of Water Supply has been carried out using single extrapolation approach wherein GVO is deflated by CPI(IW) for public sector and CPI (Water Charges) for private sector and deflated GVO is used for extrapolating base year GVA. For Remediation (recycling), single extrapolation method is used for constant price estimates wherein GVO is deflated by relevant Producer Price Index-PPI (Basic Iron and Steel and casting of iron and steel, fabricated metal products, paper and plastic products) and then the growth in deflated output has been used for single extrapolation. For constant price estimates of GVA(Sewerage), GVO at current prices is deflated using CPI (General) and the deflated output has been used for extrapolating the base year estimates to obtain constant price GVA.

(VIII) Non-financial services:

Major methodological changes adopted in estimation of GVA of non-financial services have already been mentioned under respective institutional sectors. One major improvement in these industries have been incorporated in estimation of GVA at constant prices. In 2011-12 series, mostly single deflation method was adopted using relevant price indices. However, in the new series, volume extrapolation method has been followed for estimating GVA at constant prices of

transport (except services incidental to transport), telecommunication. For the remaining industries, single extrapolation method has been applied.

(C) Expenditure-Side Aggregates

(I) Private Final Consumption Expenditure (PFCE):

The 2022-23 series incorporates several methodological refinements in the estimation of Private Final Consumption Expenditure (PFCE) with a view to improve coverage, consistency and the quality of estimates. In general Commodity Flow method was followed in the 2011-12 series for estimating the PFCE for most of the items whereas the 2022–23 series adopts a mixed approach comprising enhanced use of the Household Consumption Expenditure Survey (HCES), direct estimation based on production and other relevant data sources, and the Commodity Flow approach. The estimates are also improved due to adoption of the Classification of Individual Consumption According to Purpose (COICOP) 2018, to the extent feasible and the extensive use of Consumer Price Indices, largely at the item level. Further details are given in the Chapter 6 “Private Final Consumption Expenditure”.

(II) Government Final Consumption Expenditure (GFCE):

Major methodological improvements undertaken in the revised series that affect GFCE estimates such as adjustments in pension payments, imputation of accommodation provided by Government in lieu of HRA, treatment of food subsidy to Food Corporation of India (FCI) as social transfer in kind, etc. have already been described above.

(III) Gross Capital Formation (GCF):

Gross Capital Formation has three components, namely, Gross Fixed Capital Formation (GFCF), Change in Stock (CIS) and Valuables. The details are given below:

Gross Fixed Capital Formation (GFCF): Commodity flow approach for compilation of aggregate GFCF in assets Dwellings, Other Buildings and Structures (DOBS) and Machinery and Equipment (M&E) has been modified using dynamically compiled rates and ratios for inter-industry consumption and trade and transport margins. Because new construction output feeds directly into Gross Fixed Capital Formation, the refinements made to the commodity flow method for estimating construction GVO have correspondingly improved GFCF estimation for the Dwellings, Other Buildings and Structures (DOBS) asset category. For the household sector and quasi-corporations, GFCF in DOBS and M&E assets are allocated by industry and asset type using the Annual Survey of Unincorporated Sector Enterprises (ASUSE) for industries within its coverage, and the All India Debt and Investment Survey (AIDIS) for agriculture and allied sectors.

GFCF in the Cultivated Biological Resources (CBR) asset category —covering tree, crop, and plant resources yielding repeat products through their natural growth and regeneration — is now compiled using state-wise and plantation-wise per-hectare capital expenditure data from

NABARD, which has become available on an annual basis. This has improved the quality of the estimates and eliminated the need to extrapolate base-year per-hectare expenditure to subsequent years using price indices.

Constant price estimates are now derived using composite index based on relevant items from Producer Price Indices as against Wholesale Price Indices used earlier. Each asset category within GFCF is deflated with its own specialized price index drawn from the PPI item basket in case of M&E assets. For DOBS assets excluding land improvement, price deflator is derived by taking ratio of sum of current price value of material inputs, services inputs and factor costs used in construction and the sum of deflated values of these components. Producer Price Index of relevant items are used for deflating the input wise estimate at current prices (estimated as a part of commodity flow method), service inputs and factor costs are deflated by Consumer Price Index. For animal resources yielding repeat products, an implicit price index using the current year estimate divided by increment in livestock in current year multiplied by base year prices is compiled as is used for deflating the current price estimate of GFCF in this asset. Consumer Price Index (Rural) is used for deflating the GFCF in tree, crops and plantation yielding repeat products. In absence of relevant service producer price indices for deflating IPP assets, CPI (Industrial Workers) is used as deflator for deflating GFCF in Research & Development asset for public sector and CPI(Urban) is used as deflator for GFCF in this asset by private sector. CPI(General) is used as deflator for GFCF in (b) Mineral Exploration and Evaluation, CPI (Recreation) for constant price estimates of Entertainment, literary and other artistic originals and CPI(Urban) for deflating GFCF in Computer Software and databases and Other IPP products.

Change in Stock (CIS): With the availability of results from ASUSE, the coverage of industries under household sector and quasi-corporations for whom CIS is being compiled has improved in the new series. Change in stock is now being compiled for all industries in respect of household sector and quasi-corporations. The indices used for compilation of change in stock have been replaced by item level Producer Price Indices in place of Wholesale Price Indices.

Valuables: There has been improvement in the methodology for compilation of valuables. In place of static ratios for inter-industry consumption and trade and transport margins (TTM), these are now being updated annually using results of ASI and ASUSE (for inter-industry consumption) and supply use tables for TTM. Composite index based on Consumer Price Index of relevant items from CPI basket is used as deflator for constant price estimate of valuable.

(IV) Export and Import of goods and services:

There has been significant improvement in the compilation of constant price estimates of export and import of services. In 2011-12 series, aggregate Unit Value Indices for import and export of goods were used for constant price estimates of export and import of goods. In new series, principal commodity level Unit Value Indices for import and export with base year 2022-23 (compiled and released by Directorate General of Commercial Intelligence and Statistics (DGCI&S)) are being used. The constant price estimates for trade in services was compiled using implicit price deflator (IPD) of services sector in 2011-12 series. The export of services are now

deflated using service specific implicit price deflator of relevant service sector activity (from production side estimates). For constant price estimates of import of services, the service-wise imports from trading partner countries are first deflated by corresponding service PPI/IPD and then aggregated to arrive at constant price estimate. Since the import of services are sensitive to exchange rate fluctuations, adjustment for exchange rate fluctuations have been made to PPI/IPD.

(V) Consumption of Fixed Capital (CFC):

The capital stock estimates, being more sensitive to the assumed useful service life of assets than to the initial benchmark stock value in Perpetual Inventory Method (PIM) because PIM cumulates GFCF over the entire trailing L-year window, any error in L doesn't just affect one year's estimate, it reshapes the whole rolling sum every single year going forward. The useful life of asset has been revisited in new series after extensive stakeholder consultations. The Perpetual Inventory Method compiles net capital stock and CFC in constant prices first because Gross Fixed Capital Formation from different vintage years are recorded at the price levels prevailing in each respective year, and simply summing these nominal figures across decades of investment would mix incomparable price regimes. Hence, use of appropriate price indices play important role in estimation of Net Fixed Capital Stock and CFC. The indices used in constant price estimates of Net Fixed Capital Stock and CFC are replaced by relevant asset specific Producer Price Indices in place of Wholesale Price Indices.

(VI) Savings:

The estimates of savings in shares, debentures, mutual funds and hybrid instruments like Real Estate Investment Trusts, Alternate Investment Funds etc. have been captured. Secondary market net investments, are also included in the compilation.

(D) Supply and Use Table:

In the revised series, the annual estimates at current prices have been fully integrated with the SUT framework and the discrepancy has been eliminated through reconciliation of the estimates at the final stage. This improvement has been made possible by more robust estimates on both the production and expenditure sides, a better-defined Intermediate Consumption structure, improved allocation of Taxes and Subsidies, enhanced estimation of Trade and Transport Margins (TTM), more use of administrative data and other methodological improvements.

(E) Quarterly National Accounts:

In the revised base year, several improvements have been made in the Quarterly National Accounts (QNA) series. In the previous series, QNA estimates were generated based on the Pro-Rata Benchmarking method, whereas in the 2022-23 base year, Proportional Denton Benchmarking methodology has been adopted. There is exhaustive utilization of GST data for generating indicators at sub-sectoral and institutional sector level in the new series. Constitution of Business and HSN/SAC-wise granular data from GSTN has strengthened the estimation approach. Besides GST data, there is increased reliance on various high frequency administrative

data sources for both Production and Expenditure side estimates. For example, PFMS data, VAHAN database, Public Disclosures of various Insurance Corporations etc. FISIM based approach is being used in compilation of the estimates of Banking sector. Deflation Approach for constant price estimates at quarterly level is sectorally aligned with the approaches followed in Annual National Accounts (ANA). Estimates for various Expenditure side aggregates at both constant and current prices are compiled at more granular level to bring improved consistency with the annual estimates.

1.12.4 Improvement in Coverage

(I) With the availability of frame of active Limited Liability Partnerships (LLP), LLPs are being covered comprehensively in the Non-Financial Private Corporations (NFPC) Sector in 2022-23 series.

(II) Coverage of autonomous bodies and local bodies has been increased in the estimates of General Government Sector, thereby increasing the portion of direct estimate.

(III) Coverage of private Non-Banking Financial Companies (NBFCs) has been enhanced using MCA data, while coverage of Financial Auxiliaries has been expanded using International Financial Services Centres (IFSCs) data and administrative funds of PFOs. Further, coverage of Pension Funds has also been strengthened by incorporating additional data on contribution funds from Coal Mines Provident Fund Organisation (CMPFO), Seamen's Provident Fund Organisation (SMPFO) and Assam Tea Employees Provident Fund Organisation (ATEPFO).

(IV) The dimensions of the SUTs for 2022–23 and 2023–24 have been revised from 140 products × 66 industries in the old series to 155 products × 67 industries in the new series. The coverage has been expanded by introducing additional products, such as Cabbage & Cauliflower, Citrus & Grape Fruit, Mutton, Beef, Prawn, Wheat (Grain Mill Products) and Rice (Grain Mill Products), along with one new industry, namely Other Utility Services.

(V) In Electricity industry, own-account electricity generation by households through rooftop solar panels falls within the SNA production boundary. Estimates for own-account electricity generation by households have been incorporated in the new series.

(VI) The estimates for biogas production are compiled using data on biogas plants installed under the schemes of M/o Rural Development, and Department of Drinking Water and Sanitation in addition to those installed through schemes of Khadi and Village Industries Commission (KVIC), Ministry of New & Renewable Energy (Ministry of New & Renewable Energy). In 2011-12 series, biogas plants installed under schemes of KVIC and Ministry of New & Renewable Energy were considered.

(VII) Due to availability of results of ‘Pilot study on construction activities in unincorporated sector establishments and households’¹ conducted by NSSO during July–December 2025, the estimates of Unincorporated sector for construction are split into those attributed to Quasi-Corporations and Household sector. In 2011-12 series, such bifurcation was not being done and entire GVO and GVA of unincorporated sector was assigned to household sector.

(VIII) The Change in Stock for quasi and household sectors are now compiled for all industries in new series using results of ASUSE, data from Indian Bureau of Mines (in respect of Mining and Quarrying sector), Livestock Census results and proportions derived there from, regarding livestock which can be considered as Cultivated Biological Resources (CBR) which is considered as GFCF and those livestock which may be treated as inventory.

(IX) In compilation of household savings, coverage of instruments covered in shares, debentures and mutual funds has been expanded. Savings of non-individuals (Non-profit institutions serving Households (NPISH)), investment in hybrid financial instruments like Real Estate Investment Trust (REIT), Investment Trust (InvIT) and Alternate Investment Funds (AIFs) and inclusion of net investment of households and NPISH in equity and debt through secondary markets are being considered in compilation of household savings.

¹ Report of the ‘Pilot study on construction activities in unincorporated sector establishments and households’ available on MoSPI’s website (<https://www.mospi.gov.in/publications-reports>)

CHAPTER 2

CONCEPTS AND DEFINITIONS

2.1 Institutional Units and Sectors

2.1.1 Institutional Units

An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities. The main attributes of institutional units may be described as follows:

- a. An institutional unit is entitled to own goods or assets in its own right; it is therefore able to exchange the ownership of goods or assets in transactions with other institutional units;
- b. It is able to take economic decisions and engage in economic activities for which it is itself held to be directly responsible and accountable at law;
- c. It is able to incur liabilities on its own behalf, to take on other obligations or future commitments and to enter into contracts;
- d. Either a complete set of accounts, including a balance sheet of assets and liabilities, exists for the unit, or it would be possible and meaningful, from an economic viewpoint, to compile a complete set of accounts if they were to be required.

2.1.2 Residence

The residence of each institutional unit is the economic territory with which it has the strongest connection, in other words, its centre of predominant economic interest.

- a. The residence of individual persons is determined by that of the household of which they form part and not by their place of work. All members of the same household have the same residence as the household itself, even though they may cross borders to work or otherwise spend periods of time abroad. If they work and reside abroad so long that they acquire a centre of economic interest abroad, they cease to be members of their original households;
- b. Unincorporated enterprises that are not quasi-corporations are not separate institutional units from their owners and, therefore, have the same residence as their owners;
- c. Corporations and NPIs may normally be expected to have a centre of economic interest in the country in which they are legally constituted and registered. Corporations may be resident in countries different from their shareholders and subsidiary corporations may be resident in countries different from their parent corporations. When a corporation, or unincorporated enterprise, maintains a branch, office or production site in another country in order to engage in production over a long period of time (usually taken to be one year or more) but without creating a subsidiary corporation for the purpose, the branch, office or site is considered to be a quasi-corporation (that is, a separate institutional unit) resident in the country in which it is located;

- d. Owners of land, buildings and immovable structures in the economic territory of a country, or units holding long leases on either, are deemed always to have a centre of economic interest in that country, even if they do not engage in other economic activities or transactions in the country. All land and buildings are therefore owned by residents;
- e. Extraction of subsoil resources can only be undertaken by resident institutional units. An enterprise that will undertake extraction is deemed to become resident when the requisite licences or leases are issued, if not before;
- f. For entities such as many special purpose entities, that have few if any attributes of location, the location is determined by their place of incorporation.

2.1.3 Total Economy

The total economy is defined as the entire set of resident institutional units. The resident institutional units that make up the total economy are grouped into five mutually exclusive institutional sectors.

2.1.4 Institutional Sectors

The institutional units are grouped together to form institutional sectors, on the basis of their principal functions, behaviour and objectives. All resident institutional units are allocated to one and only one of the following five institutional sectors:

- i) The non-financial corporations sector;
- ii) The financial corporations sector;
- iii) The general Government sector;
- iv) The non-profit institutions serving households sector;
- v) The households sector

The conceptual basis for the allocation of a unit to the appropriate sector can be seen in **Figure 2.1**. The boxes for the sectors of the total economy, plus the box for the rest of the world, appear with double borders. Once non-resident units and households are set aside, only resident legal and social entities remain.

Three questions determine the sectoral allocation of all such units. The first is whether the unit is a market or non-market producer. This depends on whether the majority of the unit's production is offered at economically significant prices or not.

The second question determining sectoral allocation applies to non-market units, all of which, including non-market Non-Profit Institutions (NPIs), are allocated either to general Government or to the NPISH sector based on the determining factor i.e. whether the unit is part of, or controlled by, Government.

The third question determining sectoral allocation applies to market units, all of which, including market NPIs, are allocated to either the non-financial corporations sector or the financial corporations sector.

All resident non-financial corporations are included in the non-financial corporations sector and make up most of the sector in practice. Non-financial corporations are corporations whose principal activity is the production of market goods or non-financial services.

The financial corporations sector includes all resident corporations whose principal activity is providing financial services including financial intermediation, insurance and pension fund services, and units that provide activities that facilitate financial intermediation.

The general Government sector consists mainly of central, state and local Government units together with social security funds imposed and controlled by those units. Institutional units under general Government sector, in addition to fulfilling their political responsibilities and their role of economic regulation, produce services (and possibly goods) for individual or collective consumption mainly on a non-market basis and redistribute income and wealth.

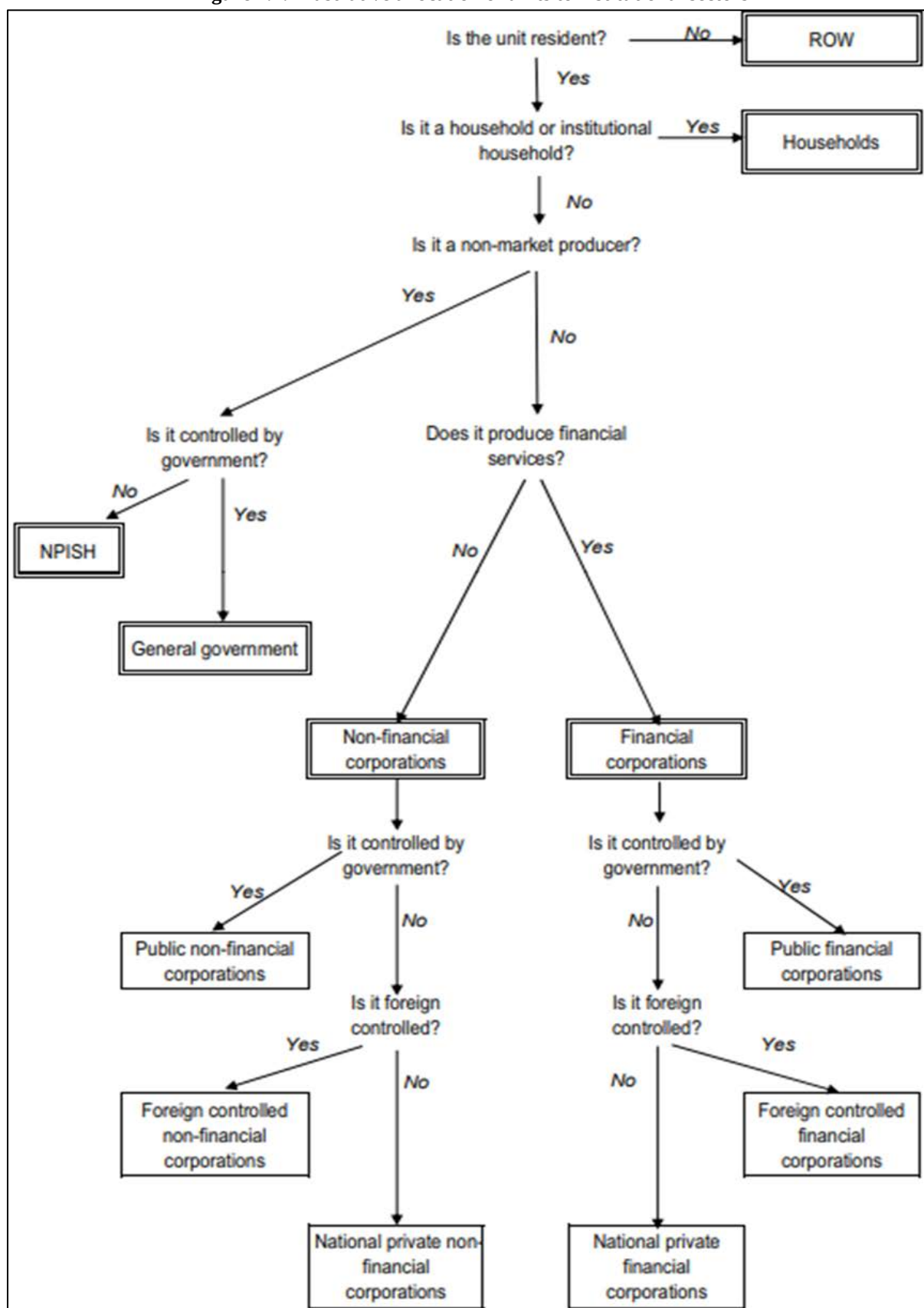
The non-profit institutions serving households sector consists of all resident NPIs, except those controlled by Government, that provide non-market goods or services to households or to the community at large.

The households sector consists of all resident households. A household is defined as a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. Household sector also include institutional households made up of persons staying in hospitals, retirement homes, convents, prisons, etc. for long periods of time. An unincorporated enterprise owned by a household is treated as an integral part of the latter and not as a separate institutional unit unless the accounts are sufficiently detailed to treat the activity as that of a quasi-corporation.

The rest of the world consists of all non-resident institutional units that enter into transactions with resident units, or have other economic links with resident units. Whenever accounts are drawn up for institutional sectors, as well as an account for the total economy, a further account is shown showing the relationship with the rest of the world. In effect, therefore, transactions with the rest of the world are recorded as if the rest of the world is a de facto sixth sector.

Estimates of various macroeconomic aggregates like Output, Intermediate Consumption (IC), Gross Value Added (GVA), Savings, Gross Fixed Capital Formation (GFCF), etc. for each industry are compiled institutional sector-wise. Methodology for each institutional sector remains the same across industries except for the Household Sector. In case of the Household Sector, estimates for Agriculture, Construction, and Ownership of Dwellings industries are compiled following a methodology which is different from the one used in other industries. Methodology and data sources used in compilation of estimates of various macroeconomic aggregates for institutional sectors as well as industries are given in respective chapters for institutional sectors and industries.

Figure 2.1: Illustrative allocation of units to institutional sectors



2.2 Enterprises, Establishments and Industries

2.2.1 Enterprise

An enterprise is the view of an institutional unit as a producer of goods and services. The term enterprise may refer to a corporation, a quasi-corporation, an NPI or an unincorporated enterprise.

2.2.2 Establishment

An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.

2.2.3 Principal and Secondary Activities

(i) Principal Activities

The principal activity of a producer unit is the activity whose value added exceeds that of any other activity carried out within the same unit.

(ii) Secondary Activities

A secondary activity is an activity carried out within a single producer unit in addition to the principal activity and whose output, like that of the principal activity, must be suitable for delivery outside the producer unit. The value added of a secondary activity must be less than that of the principal activity.

(iii) Ancillary Activities

An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out but does not normally result in goods and services that can be marketed.

2.2.4 Industry

The System of National Accounts (SNA) defines industries in terms of establishments. An industry consists of a group of establishments engaged in the same, or similar, kinds of activity.

2.3 The Sequence of Accounts

Sequence of Accounts is a sequence of interconnected accounts linked to different types of economic activities taking place within a given period of time. Each account shows the resources available to the institutional units and the uses made of these resources. An account is balanced by introducing a balancing item defined residually as the difference between the total resources recorded on one side of the account and the total uses recorded on the other side. The balancing item from one account is carried forward as the first item in the following account, on the opposite side, thereby making the set of accounts an articulated whole. The balancing items typically encapsulate the net result of the activities covered by the account in question and are therefore

economic constructs of considerable interest and analytical significance. Examples of balancing items include value added, disposable income and saving.

2.3.1 Production Account

2.3.1.1 Production

Production is an activity, carried out under the responsibility, control and management of an institutional unit, that uses inputs of labour, capital, and goods and services to produce outputs of goods and services. A purely natural process without any human involvement or direction is not production in an economic sense. For example, the unmanaged growth of fish stocks in international waters is not production, whereas the activity of fish farming is production.

2.3.1.2 Products

Products are goods and services (including knowledge capturing products) that result from a process of production.

(i) Goods

Goods are physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets.

(ii) Services

Services are the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets. These types of service may be described as change effecting services and margin services respectively. Change-effecting services are outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. Change-effecting services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. By the time their production is completed, they must have been provided to the consumers.

The changes that consumers of services engage the producers to bring about can take a variety of different forms as follows:

- a. Changes in the condition of the consumer's goods: the producer works directly on goods owned by the consumer by transporting, cleaning, repairing or otherwise transforming them;
- b. Changes in the physical condition of persons: the producer transports the persons, provides them with accommodation, provides them with medical or surgical treatments, improves their appearance, etc.;
- c. Changes in the mental condition of persons: the producer provides education, information, advice, entertainment or similar services in a face to face manner.

Margin services result when one institutional unit facilitates the change of ownership of goods, knowledge-capturing products, some services or financial assets between two other institutional

units. Margin services are provided by wholesalers and retailers and by many types of financial institutions.

(iii) Knowledge-capturing Products

Knowledge-capturing products comprise the provision, storage, communication and dissemination of information, advice and entertainment in such a way that the consuming unit can access the knowledge repeatedly. The industries that produce the products are those concerned with the provision, storage, communication and dissemination of information, advice and entertainment in the broadest sense repetition of those terms including the production of general or specialized information, news, consultancy reports, computer programs, movies, music, etc. The outputs of these industries, over which ownership rights may be established, are often stored on physical objects (whether on paper or on electronic media) that can be traded like ordinary goods. They have many of the characteristics of goods in that ownership rights over these products can be established and they can be used repeatedly. Whether characterized as goods or services, these products possess the essential common characteristic that they can be produced by one unit and supplied to another, thus making possible division of labour and the emergence of markets.

2.3.1.3 The Production Boundary in the SNA

The production boundary of the SNA includes the following activities:

- a. The production of all goods or services that are supplied to units other than their producers, or intended to be so supplied, including the production of goods or services used up in the process of producing such goods or services;
- b. The own-account production of all goods that are retained by their producers for their own final consumption or gross capital formation;
- c. The own-account production of knowledge-capturing products that are retained by their producers for their own final consumption or gross capital formation but excluding (by convention) such products produced by households for their own use;
- d. The own-account production of housing services by owner occupiers; and
- e. The production of domestic and personal services by employing paid domestic staff

Activities undertaken by households that produce services for their own use are excluded from the concept of production in the SNA, except for services provided by owner-occupied dwellings and services produced by employing paid domestic staff.

2.3.1.4 Basic, Producers' and Purchasers' Prices

(i) Basic Prices

The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, by the producer as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer.

(ii) Producers' Prices

The producer's price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any Value Added Tax (VAT), or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer.

(iii) Purchasers' Prices

The purchaser's price is the amount paid by the purchaser, excluding any VAT or similar tax deductible by the purchaser, in order to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place.

(iv) Gross Value Added at Basic Prices

Gross value added at basic prices is defined as output valued at basic prices less intermediate consumption valued at purchasers' prices.

(v) Gross domestic product (GDP)

The underlying rationale behind the concept of gross domestic product (GDP) for the economy as a whole is that it should measure the total gross value added from all institutional units resident in the economy. GDP is sum of the gross value added at basic prices for all resident units, plus all taxes on products, less all subsidies on products.

2.3.1.5 The Measurement of Output**(i) Output**

Output is defined as the goods and services produced by an establishment, a) excluding the value of any goods and services used in an activity for which the establishment does not assume the risk of using the products in production, and b) excluding the value of goods and services consumed by the same establishment except for goods and services used for capital formation (fixed capital or changes in inventories) or own final consumption.

(ii) Market output

Market output consists of output intended for sale at economically significant prices. Economically significant prices are prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy. These prices normally result when:

- a. The producer has an incentive to adjust supply either with the goal of making a profit in the long run or, at a minimum, covering capital and other costs; and
- b. Consumers have the freedom to purchase or not purchase and make the choice on the basis of the prices charged.

Value of market output is valued at the basic prices at which it is sold.

(iii) Output for Own Final Use

Output for own final use consists of products retained by the producer for his own use as final consumption or capital formation. Output for own final use should be valued at the basic prices at which the goods and services could be sold if offered for sale on the market. When reliable market prices cannot be obtained, a second best procedure must be used in which the value of the output of the goods or services produced for own final use is deemed to be equal to the sum of their costs of production: that is, as the sum of:

- a. Intermediate consumption;
- b. Compensation of employees;
- c. Consumption of fixed capital;
- d. A net return to fixed capital (only for market producers);
- e. Other taxes (less subsidies) on production.

(iv) Non-market Output

Non-market output consists of goods and individual or collective services produced by Non-Profit Institutions Serving Households (NPISHs) or Government that are supplied free, or at prices that are not economically significant, to other institutional units or the community as a whole. The value of the non-market output provided without charge to households is estimated as the sum of costs of production, as follows:

- a. Intermediate consumption;
- b. Compensation of employees;
- c. Consumption of fixed capital;
- d. Other taxes (less subsidies) on production.

2.3.1.6 Intermediate consumption

Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods or services may be either transformed or used up by the production process. Some inputs re-emerge after having been transformed and incorporated into the outputs, for example, grain may be transformed into flour which in turn may be transformed into bread. Other inputs are completely consumed or used up, for example, electricity and most services. A good or service consumed as an intermediate input is normally valued at the purchaser's price prevailing at the time it enters the process of production.

(i) The Boundary between Intermediate Consumption and Compensation of Employees

Certain goods and services used by enterprises do not enter directly into the process of production itself but are consumed by employees working on that process. In such cases it is necessary to decide whether the goods and services are intermediate consumption or, alternatively, remuneration in kind of employees. In general, when the goods or services are used by employees in their own time and at their own discretion for the direct satisfaction of their needs or wants, they constitute remuneration in kind. However, when employees are obliged to use the goods or services in order to enable them to carry out their work, they constitute intermediate consumption.

(ii) The Boundary between Intermediate Consumption and Gross Fixed Capital Formation**Small Tools**

Expenditures on durable producer goods that are small, inexpensive and used to perform relatively simple operations may be treated as intermediate consumption when such expenditures are made regularly and are very small compared with expenditures on machinery and equipment. Examples of such goods are hand tools such as saws, spades, knives, axes, hammers, screwdrivers, and so on. However, in countries where such tools account for a significant part of the stock of producers' durable goods, they may be treated as fixed assets.

Maintenance and Repairs

The ordinary, regular maintenance and repair of a fixed asset used in production constitute intermediate consumption. Major renovations, reconstructions, or enlargements of existing fixed assets may enhance their efficiency or capacity or prolong their expected working lives. They must be treated as Gross Fixed Capital Formation as they add to the stock of fixed assets in existence.

Research and Development

Research and Development is treated as capital formation except in cases where it is clear that the activity does not entail any economic benefit for its owner in which case it is treated as intermediate consumption.

Mineral Exploration and Evaluation

Expenditures on mineral exploration and evaluation are not treated as intermediate consumption. Whether successful or not, they are needed to acquire new reserves and so are all classified as Gross Fixed Capital Formation.

Military Equipment

Expenditures on military equipment, including large military weapons systems, are treated as fixed capital formation. Expenditure on durable military goods such as bombs, torpedoes and spare parts are recorded as inventories until used when they are recorded as intermediate consumption and a withdrawal from inventories.

2.3.1.7 Consumption of Fixed Capital (CFC)

Consumption of fixed capital is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage.

The uses and resources for the Production Account is given in Table 2.1.

Table 2.1: Production Account

Uses	Resources
Intermediate consumption	Output Market output Output for own final use Non-market output Taxes on products Subsidies on products (-)
Value added, gross / Gross domestic product Consumption of fixed capital Value added, net / Net domestic product	

2.3.2 The Distribution of Income Accounts

Primary Incomes

Primary incomes are incomes that accrue to institutional units as a consequence of their involvement in processes of production or ownership of assets that may be needed for purposes of production.

2.3.2.1 The Generation of Income Account

(i) Compensation of Employees (CE)

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. Compensation of employees has two main components:

- a. Wages and salaries payable in cash or in kind;
- b. Social insurance contributions payable by employers, which include contributions to social security schemes; actual social contributions to other employment-related social insurance schemes and imputed social contributions to other employment-related social insurance schemes.

(ii) Taxes on Production

Taxes are compulsory, unrequited payments, in cash or in kind, made by institutional units to Government units. They are described as unrequited because the Government provides nothing in return to the individual unit making the payment. At the highest level of the classification, taxes on production and on imports consist of taxes on products and other taxes on production.

A tax on a product is a tax that is payable per unit of some good or service. The tax may be a specific amount of money per unit of quantity of a good or service (the quantity units being measured either in terms of discrete units or continuous physical variables such as volume, weight, strength, distance, time, etc.), or it may be calculated ad valorem as a specified percentage of the price per unit or value of the goods or services transacted. A tax on a product usually becomes payable when it is produced, sold or imported, but it may also become payable in other

circumstances, such as when a good is exported, leased, transferred, delivered, or used for own consumption or own capital formation.

Other taxes on production consist of all taxes except taxes on products that enterprises incur as a result of engaging in production. Such taxes do not include any taxes on the profits or other income received by the enterprise and are payable regardless of the profitability of the production. They may be payable on the land, fixed assets or labour employed in the production process or on certain activities or transactions.

(iii) Subsidies

Subsidies are current unrequited payments that Government units make to enterprises. Subsidies are not payable to final consumers; current transfers that Governments make directly to households as consumers are treated as social benefits. Subsidies also do not include grants that Governments may make to enterprises in order to finance their capital formation, or compensate them for damage to their capital assets, such grants being treated as capital transfers.

A subsidy on a product is a subsidy payable per unit of a good or service. The subsidy may be a specific amount of money per unit of quantity of a good or service, or it may be calculated *ad valorem* as a specified percentage of the price per unit. A subsidy may also be calculated as the difference between a specified target price and the market price actually paid by a buyer. A subsidy on a product usually becomes payable when the good or service is produced, sold or imported, but it may also be payable in other circumstances such as when a good is transferred, leased, delivered or used for own consumption or own capital formation.

Other subsidies on production consist of subsidies except subsidies on products that resident enterprises may receive as a consequence of engaging in production.

(iv) Operating Surplus and Mixed Income

After deducting compensation of employees and taxes, less subsidies, on production from value added, the balancing item of the generation of income account is obtained. The balancing item is described as operating surplus except for unincorporated enterprises owned by households in which the owner(s) or members of the same household may contribute unpaid labour inputs of a similar kind to those that could be provided by paid employees. In the latter case, the balancing item is described as mixed income because it implicitly contains an element of remuneration for work done by the owner, or other members of the household, that cannot be separately identified from the return to the owner as entrepreneur. Operating surplus or mixed income measures the surplus or deficit accruing from production before taking account of any interest, rent or similar charges payable on financial assets or natural resources borrowed or rented by the enterprise, or any interest, rent or similar receipts receivable on financial assets or natural resources owned by the enterprise.

The uses and resources for the Generation of income Account is given in Table 2.2.

Table 2.2: Generation of income Account

Uses	Resources
Compensation of employees Taxes on production and imports Subsidies (-)	Value added, gross / Gross domestic product Value added, net / Net domestic product
Operating surplus/Mixed income, gross Operating surplus/Mixed income, net	

2.3.2.2 The Allocation of Primary Income Account

Whereas the generation of income account focuses on resident institutional units or sectors in their capacity as producers whose activities generate primary incomes, the allocation of primary income account focuses on resident institutional units or sectors in their capacity as recipients of primary incomes. The allocation of primary income account shows where the items payable in the generation of income account are receivable and also includes the amounts of property incomes receivable and payable by institutional units or sectors.

There are two kinds of income listed under resources on the right-hand side of the allocation of primary income account. The first, as listed below, shows where primary incomes already recorded in the generation of income account are receivable:

- Compensation of employees receivable by households or non-resident households;
- Taxes (less subsidies) on production or imports receivable (or payable) by Government units or a foreign Government;
- Operating surplus, or mixed income, of enterprises carried forward from the generation of income account.

The second kind of income consists of property incomes receivable from the ownership of financial assets or natural resources:

- Investment income receivable by the owners of financial assets from either resident or non-resident units;
- Rent receivable by owners of natural resources leased to other units.

(i) The Balancing Items and National Income

The uses, listed on the left-hand side of the allocation of primary income account, consist only of the property incomes payable by institutional units or sectors to creditors, shareholders, landowners, etc. Except for rent on natural resources, these may be payable to non-residents as well as residents. The remaining item recorded under uses is the balancing item, the balance of primary incomes, defined as the total value of the primary incomes receivable by an institutional unit or sector less the total of the primary incomes payable. At the level of the total economy, it is described as national income.

The uses and resources for the Allocation of Primary Income Account is given in Table 2.3.

Table 2.3: Allocation of Primary Income Account

Uses	Resources
	Operating surplus/Mixed income, gross Operating surplus/Mixed income, net Compensation of employees Taxes on production and imports Subsidies (-) Property income
Property income	
Balance of primary incomes, gross / National income, gross	
Balance of primary incomes, net / National income, net	

(ii) Net National Income and Gross National Income

Net National Income (NNI) is the aggregate value of the net balances of primary incomes summed over all sectors. Similarly, Gross National Income (GNI) is the aggregate value of the gross balances of primary incomes for all sectors.

Difference between the numerical values of GNI and GDP is equal to the difference between the total primary incomes receivable by residents from non-residents and the total primary incomes payable by residents to non-residents (that is, net income from abroad).

(iii) Property Incomes

Property income accrues when the owners of financial assets and natural resources put them at the disposal of other institutional units. The income payable for the use of financial assets is called investment income while that payable for the use of a natural resource is called rent. Property income is the sum of investment income and rent.

2.3.3 The Redistribution of Income Accounts

It describes two accounts that show how income is redistributed between institutional units by means of the payments and receipts of current transfers.

- a. The secondary distribution of income account shows how the balance of primary incomes of an institutional unit or sector is transformed into its disposable income by the receipt and payment of current transfers excluding social transfers in kind.
- b. The redistribution of income in kind account takes the process of income redistribution one stage further. It shows how the disposable incomes of households, non-profit institutions serving households (NPISHs) and Government units are transformed into their adjusted disposable incomes by the receipt and payment of social transfers in kind.

Social insurance schemes are schemes in which social contributions are paid by employees or others, or by employers on behalf of their employees, in order to secure entitlement to social insurance benefits, in the current or subsequent periods, for the employees or other contributors,

their dependents or survivors. The social benefits payable by social insurance schemes are of two kinds, pensions and other benefits such as medical, education, housing or unemployment benefits. Pensions are always paid in cash; non-pension benefits may be payable in cash or in kind.

Two main types of social insurance schemes may be distinguished:

- a. The first consists of social security schemes covering the entire community, or large sections of the community, that are imposed, controlled and financed by Government units. Pensions payable under these schemes may or may not be related to levels of salary of the beneficiary or history of employment. Non-pension benefits are less frequently linked to salary levels.
- b. The second type consists of other employment-related schemes. These schemes derive from an employer employee relationship in the provision of pension entitlement that is part of the conditions of employment and where responsibility for the provision of benefits does not devolve to general Government under social security provisions.

Social assistance benefits in cash are current transfers payable to households by Government units or NPISHs to meet the same needs as social insurance benefits but which are not made under a social insurance scheme requiring participation usually by means of social contributions.

Social transfers in kind consist of social security benefits payable in kind and social assistance benefits payable in kind.

2.3.3.1 The Secondary Distribution of Income Account

Transfer

A transfer is a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as a direct counterpart.

A **capital transfer** is one that is linked to the acquisition or disposal of an asset, either financial or non-financial.

A **current transfer** is a transaction in which one institutional unit provides a good or service to another unit without receiving from the latter any good or service directly in return as counterpart and does not oblige one or both parties to acquire, or dispose of, an asset. Three main kinds of current transfers are distinguished in the secondary distribution of income account:

- a. Current taxes on income, wealth, etc.;
- b. Social contributions and benefits;
- c. Other current transfers

a. Current Taxes on Income, Wealth, etc.

Current taxes on income, wealth, etc. consist mainly of taxes on the incomes of households or profits of corporations and of taxes on wealth that are payable regularly every tax period (as distinct from capital taxes levied infrequently). Current taxes on income, wealth, etc. receivable appear under resources for the general Government sector and possibly the rest of the world, while taxes payable appear under uses for the household and non-financial and financial corporation

sectors, and possibly for the Non-Profit Institutions Serving Households (NPISHs) sector and the rest of the world.

b. Social Contributions and Benefits;

Social contributions are actual or imputed payments to social insurance schemes to make provision for social insurance benefits to be paid. Social contributions may be made by employers on behalf of their employees. As such they form part of compensation of employees and are included in the balance of primary income of households. In the secondary distribution of income account, these contributions together with payments made by households themselves in their capacity as employed, self-employed or unemployed persons, are recorded as payable by households and receivable by the units responsible for the social insurance schemes. Social contributions may be receivable by a unit in any sector in their capacity as providing a social insurance scheme to their employees or by a third-party unit designated as the institution responsible for administering the scheme.

Social benefits are current transfers received by households intended to provide for the needs that arise from certain events or circumstances, for example, sickness, unemployment, retirement, housing, education or family circumstances. Social benefits may be provided under social insurance schemes or by social assistance.

Social insurance benefits in kind provided by employers are treated as if they were paid in cash and included in the secondary distribution of income account. However, social insurance benefits in kind provided under general social security schemes and all social assistance benefits in kind constitute social transfers in kind and are therefore included only in the redistribution of income in kind account.

c. Other Current Transfers

Other current transfers consist of all current transfers between resident institutional units, or between resident and non-resident units, other than current taxes on income, wealth, etc., social contributions and benefits, and social benefits in kind. The group includes net premiums and claims under non-life insurance policies, current transfers between different kinds of Government units, usually at different levels of Government, and also between general Government and foreign Governments, as well as current transfers to and from NPISHs and between resident and non-resident households.

Disposable Income

Disposable income is the balancing item in the secondary distribution of income account. It is derived from the balance of primary incomes of an institutional unit or sector by:

- a. Adding all current transfers, except social transfers in kind, receivable by that unit or sector; and
- b. Subtracting all current transfers, except social transfers in kind, payable by that unit or sector.

The uses and resources for the Secondary Distribution of Income Account is given in Table 2.4.

Table 2.4: Secondary Distribution of Income Account

Uses	Resources
	Balance of primary incomes, gross / National income, gross
	Balance of primary incomes, net / National income, net
Current transfers	Current transfers
Current taxes on income, wealth, etc.	Current taxes on income, wealth, etc.
Net social contributions	Net social contributions
Social benefits other than social transfers in kind	Social benefits other than social transfers in kind
Other current transfers	Other current transfers
Disposable income, gross	
Disposable income, net	

National Disposable Income

Most current transfers, whether in cash or in kind, can take place between resident and non-resident institutional units as well as between resident units. Gross or Net National Disposable Income may be derived from Gross or Net National Income by:

- Adding all current transfers in cash or in kind receivable by resident institutional units from non-resident units; and
- Subtracting all current transfers in cash or in kind payable by resident institutional units to non-resident units.

Among the more important current transfers taking place between residents and non-residents are the following:

- Social contributions or benefits;
- Current taxes on income or wealth;
- Non-life insurance premiums and claims;
- Current international cooperation; that is, current transfers between different Governments, such as transfers under aid programmes intended to sustain the consumption levels of populations affected by war or natural disasters such as droughts, floods or earthquakes;
- Remittances between resident and non-resident households.

The Net Disposable Income of a country is a better measure than its Net National Income (NNI) for purposes of analysing its consumption possibilities.

2.3.3.2 The Redistribution of Income in Kind Account

Apart from the balancing items, disposable income and adjusted disposable income, all the entries in the redistribution of income in kind account consist of social transfers in kind. Social transfers in kind consist only of social benefits in kind and transfers of individual non-market goods and services provided to resident households by Government units, including social security funds, and NPISHs.

As social transfers in kind only take place between Government units, NPISHs and households, the redistribution of income in kind account is not needed for the non-financial and financial corporate sectors.

Adjusted Disposable Income

Adjusted disposable income is the balancing item in the redistribution of income in kind account. It is derived from the disposable income of an institutional unit or sector by:

- a. Adding the value of the social transfers in kind receivable by that unit or sector; and
- b. Subtracting the value of the social transfers in kind payable by that unit or sector.

The uses and resources for the Redistribution of Income in Kind Account is given in Table 2.5.

Table 2.5: Redistribution of Income in Kind Account

Uses	Resources
	Disposable income, gross Disposable income, net Social transfers in kind
Social transfers in kind	
Adjusted disposable income, gross Adjusted disposable income, net	

2.3.4 The Use of Income Accounts

The purpose of the use of income accounts is to show how households, Government units and Non-Profit Institutions Serving Households (NPISHs) allocate their disposable income between final consumption and saving. There are two use of income accounts that correspond to two concepts of disposable income and consumption. In the first account, the use of disposable income account, attention is focused on disposable income and the expenditure on consumption goods and services that can be met out of that income. In the second account, the use of adjusted disposable income account, attention is focused on the consumption goods and services acquired and used by institutional units, especially households, whether acquired by expenditure or by social transfers in kind.

2.3.4.1 Consumption

A consumption good or service is defined as a good or service that is used (without further transformation in production as defined in the SNA) by households, NPISHs or Government units for the direct satisfaction of individual needs (or wants) or for the collective needs of members of the community.

2.3.4.2 Individual Consumption

An individual consumption good or service is one that is acquired by a household and used to satisfy the needs or wants of members of that household. Individual goods and services can always be bought and sold on the market, although they may also be provided free, or at prices that are

not economically significant, as social transfers in kind. In practice, all goods and most services are individual.

2.3.4.3 Collective Consumption

A collective consumption service is a service provided simultaneously to all members of the community or to all members of a particular section of the community, such as all households living in a particular region. Collective services are automatically acquired and consumed by all members of the community, or section of the community, without any action on their part. Typical examples are public administration and the provision of security, either at a national or local level. By their nature, collective services cannot be sold to individuals on a market, and they are financed by Government units out of taxation or other revenues.

Expenditure is attributed to the institutional units that bear the costs even if they are not the units to whom the goods or services are delivered. Thus, expenditures that Government units or NPISHs make on individual goods and services that they provide to households as social transfers in kind are recorded as final consumption expenditure incurred by Government units or NPISHs. However, merely to record the expenditure is not sufficient when the goods and services are consumed by units different from those that control and finance the expenditure. In order to identify the units that benefit from their consumption it is necessary to recognize that the goods and services are in fact transferred to, and used by, households. From this stems the distinction between final consumption expenditure and actual final consumption.

2.3.4.4 Expenditures and Acquisitions

Expenditures

Expenditures on goods and services are defined as the values of the amounts that buyers pay, or agree to pay, to sellers in exchange for goods or services that sellers provide to them or to other institutional units designated by the buyers. The buyer incurring the liability to pay need not be the same unit that takes possession of the good or service. As already noted, it is common for Government units or NPISHs to pay for goods or services that the sellers provide to households.

Acquisitions

Acquisitions of goods and services by institutional units occur when they become the new owners of the goods or when the delivery of services to them is completed. Acquisitions are valued at the transaction prices paid by the units that incur the expenditures. In most cases, the transaction price is the market price. The value of the goods or services acquired by an institutional unit or sector consists of the value the goods or services acquired through its expenditure plus the value of goods or services received through social transfers in kind less the value of goods or services paid to other units as social transfers in kind.

The difference between final consumption expenditure and actual final consumption is exactly the difference between expenditure on consumption goods and services and acquisition of consumption goods and services.

2.3.4.5 Final Consumption Expenditure

Final consumption expenditure is the amount of expenditure on consumption goods and services.

2.3.4.6 Actual Final Consumption

Actual final consumption measures the amount of consumption goods and services acquired.

2.3.4.7 Adjustment for the Change in Pension Entitlements

As individuals accrue pension entitlements in a social insurance scheme throughout their working lives, the corresponding entitlements become their assets and the liabilities of the units ultimately responsible for paying the pensions.

Pension schemes are treated in the SNA as having liabilities towards the households with claims on the schemes. The payments of pension contributions into the schemes and the receipts of pensions by pensioners constitute the acquisition and disposal of financial assets. However, this may not accord with the perception of the households concerned, especially pensioners' households, who tend to regard the pensions they receive as income in the form of current transfers.

In order to present income information that may be more useful for analysing the behaviour of the households concerned, the payments of pension contributions to all pension schemes and to social security and the receipts of pensions by pensioners' households under both pension schemes and social security are recorded in the secondary distribution of income account as social contributions and social insurance benefits, respectively. They therefore affect the level of disposable incomes of households.

The rationale for treating pension contributions and benefits as current transfers is that, when looked at for the economy as a whole, the effect of pension provision can be seen as if it were a redistributive process among households. To the extent that contributions and benefits are not exactly equal, there is an impact on household saving. For example, if households as a whole pay more contributions than they receive as benefits, their saving is reduced by this difference. Similarly, if household benefits exceed their contributions, saving does not reflect the fact that the negative change in entitlements represents a reduction in net worth. However, as is clear in the financial account, the change in pension entitlements is part of household net worth. It is therefore necessary to adjust saving for the difference between contributions payable and benefits receivable shown in the secondary distribution of income account.

An item described as the adjustment for the change in pension entitlements therefore appears in both the use of disposable income account and the use of the adjusted disposable income account. Opposite adjustments are needed in the use of income accounts of the units responsible for paying pensions.

2.3.4.8 Saving

Saving is the balancing item in the two use of income accounts. Its value is the same whether it is derived as disposable income less final consumption expenditure or as adjusted disposable income

less actual final consumption (in both cases, after making the adjustment for the change in pension entitlements just described).

Saving represents that part of disposable income (adjusted for the change in pension entitlements) that is not spent on final consumption goods and services. It may be positive or negative depending on whether disposable income exceeds final consumption expenditure, or vice versa. Assuming that saving is positive (and in the absence of capital transfers), the unspent income must be used to acquire assets (possibly only an increase in cash) or reduce liabilities. If saving is negative, some financial or non-financial assets must have been liquidated, (including a run down of cash) or some liabilities increased.

2.3.4.9 The Use of Disposable Income Account

The uses and resources for the ‘Use of Disposable Income Account’ and ‘Use of Adjusted Disposable Income Account’ are given in Table 2.6 and Table 2.7, respectively.

Table 2.6: Use of Disposable Income Account

Uses	Resources
Final consumption expenditure	Disposable income, gross
Adjustment for the change in pension entitlements	Disposable income, net
Saving, gross	Adjustment for the change in pension entitlements
Saving, net	

2.3.4.10 The use of Adjusted Disposable Income Account

Table 2.7: Use of Adjusted Disposable Income Account

Uses	Resources
Actual final consumption	Adjusted disposable income, gross
Adjustment for the change in pension entitlements	Adjusted disposable income, net
Saving, gross	Adjustment for the change in pension entitlements
Saving, net	

2.3.4.11 Household Final Consumption Expenditure

Household final consumption expenditure consists of expenditure incurred by resident households on consumption goods or services.

2.3.4.12 Household Actual Final Consumption

Household actual final consumption consists of the consumption goods and services acquired by individual households. The value of household actual final consumption is given by the sum of three components:

- a. The value of households' expenditures on consumption goods or services including expenditures on non-market goods or services sold at prices that are not economically significant;
- b. The value of the expenditures incurred by Government units on individual consumption goods or services provided to households as social transfers in kind; and
- c. The value of the expenditures incurred by NPISHs on individual consumption goods or services provided to households as social transfers in kind.

2.3.4.13 Consumption Expenditures Incurred by General Government

Expenditures on a wide range of consumption goods and services are incurred by general Government, either on collective services or on selected individual goods or services. Final consumption expenditure of Government can be derived as follows:

- a. The value of all types of output of general Government,
- b. less the value of output for own account capital formation,
- c. less the value of sales of goods and services at both economically insignificant prices and at economically significant prices,
- d. plus the value of goods and services purchased from market producers for delivery to households free or at economically insignificant prices.

2.3.4.14 Actual Final Consumption of General Government

The value of the actual final consumption of general Government is equal to the value of its total final consumption expenditure less its expenditure on individual goods or services provided as social transfers in kind to households. The value of the actual final consumption of Government units is thus equal to the value of the expenditures they incur on collective services. Although collective services benefit the community, or certain sections of the community, rather than the Government, the actual consumption of these services cannot be distributed among individual households, or even among groups of households such as subsectors of the household sector, or to enterprises. It is, therefore, attributed to the Government units that incur the corresponding expenditures.

2.3.5 The Capital Account

The purpose of the capital account is to record the values of the non-financial assets that are acquired, or disposed of, by resident institutional units by engaging in transactions and to show the change in net worth due to saving and capital transfers. The transactions may be either with other institutional units, both resident and non-resident, or internal transactions in which units retain products that they have produced themselves for use as capital formation.

2.3.5.1 Ownership

The legal owner of entities such as goods and services, natural resources, financial assets and liabilities is the institutional unit entitled in law and sustainable under the law to claim the benefits associated with the entities.

By contrast, the economic owner of entities such as goods and services, natural resources, financial assets and liabilities is the institutional unit entitled to claim the benefits associated with the use of the entity in question in the course of an economic activity by virtue of accepting the associated risks.

Every entity has both a legal owner and an economic owner, though in many cases the economic owner and the legal owner of an entity are the same. Where they are not, the legal owner has handed responsibility for the risk involved in using the entity in an economic activity to the economic owner along with associated benefits.

2.3.5.2 Assets

An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another. All assets in the SNA are economic assets.

Non-Financial Assets

Two different categories of non-financial assets are distinguished from each other: produced assets and non-produced assets.

- a. Produced assets are non-financial assets that have come into existence as outputs from production processes that fall within the production boundary of the SNA.
- b. Non-produced assets are non-financial assets that have come into existence in ways other than through processes of production.

(i) Produced Assets

There are three main types of produced assets: fixed assets, inventories and valuables.

Fixed assets are produced assets that are used repeatedly or continuously in production processes for more than one year. The distinguishing feature of a fixed asset is not that it is durable in some physical sense, but that it may be used repeatedly or continuously in production over a long period of time, which is taken to be more than one year. Some goods, such as coal, may be highly durable physically but cannot be fixed assets because they can be used once only. Fixed assets include not only structures, machinery and equipment but also cultivated assets such as trees or animals that are used repeatedly or continuously to produce other products such as fruit or dairy products. They also include intellectual property products such as software or artistic originals used in production.

Inventories are produced assets that consist of goods and services, which came into existence in the current period or in an earlier period, and that are held for sale, use in production or other use at a later date. Inventories consist of stocks of outputs that are still held by the units that produced them prior to their being further processed, sold, delivered to other units or used in other ways and stocks of products acquired from other units that are intended to be used for intermediate consumption or for resale without further processing. Inventories of services consist of work in-progress or finished products, for example architectural drawings, which are in the process of completion or are completed and waiting for the building to which they relate to be started.

Valuables are produced goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time. Valuables are expected to appreciate or at least not to decline in real value, nor to deteriorate over time under normal conditions. They consist of precious metals and stones, jewellery, works of art, etc. Valuables may be held by all sectors of the economy.

(ii) Non-Produced Assets

Non-produced non-financial assets consist of three categories: natural resources; contracts, leases and licences; and purchased goodwill and marketing assets.

Natural resources consist of naturally occurring resources such as land, water resources, uncultivated forests and deposits of minerals that have an economic value. Only those naturally occurring resources over which ownership rights have been established and are effectively enforced can therefore qualify as economic assets. Secondly, in order to comply with the general definition of an economic asset, natural assets must not only be owned but must also be capable of bringing economic benefits to their owners, given the technology, scientific knowledge, economic infrastructure, available resources and set of relative prices prevailing on the dates to which the balance sheet relates or expected to do so in the near future.

Contracts, leases and licences are treated as assets only when two conditions are both satisfied.

- a. The terms of the contract, lease or licence specify a price for the use of an asset or provision of a service that differs from the price that would prevail in the absence of the contract, lease or licence.
- b. One party to the contract must be able legally and practically to realize this price difference.

The second condition presupposes that a market for the contract exists. It is recommended that in practice contracts, leases and licences should only be recorded in the accounts when the holder does actually exercise his right to realize the price difference.

Purchased goodwill and marketing assets represent the whole or part of the net worth of an institutional unit. The value of goodwill and marketing assets is defined as the difference between the value paid for an enterprise as a going concern and the sum of its assets less the sum of its liabilities, each item of which has been separately identified and valued. Although goodwill is likely to be present in most corporations, for reasons of reliability of measurement it is only recorded in the SNA when its value is evidenced by a market transaction, usually the sale of the whole corporation.

2.3.5.3 Structure of the Capital Account

2.3.5.3.1 Saving

The right-hand side of the capital account represents changes in liabilities and net worth. The first item recorded on the right-hand side is the balancing item carried down from the use of disposable

income account, net saving. When positive, net saving represents that part of disposable income that is not spent on consumption goods and services and must, therefore, be used to acquire non-financial or financial assets of one kind or another, including cash, or to repay liabilities. When negative, net saving measures the amount by which final consumption expenditure exceeds disposable income: the excess must be financed by disposing of assets or incurring new liabilities.

2.3.5.3.2 Capital Transfers

Capital transfers are unrequited transfers where either the party making the transfer realizes the funds involved by disposing of an asset (other than cash or inventories), relinquishing a financial claim (other than accounts receivable) or the party receiving the transfer is obliged to acquire an asset (other than cash) or both conditions are met.

Capital transfers receivable represent an increase in net worth and so are shown on the right-hand side of the account for the recipient. By convention, the matching amounts payable are also shown on the right-hand side of the account but as a negative entry (that is, a decrease in net worth) for the payer.

2.3.5.3.3 Changes in Net Worth due to Saving and Capital Transfers

The total of the entries on the right-hand side of the account is explicitly shown and described as changes in net worth due to saving and capital transfers. It is not a balancing item. Changes in net worth due to saving and capital transfers represent the positive or negative amount available to the unit or sector for the acquisition of non-financial and financial assets.

2.3.5.3.4 Acquisitions less Disposals of Non-Financial Assets

The left-hand side of the capital account records how much of the change in net worth due to saving and capital transfers is used to acquire non-financial assets and how much is left to be explained by the acquisition of financial assets or liabilities in the financial account. Resources coming from the disposal of existing assets also appear as negative entries on the left-hand side of the account.

Three headings for the net change in the value of non-financial assets are shown in the capital account:

- a. Gross capital formation;
- b. Consumption of fixed capital;
- c. Acquisitions less disposals of non-produced non-financial assets.

Gross capital formation shows the acquisition less disposal of produced assets for purposes of fixed capital formation, inventories or valuables. The treatment given to each of these items is described in later sections of this chapter.

Consumption of fixed capital is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage. When, as recommended in the SNA, the balancing item carried down from the use of income account is net saving, it already reflects the fact that net worth has been reduced by the amount of consumption of fixed capital,

the amount by which fixed assets are reduced in the period. Since the capital account is designed to show the way in which net worth is augmented by the acquisition of non-financial assets, this amount has to be offset from the value of new acquisitions of fixed assets so the addition to the capital stock of fixed assets is a net amount. For this reason, consumption of fixed capital is recorded as a negative change in assets on the left-hand side of the capital account. The remaining item on the left-hand side of the capital account refers to non-produced non-financial assets, which has already been discussed in preceding sections.

2.3.5.3.5 Net Lending

The balancing item of the capital account, net lending, is defined as the difference between changes in net worth due to saving and capital transfers and net acquisitions of non-financial assets (acquisitions less disposals of non-financial assets, less consumption of fixed capital). If the amount is negative it represents net borrowing. It shows the amount of the resources remaining for purposes of lending or that need to be borrowed. Even if funds are not actively lent but are retained in cash, or in a bank deposit, the holder of the counterpart obligations represented by these financial assets has in effect borrowed from the unit holding the cash or bank deposit.

The identity between the balancing items of the capital account and the financial account is an important feature of the set of the accounts as a whole. What is borrowed by one unit must be lent by another and vice versa. The conceptual identity between the balancing items provides a check on the numerical consistency of the set of accounts as a whole, although the two balancing items are likely to diverge in practice because of errors of measurement.

The Changes in assets, liabilities and net worth for the Capital Account given in Table 2.8.

Table 2.8: Capital Account

Changes in assets	Changes in liabilities and net worth
Gross capital formation Net capital formation Gross fixed capital formation Consumption of fixed capital Changes in inventories Acquisitions less disposals of valuables Acquisitions less disposals of non-produced assets	Saving, net Capital transfers, receivable Capital transfers, payable (-)
Net lending (+) / net borrowing (-)	Changes in net worth due to saving and capital transfers

2.3.5.3.6 Gross Capital Formation

Gross capital formation is measured by the total value of the gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables.

(i) Gross Fixed Capital Formation

Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets. In order to ensure that the coverage of gross fixed capital formation is precisely defined, it is necessary first to define what does and what does not constitute a fixed asset and what activities are treated as adding to the value of non-produced assets.

The Asset Boundary

All goods and services supplied to the economy by means of production, imports or the disposal of produced assets must be used for exports, consumption (intermediate or final) or as part of capital formation. The boundary line between those products that are retained in the economy and are used for consumption and those products that are used for capital formation is known as the asset boundary. The asset boundary for fixed assets consists of goods and services that are used in production for more than one year.

Two exclusions from the asset boundary should be noted at the outset. The first is that consumer durables are not treated as fixed assets. The second exclusion is pragmatic rather than conceptual and concerns small tools. Some goods may be used repeatedly, or continuously, in production over many years but may nevertheless be small, inexpensive and used to perform relatively simple operations. Hand tools such as saws, spades, knives, axes, hammers, screwdrivers and spanners or wrenches are examples. If expenditures on such tools take place at a fairly steady rate and if their value is small compared with expenditures on more complex machinery and equipment, it may be appropriate to treat the tools as materials or supplies used for intermediate consumption. Not all goods included within the asset boundary must be newly produced. Since assets have a long life, they may change hands but continue to function as fixed assets for their new owners. When the ownership of an existing fixed asset is transferred from one resident producer to another, the value of the asset sold, bartered or transferred is recorded as negative gross fixed capital formation by the former and as positive gross fixed capital formation by the latter.

Gross fixed capital formation may take the form of improvements to existing fixed assets, such as buildings or computer software, that increase their productive capacity, extend their service lives, or both. By definition, such gross fixed capital formation does not lead to the creation of new assets that can be separately identified and valued, but to an increase in the value of the asset that has been improved.

The distinction between ordinary maintenance and repairs that constitute intermediate consumption and those that are treated as capital formation is not clear cut. Ordinary maintenance and repairs are distinguished by two features:

- a. They are activities that must be undertaken regularly in order to maintain a fixed asset in working order over its expected service life.

b. Ordinary maintenance and repairs do not change the fixed asset's performance, productive capacity or expected service life. They simply maintain it in good working order, if necessary by replacing defective parts by new parts of the same kind.

On the other hand, improvements to existing fixed assets that constitute gross fixed formation must go well beyond the requirements of ordinary maintenance and repairs. They may be distinguished by the following features:

- a. The decision to renovate, reconstruct or enlarge a fixed asset is a deliberate investment decision that may be taken any time, even when the good in question is in good working order and not in need of repair. Major renovations of ships, buildings or other structures are frequently undertaken well before the end of their normal service lives;
- b. Major renovations, reconstructions or enlargements increase the performance or productive capacity of existing fixed assets or significantly extend their previously expected service lives, or both.

A different treatment is applied to improvements to land in its natural state. In this case the improvements are treated as the creation of a new fixed asset and are not regarded as giving rise to an increase in the value of the natural resource. If land, once improved, is further improved, then the normal treatment of improvements to existing fixed assets applies.

Costs associated with acquiring and disposing of assets may be described as costs of ownership transfer. Costs of ownership transfer are treated as gross fixed capital formation. They are attributed to the purchaser or seller of the asset according to which unit bears the responsibility of meeting the costs.

(ii) Changes in Inventories

Changes in inventories are measured by the value of the entries into inventories less the value of withdrawals and less the value of any recurrent losses of goods held in inventories during the accounting period. When a good is entered into inventories it is acquired as an asset by the enterprise in its capacity as owner. Conversely, a good leaving inventories represents the disposal of an asset by the owner.

Valuation

The enterprise in its capacity as a producer may obtain goods or services for intermediate consumption either by purchasing them on the market for immediate use or by internal transfers out of inventories. In order to ensure that all the goods and services used for intermediate consumption are consistently valued at current prices, the goods transferred out of inventories are valued at purchasers' prices at the time of the withdrawal from inventories.

Similarly, the output produced by the producer may either be sold or otherwise disposed of or be transferred to inventories as finished products or work-in-progress. In order to ensure that output is consistently valued, finished goods transferred into inventories are valued as if they were sold at that time, while additions to work-in-progress are given the value they have at the time they are added to inventories.

Transactions in Inventories

The transactions in the capital account relating to inventories show the change in the level of inventories. The changes comprise the additions less withdrawals and less regular losses from inventories.

(iii) Acquisitions Less Disposals of Valuables

The Asset Boundary

Valuables include precious metals and stones, antiques and other art objects and other valuables. However, not all items that may be described by one of these titles should necessarily be included as a valuable in the balance sheet of the owner. The intent of the heading is to capture those items that are often regarded as alternative forms of investment. At various times, investors may choose to buy gold rather than a financial asset and pension funds have been known to buy “old master” paintings when the prices of financial assets were behaving in a volatile manner. Individuals (households in SNA terminology) may also choose to acquire some of these items knowing that they may be sold if there is a need to raise funds.

2.3.6 The Financial Account

The financial account is the final account in the full sequence of accounts that records transactions between institutional units. Net lending or net borrowing, the balancing item of the capital accounts, is carried forward to the financial account. The financial account does not have a balancing item that is carried forward to another account. It simply explains how net lending or net borrowing is effected by means of changes in holdings of financial assets and liabilities.

The financial account records transactions that involve financial assets and liabilities and that take place between resident institutional units and between resident institutional units and the rest of the world. The left-hand side of the account records acquisitions of financial assets less disposals, while the right-hand side records incurrence of liabilities less their repayment.

2.3.6.1 Financial Assets and Liabilities

An asset is a store of value representing a benefit or series of benefits accruing to the economic owner by holding or using the entity over a period of time. It is a means of carrying forward value from one accounting period to another.

Benefits are exchanged by means of payments. From this a financial claim, and hence a liability, can be defined. There are no non-financial liabilities recognized in the SNA, thus the term liability necessarily refers to a liability that is financial in nature.

A liability is established when one unit (the debtor) is obliged, under specific circumstances, to provide a payment or series of payments to another unit (the creditor). The most common circumstance in which a liability is established is a legally binding contract that specifies the terms

and conditions of the payment(s) to be made and payment according to the contract is unconditional.

Whenever either of these types of liability exists, there is a corresponding financial claim that the creditor has against the debtor. A financial claim is the payment or series of payments due to the creditor by the debtor under the terms of a liability.

Financial assets consist of all financial claims, shares or other equity in corporations plus gold bullion held by monetary authorities as a reserve asset. Gold bullion held by monetary authorities as a reserve asset is treated as a financial asset even though the holders do not have a claim on other designated units. Shares are treated as financial assets even though the financial claim their holders have on the corporation is not a fixed or predetermined monetary amount.

2.3.6.2 Quadruple-entry Accounting

When a good, service, asset or liability is sold by one institutional unit to another, two pairs of entries are recorded.

The first pair records the supply of the item by one unit and the acquisition by the other. The second pair of entries records the second party supplying the means of payment for the item, and the first party receiving this.

The second pair of entries usually appears in the financial account though in a few cases of transfers in kind, the second pair of entries may appear as negative and positive final consumption expenditure or disposal and acquisition of a non-financial asset. In all cases except the acquisition of a financial asset or settlement of a liability, the first pair of entries appears in one or more of the non-financial accounts. In the case of the exchange of a financial instrument, all four entries appear in the financial account.

2.3.6.3 Counterparts of Non-Financial Transactions

Transactions involving the transfer of ownership of a good or non-financial asset, or the provision of a service or labour almost always entail a counterpart entry in the financial account for means of payment or claims on future means of payment. Even many transactions in kind, such as barter sales and remuneration in kind, conceptually lead to entries in the financial account.

The sale of a good, service, or asset may have as its counterpart a change in currency or transferable deposit. Alternatively, the counterpart may be reflected in the financial account in a trade credit or other category of accounts receivable or payable.

2.3.6.4 Exchanges of Financial Assets and Liabilities

Whenever one financial asset is exchanged for another or when a liability is repaid with a financial asset, transactions are recorded only in the financial account. These transactions change the

distribution of the portfolio of financial assets and liabilities and may change the totals of both financial assets and liabilities, but they do not change the difference between total financial assets and liabilities.

2.3.6.5 Negotiability

Financial claims can be distinguished as to whether they are negotiable or not. A claim is negotiable if its legal ownership is readily capable of being transferred from one unit to another unit by delivery or endorsement. While any financial instrument can potentially be traded, negotiable instruments are designed to be traded on organized and other markets. Negotiability is a matter of the legal form of the instrument. Those financial claims that are negotiable are referred to as securities. Some securities may be legally negotiable, but there is not, in fact, a liquid market where they can be readily bought or sold. Securities include shares and debt securities; listed financial derivatives, such as warrants, are sometimes considered to be securities.

The Changes in assets, liabilities and net worth for the Financial Account is given in Table 2.9.

Table 2.9: Financial Account

Changes in assets	Changes in liabilities and net worth
Net acquisition of financial assets	Net lending (+) / net borrowing (-)
Monetary gold and SDRs	Net acquisition of liabilities
Currency and deposits	Monetary gold and SDRs
Debt securities	Currency and deposits
Loans	Debt securities
Equity and investment fund shares	Loans
Insurance, pension and standardized	Equity and investment fund shares
guarantee schemes	Insurance, pension and standardized
Financial derivatives and employee stock	guarantee schemes
options	Financial derivatives and employee stock
Other accounts receivable/payable	options
	Other accounts receivable/payable

2.3.6.6 Recording of Individual Financial Instruments

(i) Monetary Gold and Special Drawing Rights (SDRs)

Monetary Gold

Monetary gold is gold to which the monetary authorities (or others who are subject to the effective control of the monetary authorities) have title and is held as a reserve asset. It comprises gold bullion (including gold held in allocated gold accounts) and unallocated gold accounts with non-residents that give title to claim the delivery of gold. All monetary gold is included in reserve assets or is held by international financial organisations. Only gold that is held as a financial asset and as a component of foreign reserves is classified as monetary gold. Therefore, except in limited

institutional circumstances, gold bullion can be a financial asset only for the central bank or central Government.

Special Drawing Rights

Special Drawing Rights (SDRs) are international reserve assets created by the International Monetary Fund (IMF) and allocated to its members to supplement existing reserve assets. The Special Drawing Rights Department of the IMF manages reserve assets by allocating SDRs among member countries of the IMF and certain international agencies (collectively known as the participants).

The mechanism by which SDRs are created (referred to as allocations of SDRs) and extinguished (cancellations of SDRs) gives rise to transactions. These transactions are recorded at the gross amount of the allocation and are recorded in the financial accounts of the monetary authority of the individual participant on the one part and the rest of the world representing the participants collectively on the other.

(ii) Currency and Deposits

Currency

Currency consists of notes and coins that are of fixed nominal values and are issued or authorized by the central bank or Government.

Deposits

Transferable deposits comprise all deposits that:

- a. are exchangeable for bank notes and coins on demand at par and without penalty or restriction; and
- b. are directly usable for making payments by cheque, draft, giro order, direct debit/credit, or other direct payment facility.

Other Deposits comprise all claims, other than transferable deposits, that are represented by evidence of deposit. Typical forms of deposits that should be included under this classification are saving deposits (which are always non-transferable), fixed-term deposits and non-negotiable certificates of deposit.

(iii) Debt Securities

Debt securities are negotiable instruments serving as evidence of a debt. They include bills, bonds, negotiable certificates of deposit, commercial paper, debentures, asset backed securities, and similar instruments normally traded in the financial markets.

(iv) Loans

Loans are financial assets that: a) are created when a creditor lends funds directly to a debtor, and b) are evidenced by documents that are not negotiable. The category of loans includes overdrafts, instalment loans, hire-purchase credit and loans to finance trade credit.

(v) Equity and Investment Fund Shares

Equity

Equity comprises all instruments and records acknowledging claims on the residual value of a corporation or quasi-corporation after the claims of all creditors have been met. Equity is treated as a liability of the issuing institutional unit. Ownership of equity in legal entities is usually evidenced by shares, stocks, depository receipts, participations, or similar documents.

Investment Fund Shares or Units

Investment funds are collective investment undertakings through which investors pool funds for investment in financial or non-financial assets. Those units acquiring shares in the funds thus spread their risk across all the instruments in the fund. Investment funds include mutual funds and unit trusts. Investment funds issue shares when a corporate structure is used and units when a trust structure is used.

(vi) Insurance, Pension and Standardized Guarantee Schemes

Insurance, pension and standardized guarantee schemes all function as a form of redistribution of income or wealth mediated by financial institutions. The redistribution may be between individual institutional units in the same period or for the same institutional unit over different periods or a combination of the two. Units participating in the schemes contribute to them and may receive benefits (or have claims settled) in the same or later periods. While they hold the funds, insurance corporations invest them on behalf of the participants.

(vii) Financial Derivatives and Employee Stock Options

Financial Derivatives

Financial derivatives are financial instruments that are linked to a specific financial instrument or indicator or commodity, through which specific financial risks can be traded in financial markets in their own right. The value of a financial derivative derives from the price of the underlying item: the reference price. The reference price may relate to a commodity, a financial asset, an interest rate, an exchange rate, another derivative or a spread between two prices. The derivative contract may also refer to an index or a basket of prices.

Employee Stock Options (ESOs)

An employee stock option is an agreement made on a given date (the “grant” date) under which an employee may purchase a given number of shares of the employer’s stock at a stated price (the “strike” price) either at a stated time (the “vesting” date) or within a period of time (the “exercise” period) immediately following the vesting date. Transactions in employee stock options are recorded in the financial account as the counterpart to the element of compensation of employees represented by the value of the stock option.

(viii) Other Accounts Receivable or Payable

This category comprises trade credit for goods and services extended to corporations, Government, NPISHs, households and the rest of the world, and advances for work that is in progress (if classified as such under inventories) or is to be undertaken. Trade credits and advances do not include loans to finance trade credit, which are classified as loans.

This category also includes accounts receivable and payable, other than those described previously, that is the amounts are not related to the provision of goods and services. It covers amounts related to taxes, dividends, purchases and sales of securities, rent, wages and salaries, and social contributions. Interest that accrues but is not paid is included in this item only if the accrued interest is not added to the value of the asset on which the interest is payable (as is usually the case).

2.4 The GDP Identities

There are different ways in which GDP can be defined:

a. the production measure of gross domestic product (GDP) is derived as the value of output less intermediate consumption plus any taxes less subsidies on products not already included in the value of output,

$$\text{GDP} = \text{output} - \text{intermediate consumption} + \text{taxes less subsidies on products} \dots\dots\dots(2.1)$$

b. the expenditure measure of gross domestic product (GDP) is derived as the sum of expenditure on final consumption plus gross capital formation plus exports less imports.

$$\text{GDP} = \text{final consumption} + \text{capital formation} + \text{exports} - \text{imports} \dots\dots\dots(2.2)$$

c. the production measure of GDP can also be expressed as value added adjusted to ensure all taxes less subsidies on products are included. Value added can be viewed as the elements comprising income: compensation of employees, operating surplus, mixed income and other taxes less subsidies on production. If separate estimates are available of these components, then a third way of compiling GDP is possible, that is, from the income side. The income measure of gross domestic product (GDP) is derived as compensation of employees plus gross operating surplus plus gross mixed incomes plus taxes less subsidies on both production and imports.

$$\text{GDP} = \text{compensation of employees} + \text{gross operating surplus} + \text{gross mixed income} + \text{taxes less subsidies on production and imports} \dots\dots\dots(2.3)$$

2.5 The Accounts in Volume Terms

All the aggregates referred to in preceding paras are calculated in current values. The influence of changes in prices may also be eliminated. Domestic product is calculated in volume terms in order to measure the real change that occurs from one period to another. This is possible because output, intermediate consumption and taxes on products, less subsidies on products can all be calculated in volume terms. On the other hand, aggregates of income may not be expressed in volume terms because income flows may not, strictly speaking, be broken down into a quantity and a price component. It is also to note that figures provided in the tables may not tally with totals due to rounding off.

CHAPTER 3

MAJOR CHANGES IN NEW SERIES

3.1 General Government Sector

As Government provides services on non-market basis, output of this sector is valued by the sum of the costs incurred in their production, namely, as the sum of Compensation of Employees, Intermediate Consumption and Consumption of Fixed Capital. The major improvements incorporated in estimation of this sector in the new series are summarized below:

3.1.1 Adjustment for pension

In the national accounts, under defined benefit pension schemes, the accrual of pension entitlements resulting from employees' service during the current accounting period is treated as a component of compensation of employees. Accordingly, the present value of the future pension entitlements accrued by serving employees is required to be imputed for each accounting period. In the 2011–12 series, the annual pension payments made to retired employees were used as a proxy for estimating the present value of the pension entitlements accrued by serving employees during the current accounting period.

With the introduction of New Pension Scheme (NPS), contribution from Government towards pension of such employees as well as employees own contribution is directly available in the budget documents and is considered while compiling compensation of employees. In view of this, proportionate adjustment in pension disbursed through Old Pension Scheme (proxy when entire workforce is under OPS) have been done to reflect only the liability attributable to employees still covered under OPS.

To make adjustment in the pension payments, a factor based on an average retirement period, say 39 years, starting from 2005-06 has been applied to pension amount paid as per OPS. This means that with each passing year after 2005-06, an additional 1/39th portion of pension reported in budget document will be removed and only the remaining portion will be treated as CE. This will be compensated by new recruits covered under NPS through Government's and employees' own contribution towards NPS. Gradually in 39 years, no pension amount as per OPS will be treated as CE.

States where OPS is still operational, no adjustments have been made. Similarly, NPS is not applicable to the Armed forces covered under Ministry of Defence, therefore, no adjustment have been made in case of defence also.

3.1.2 Imputation of accommodation provided by Government in lieu of HRA

To improve the compilation of compensation to Government employees receiving employer accommodation service, imputation has been done for the value of the housing service provided by Government to its employees. This ensures that the compensation of these employees and the valuation of housing services provided by Government is properly captured in estimates of Output for General Government.

3.1.3 Improved coverage and regional spread

Coverage of autonomous bodies and local bodies has been increased thereby increasing the portion of direct estimate.

3.1.4 Volume extrapolation in case of product subsidies

In the 2011-12 series, constant price estimates of product subsidies were derived by deflating the current price estimates with the overall GVA deflator. In the new series, the volume extrapolation approach has been adopted for estimating product subsidies at constant prices.

3.2 Non-Financial Private Corporations (NFPC)

The estimates of Non-Financial Private Corporate (NFPC) Sector are compiled using the MCA-21 data following the methodology suggested by Sub-committee on Private Corporate Sector including Public Private Partnerships (PPPs) constituted for 2011-12 base revision. The report of the said sub-committee is available on the website of the Ministry. In the intervening period since the last base revision, a couple of new data sets, namely, frame of active companies (having enterprise level details on Paid-Up Capital (PUC), Company category, viz., Government/Non-Government etc., MGT data (having information on number of business activities of the enterprise, description of business activity and percentage turnover from each business activity) and frame of active Limited Liability Partnership (LLP) companies (having LLP-wise details on industrial activity, Obligation to Contribution, etc.) have become available. In the 2022-23 series, it was decided that the estimation process may be made more robust by using the additional information. Accordingly, following methodological improvements have been made in compilation of estimates of NFPC sector:

3.2.1 Change in mapping of variables for estimation of XBRL companies

Companies file their financial returns with MCA in either of the two formats: eXtensible Business Reporting Language (XBRL) format (following C&I² or INDAS³ taxonomies) or Non-XBRL format (AOC-4). Filing requirements for XBRL companies are much more detailed whereas Non-XBRL companies file information at an aggregate level. As per the Sub-committee Report on Private Corporate Sector including PPPs, different financial variables are mapped to different SNA aggregates like Output, Intermediate Consumption (IC), etc. As information on all

² C&I: Corporate and Industry financial statements reported by companies under the XBRL filing system.

³ Ind AS: Financial statements prepared and reported by companies in accordance with Indian Accounting Standards (Ind AS).

components for variables like other expenses was not available at the time of 2011-12 base year revision, it was mapped to IC following residual method after removing its sub-components which were not in the nature of IC.

With the availability of component-wise information of other expenses, mapping of some of the components of other expenses to various SNA aggregates was revisited (including default mapping to IC based on exclusion criterion indicated earlier) and the revised mapping of variables with SNA aggregates is given in Table 3.1.

Table 3.1: Revised mapping of variables with SNA aggregates

Variable	2011-12 Base Year Mapping	2022-23 Base Year Mapping
Warranty Claim Expense	IC	Other Current Transfer (OCT) Paid
Provision for cost of restoration	IC	Not mapped to SNA aggregate
Impairment loss on financial/non-financial asset	IC	Not mapped to SNA aggregate
Central Excise Duty	IC	Product Tax
Cost Taxes Other Levies by Government Local Authorities	IC	Production Tax
Insurance	IC	43% in IC, 57% in OCT Paid (ratio will be updated each year)
CSR expenditure	IC	OCT Paid
Adjustments to carrying amounts of investments	IC	Not mapped to SNA aggregate
Write-off Assets	IC	Not mapped to SNA aggregate
Cost Royalty	Property Income Paid	Property Income Paid (For mining), IC (for remaining industries)
Rent	Property Income Paid	IC (mostly rental is reported under this variable)
Other Cess Tax	IC	Product Tax
Income Import Entitlement	Property Income Received	Production Subsidy
Provision Wealth Tax	Income Tax Paid	Production Tax

3.2.2 Change in ratios used in estimation of Non-XBRL companies

The XBRL companies are mandated to file financial returns following either C&I or INDAS taxonomies, wherein detailed financial disclosures are required. On the other hand, for Non-XBRL companies, information on financial variables is required to be filed at a broader level.

Different components of a particular variable are mapped to different SNA aggregates like output, IC, GVA, etc., as per the nature of the component. As component-wise information is not available for some of the variables for Non-XBRL companies, such variables are split into components, based on C&I filings, and mapped to SNA aggregates. For example, in the case of Other Income, only the portion related to operating income is included in Output. In the absence of detailed information in Non-XBRL data, proportion of the aggregates mapped to different SNA variables are estimated using C&I data (i.e., proportion of operating income within total Other Income). Accordingly, only a share of Other Income is added to Output of Non-XBRL companies.

Similarly, ratios are used for other variables like Finance cost, Other expense, etc. In 2011-12 series, as per the recommendation of the Sub-committee on Private Corporate Sector including PPPs, the ratios were worked out for base year and were used in all subsequent years. However, the ratios are calculated for each year in the 2022-23 series.

3.2.3 Use of MGT-7 and MGT-7A data for reclassification of industry based on major economic activity

MCA has started sharing the MGT-7 and MGT-7A data of companies for each financial year. This data contains the information on number of business activities undertaken by the enterprise, description of business activity as per NIC 2008 and percentage turnover from each business activity for each year.

At the time of 2011-12 base year revision, industrial activity codes were assigned either by manual profiling of bigger companies or by using the information of NIC code embedded in Corporate Identification Number (CIN). However, as the CIN is assigned at the time of registration and companies sometimes change their business without getting the CIN changed, the NIC code embedded in CIN may not correctly reflect the present business activity being undertaken by a company. With the availability of MGT data, the current business activities of a company can be captured. The above-mentioned information available in MGT forms has been used to assign the industrial activity code to the companies based on major economic activity reported in MGT form.

3.2.4 Segregation of activities in case of multi-activity enterprises in Non-Financial Private Corporate (NFPC) Sector

In case of multi-activity enterprises, besides assigning the major activity, MGT data has also been used to segregate economic activities and consequently the value added by each business of the enterprise. For each multi-activity enterprise, activity-wise share of turnover available in MGT-7/7A Form has been used to calculate activity-wise turnover. Thereafter, 'Output-turnover Ratios', calculated on the basis of single activity companies for each industry, were used to calculate activity-wise output. Activity-wise output so computed has been adjusted on pro-rata basis to match enterprise level output. For calculating activity-wise inputs, industry-wise 'Input-output Ratios' of single activity enterprises were applied over adjusted activity-wise outputs. Thereafter, activity-wise inputs were adjusted pro-rata to match enterprise level input. Activity-wise adjusted outputs and inputs so obtained were used to calculate activity-wise GVA. Indicators used for segregating various aggregates, including Output, IC and GVA are summarized in the Table 3.2.

Table 3.2: Indicators used for segregating various aggregates for multi-activity Private Corporate

Aggregates	Methodology
Output	In proportion to industry-wise Output-Turnover Ratio as per single activity companies; activity-wise output thus obtained is then pro rata adjusted to company level total
Intermediate Consumption (IC)	In proportion to industry-wise Input-Output Ratio as per single activity companies; activity-wise IC thus obtained is then pro rata adjusted to company level total

Aggregates	Methodology
Gross Value Added (GVA)	Derived figure
Compensation of Employees (CE)	In proportion to industry-wise CE- GVA ratio as per single activity companies; activity-wise CE thus obtained is then pro rata adjusted to company level total
Production Tax less Subsidy	In proportion to industry-wise Net Production Tax-GVA Ratio as per single activity companies; activity-wise Net Production Tax thus obtained is then pro rata adjusted to company level total
Operating Surplus (OS)	Derived figure
Property Income Received	In proportion to industry-wise Property Income Received-OS Ratio as per single activity companies; activity-wise Property Income Received thus obtained is then pro rata adjusted to company level total
Property Income Paid	In proportion to activity-wise Operating Surplus
Balance of Primary Income	Derived figure
Other Current Transfer Received	In proportion to industry-wise Other Current Transfer Received – OS Ratio as per single activity companies; activity-wise Other Current Transfer Received thus obtained is then pro rata adjusted to company level total
Other Current Transfer Paid	In proportion to activity-wise Operating Surplus
Income Tax Paid	In proportion to activity-wise Operating Surplus
Saving	Derived figure

3.2.5 Change in the multiplier

In 2011-12 series, as per the guidelines of the Sub-committee on Private Corporate Sector including PPPs, the Paid-Up Capital based multiplier was used for scaling up the estimates of reporting companies, to account for the contribution of active companies that had not filed their returns even after about a year and half from the end of the financial year. Due to non-availability of PUC at disaggregated level in 2011-12 series, multiplier was applied at economy level (though separately for Public Limited Companies and others) following the formula given below:

$$\begin{aligned}
 \text{Aggregate population} = & \text{Aggregate}_{\text{reporting PLC}} \times \frac{(\text{Global PUC})_{\text{PLC}}}{(\text{Reporting PUC})_{\text{PLC}}} + \\
 & \text{Aggregate}_{\text{reporting_NPLC}} \times \frac{(\text{Global PUC})_{\text{NPLC}}}{(\text{Reporting PUC})_{\text{NPLC}}} \dots\dots\dots(3.1)
 \end{aligned}$$

where PLC indicates Public Limited Companies and NPLC indicates companies other than PLCs (primarily Private Limited Companies).

However, the availability of frame of active companies and MGT data has enabled to use the multiplier at disaggregated level in 2022-23 series instead of using it at the overall level. Moreover, it was also observed that there were differences in capital intensity (measured by GVA to PUC ratio) across industries and size classes. Therefore, it seems appropriate to apply a scaling up factor derived at Industry by Size-class level.

3.3 Financial Corporations

The 2022-23 series incorporates several methodological and data-related improvements in the estimation of Gross Value Added (GVA) of the Financial Corporations sector with a view to improving coverage, consistency and the quality of estimates.

3.3.1 Use of RBI Banking Statistics for Public Sector Banks

A major improvement relates to the estimation of nationalized public sector banks under the sub-sector Deposit-taking Corporations except Central Bank. In the 2011-12 series, estimates were compiled using information available in the annual reports of individual banks. In the new series, data from the Statistical Tables Relating to Banks in India (STRBI) published by the Reserve Bank of India (RBI) are used. This aligns the methodology adopted for public sector banks with that followed for private and foreign banks and ensures greater consistency in estimation.

3.3.2 Enhanced Coverage of Private NBFCs

The estimation of Private Non-Banking Financial Companies (NBFCs) under the sub-sector *Other Financial Intermediaries* except Insurance Corporations and Pension Funds (ICPF) has been significantly strengthened. In the previous series, estimates were based on RBI data covering a limited number of NBFCs and were expanded using paid-up capital based blow-up factors. In the new series, annual accounts available through the Ministry of Corporate Affairs (MCA) database are used, resulting in improved coverage and estimation of the private NBFC sector.

3.3.3 Strengthened Estimation of Moneylenders and Financial Auxiliaries

The methodology for estimating the contribution of moneylenders has been strengthened through the use of data from the All India Debt and Investment Survey (AIDIS) 2019 and the Annual Survey of Unincorporated Sector Enterprises (ASUSE). AIDIS data are used to estimate the stock of loans and lending rates, enabling independent estimation of moneylenders' output. Further, ASUSE-based ratios are used for estimating Intermediate Consumption of moneylenders and insurance agents, thereby improving the measurement of unorganized financial activities.

3.3.4 Improved Coverage and Classification of Pension Funds

The treatment of pension funds has been refined in the new series. Contribution Funds and Administration Funds of provident fund organisations are now classified separately under the sub-sectors *Pension Funds* and *Financial Auxiliaries*, respectively. In addition, provident fund organisations such as Coal Mines Provident Fund Organisation (CMPFO), Seamen's Provident Fund Organisation (SMPFO) and Assam Tea Employees Provident Fund Organisation (ATEPFO) have been incorporated into the estimation framework, resulting in improved institutional coverage.

3.3.5 Improved Estimation of FISIM at Constant Prices

The methodology for estimating Financial Intermediation Services Indirectly Measured (FISIM) at constant prices has been refined. The revised approach derives volume measures of FISIM by applying base-year interest rate spreads to deflated stocks of loans and deposits, thereby providing a more appropriate measure of real growth in financial intermediation services.

3.3.6 Revised Methodology for Constant Price Estimates

The methodology for compiling constant price estimates has been revised. While the 2011-12 series relied on a combination of volume extrapolation and single deflation techniques, often using the implicit price deflator of unadjusted GVA of non-financial industries, the new series adopts a more consistent approach based on sector-specific volume indicators and appropriate deflators such as CPI (General) and BkSPI (Direct). This has improved the measurement of real growth across the Financial Corporations sector.

3.4 Household

In the 2011–12 series, Gross Value Added (GVA) for the unincorporated manufacturing and selected services sectors was estimated using the Effective Labour Input (ELI) method, which combined benchmark GVA per effective worker from the Enterprise Survey (2010–11) with workforce estimates from the Employment and Unemployment Survey (2011–12). For subsequent years, these benchmark estimates were extrapolated using appropriate indicators. In the 2022–23 series, this approach has been replaced by the Labour Input (LI) method, wherein industry-wise GVA per worker is derived annually from the Annual Survey of Unincorporated Sector Enterprises (ASUSE) and combined with workforce estimates from the Periodic Labour Force Survey (PLFS), adjusted for projected population. The availability of annual ASUSE and PLFS data enables direct annual estimation of GVA for the unincorporated sector, replacing the earlier indicator-based extrapolation method. This major change in methodology is applicable to all industries, except agriculture and construction.

Production Approach:

3.5 Agriculture & Allied Sector

3.5.1 Crop

In the 2022–23 series, the estimation methodology has been refined to improve the coverage and granularity of crop-level estimates. Individual crop-level data on area, production and prices obtained from States have been incorporated to reduce the residual coverage under the categories of ‘Other Fruits’ and ‘Other Vegetables’. Similarly, the categories of ‘Small Millets’ and ‘Other Pulses’ have been redefined using detailed crop-level information available from the Ministry of Agriculture and Farmers Welfare and the States, replacing the broad aggregations followed in the earlier series. Further, fruits and vegetables are treated as separate groups in the 2022–23 series, in contrast to the 2011–12 series, where they were clubbed together.

Estimation methodology for prices of other category and some combined crops (*viz.* small millets and other pulses) have been updated suitably. The earlier practice of estimating prices of other crops in a particular category was to consider a portion of weighted average price for some crops in the same category. As an illustration, in 2011-12 series, price of ‘other pulses’ was considered as 85% of weighted average price of *arhar*, *urad*, *moong*, *masur* and horsegram. This method is being replaced by considering simple weighted average price of selected crops in a particular category, instead of some proportion, where production of respective crops are considered as weights.

In 2011–12 series, estimation of fodder and grass production was carried out using fixed productivity norms along with state-wise area information from Land Use Statistics. A dedicated study on productivity of fodder and grass to update the productivity parameters for fodder and grass, considering the changing crop patterns, climatic conditions, and agricultural practices across States, was awarded to Indian Grassland and Fodder Research Institute (IGFRI), Jhansi. Production of fodder and grass has been updated based on state-wise productivity derived from the study in the new series.

In the agriculture sector, the conversion of sugarcane into *gur* is recognized only when it is carried out by sugarcane producers in on-farm processing units. Total sugarcane production is classified into two categories: sugarcane consumed in its original form and sugarcane processed into *gur*. The first category is valued using prevailing sugarcane prices, while the second is valued based on the corresponding prices of *gur*. The quantity of bagasse generated is estimated by applying the bagasse yield rate to the amount of sugarcane used for *gur* production. Quantity of sugarcane used for *gur* production, conversion of sugarcane into *gur* and yield rate of bagasse have been updated based on studies done by State Agricultural Universities of Karnataka, Maharashtra and Tamil Nadu. For the remaining states, national average rates as derived from the aforementioned studies have been used.

Seed input is estimated using state-wise seed value per hectare from the Ministry of Agriculture and Farmers Welfare's Cost of Cultivation Studies (CCS) for major crops, supplemented by the 2019 NSS Situation Assessment Survey (SAS) for crops not covered (mostly fruits and vegetables). SAS-based estimates are price-adjusted using relevant indices, and total seed input is derived by applying the per-hectare seed values to the corresponding crop area.

For estimating value of feed of livestock as input in crop sub-sector, feed consumed by adult male buffalo and adult male cattle population was considered in 2011-12 series. However, in 2022-23 series, for distribution of feed of livestock between crop and livestock sub-sectors, use category wise distinction of adult male buffalo and adult male cattle as provided in livestock census has been used. Use category wise information as available in livestock census is as follows:

- a. Used for breeding only
- b. Used for agriculture only
- c. Used for agriculture & breeding only
- d. Used for bullock cart / farm operation
- e. Others

For better coverage of feed consumption across livestock and crop sub-sectors in the new series, further bifurcation of adult male cattle and buffalo population in crop and livestock sub-sectors have been done as follows:

$$\text{For livestock sector: category (i) + category (iii) * } \frac{\text{category (i)}}{\text{sum of categories (i) and (ii)}} \dots\dots\dots(3.2)$$

For crop sector:

$$category (ii) + category (iv) + category (v) + category (iii) * \frac{category (ii)}{sum of categories (i) and (ii)} \dots\dots\dots(3.3)$$

Diesel consumption in the crop sub-sector is estimated using the number of tractors and diesel engines in use along with their respective consumption norms. Tractor data are sourced from the Ministry of Agriculture and Farmers Welfare, while diesel engine estimates are based on the 1997 and 2003 Livestock Census and retained at the 2015–16 level due to the absence of updated data. Diesel consumption norms and prices have been revised using Cost of Cultivation Studies (CCS) for the 2022–23 series and are applied annually to updated tractor numbers and fixed diesel engine estimates to derive current input values.

Market charges represent expenses incurred by producers for selling agricultural produce, as GVO is valued at *mandi* arrival prices. In the 2011–12 series, these were estimated at a uniform 3.22% of crop output based on a 2004–05 market margin study. For the 2022–23 series, States reported expenses on items such as weighment, cleaning, transport, commission, bagging, loading/unloading, and milling. State-specific crop-wise charges are used, wherever available, while the 3.22% rate continues to be applied for other States.

3.5.2 Livestock

Animal feed consumption includes dry fodder, green fodder, concentrates (including salt, medicines, and other feed), and is estimated separately for major livestock species. Per day quantity of animal feed was considered separately category-wise for cattle, buffalo, goat, sheep, pig, poultry and others, in 2011-12 series. In view of non-availability of updated feed rates, existing studies and reports were explored to update the same for 2022-23 series. Feed rate of cattle (as used in 2011-12 series) has been apportioned for indigenous and crossbred species using share of category and species wise feed rate as available from a study titled ‘Assessment of Livestock Feed and Fodder’ conducted during 2018-19 by Agricultural Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bengaluru, which was awarded by M/o Ag&FW. Feed consumption rates used in 2011-12 series for all categories and species, have then been adjusted based on total State-wise fodder and grass production. The total production of fodder and grass in the agriculture sector has been considered to be consumed by the entire livestock population. State-wise total green fodder consumed by livestock is then adjusted with total grass and green fodder produced. Accordingly, the quantities of dry fodder and concentrates have also been updated so that the shares of dry fodder, green fodder and concentrates stay the same as in the 2011-12 series. Updated animal feed rate is used for calculation of value of input of livestock sector along with prices used in 2011-12 series, adjusted with Output Producer Price Index with base year 2022-23.

Data on the number of animals slaughtered are sourced from the Department of Animal Husbandry and Dairying (DAHD), while municipal slaughter charges are obtained from the respective state DES. State-specific charges are applied, wherever available; otherwise, the national average is

used for states lacking updated information in the 2022–23 series. Species-wise slaughtering charges were considered to be same for all states in earlier series.

3.6 Forestry and Logging

The production of industrial wood from trees outside forests is available from biennial publication India State of Forest Report (ISFR) by Forest Survey of India. The production of industrial wood from TOF is extrapolated in the intermittent year using state-wise CAGR of growing stock. Prices of industrial wood from TOF are being provided by state DESs from a survey conducted for registered sawmills.

The value of fodder obtained from forests is estimated using the Forest Survey of India (2018–19) study on Forest Fringe Villages, which assessed livestock dependence on forest-based fodder through grazing, stall-feeding, and lopping. State-wise dependence of livestock on forest fodder, estimated from the study, is applied to total fodder consumption to derive the value of fodder sourced from forests.

In the 2022-23 series, State-wise dynamic input–output ratios have been used to calculate GVA of forestry sector as derived from Central and State budget documents every year.

3.7 Fisheries

In 2011-12 series, fixed input costs were assumed at 22.5% of the value of output for marine fish and prawns, 10% for inland fish, and 1% for subsistence fish across all States. For the 2022-23 series, state-wise ratios for marine and inland fisheries have been updated based on studies conducted by Central Marine Fisheries Research Institute (CMFRI) and Central Inland Fisheries Research Institute (CIFRI), respectively, and included in GVA compilation.

3.8 Mining & Quarrying

The constant price estimates of GVA in 2011-12 series were compiled using single deflation method. In the new series with base year 2022-23, volume extrapolation has been used for constant price estimation. For major minerals, the mineral-wise volume extrapolation has been carried out using the index of mineral-wise production compiled by Indian Bureau of Mines (base year 2022-23). For minor minerals, the volume extrapolation has been carried out using the index of production compiled using the mineral-wise data on quantity provided by State/UT DESs.

3.9 Manufacturing

In 2011-12 series, single deflation method has been used for constant price estimation of GVA for 30 compilation categories of manufacturing industry. In the new series, double deflation has been introduced for constant price estimation of 28 out of 30 compilation categories of manufacturing. For two compilation categories namely NIC-2008 code 101-104 (Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats) and NIC-2008 code 21 (Manufacture of pharmaceutical; medicinal chemicals and botanical products), single extrapolation (extrapolating base year GVA by growth in deflated (constant price) GVO) has been used. The compilation

category-wise input and output structure have been derived using the ASI data for the corresponding year. Item-level producer price indices have been used for carrying out double deflation. Since the item level indices are used and the input and output structure are dynamically determined every year, the fixed base weights of Producer Price Indices are not used in the adopted approach for double deflation. The transition to Double Deflation in the New Series of National Accounts is presented in the next page (See Box 1).

3.10 Construction

Unlike other industries, GVO/GVA of Construction is estimated using 'Commodity Flow Approach'. Commodity flow method tracks the availability of goods and services used in production, thereby balancing the total supply and use to ensure consistency. In 2011-12 series, estimate of output of construction sector is compiled using the commodity flow approach based on availability /use of basic construction materials and factor inputs. The basic materials considered for construction in the 2011-12 series are (i) cement and cement products, (ii) iron and steel, (iii) bricks and tiles, (iv) timber and round wood (including imports of timber products and veneer plywood) (v) fixtures and fittings (vi) bitumen and bitumen mixtures and (vii) glass and glass products. The ratios /share of other materials and factor inputs in various construction activities were derived from study carried out by Central Building Research Institute (CBRI), Roorkee.

Applying these ratios on the value of basic construction materials, overall output of construction is estimated. Estimates of output of construction industry in General Government and Departmental enterprises, Public Corporations and Private Corporations are compiled independently from budget documents, annual reports, and corporate filings (M/o Corporate Affairs database) respectively. The estimate of GVO for the unincorporated sector (including quasi-corporations, household enterprises, non-profit institutions serving households and own account construction by household sector) is derived as residual i.e. after removing the estimated value of output from General Government and Departmental enterprises, Public Corporations and Private Corporations from overall output of construction.

In the new series, in place of estimating the total GVO of construction industry using commodity flow, the commodity flow of material inputs has been used to arrive at total material inputs only. Thereafter, the material inputs available to the household sector is derived by using residual approach i.e. by subtracting the value of material inputs used in construction activity by organized sector, (viz. General Government, Departmental enterprises, Non-departmental enterprises and Private Corporations). This modified commodity flow approach has been used to derive the inputs available for construction by unincorporated sector in the country. The material GVO to input and GVA to GVO ratios for the unincorporated sector has been estimated based on the rates and ratios derived from the Pilot Survey on Construction Sector carried out by National Sample Survey Office, MoSPI during 2025. These ratios have been applied on the material inputs available to unincorporated sector to arrive at GVO and GVA of unincorporated sector.

Box 1: Transitioning to Double Deflation in the New Series of National Accounts

The transition to Double Deflation marks a major step forward in capturing true economic growth, aligning with global standards and modern statistical practices.

Crucial for input-intensive Manufacturing

Manufacturing sector is more input intensive as it carries high Intermediate Consumption-to-output ratios and it varies over different industries. Volatile raw material and energy prices shift independently of final product prices. Output prices may be held down by competition in short run even as input costs rise. Whereas, single deflation assumes that input and output prices move at the identical rate, which distorts GVA when price trends diverge. Such anomaly of single deflation is addressed in double deflation wherein the output and intermediate inputs at current prices are deflated separately and the difference in deflated values of output and intermediate inputs gives the GVA at constant prices. This correctly captures the actual change in the *volume* of value added, because it lets the volume of inputs used and the volume of output produced move independently thereby reflecting the genuine productivity/technology change, terms-of-trade effects between inputs and outputs, and substitution effect between materials — none of which could be captured with single deflation (i.e., with one blanket price index).

Aligning with International Standards and Global Practices

IMF in their paper dated Feb 2, 2017 (see “Measure up: A Better Way to Calculate GDP” by Thomas Alexander et. al,) on evaluation of country practices, illustrated that countries using single deflation technique, fail to capture important relative price changes and introduce estimation errors in official GDP growth and suggested to move to double deflation. The United Nations SNA guidelines strongly advocate for double deflation as the international benchmark for compiling national accounts.

Leveraging Robust Data Infrastructure

Before transitioning to the double deflation, the requirement and availability of data for output and product-wise as per National Product Classification for Manufacturing Sector (NPCMS), both in terms of coverage and weights are evaluated. The robust, plant-level, item-level, source/destination-wise (export, import, domestic) information from the Annual Survey of Industries (ASI) conducted by NSS offers the requisite details of input and output structure.

The relevant price indices, the Wholesale Price Index (WPI) gradually transitioned to Producer Price Index (PPI). WPI based on wholesale prices in 2004-05 series moved to factory-gate prices in 2011-12 series, and subsequently moved to output PPI by including exports and weight based on output in 2022-23 series. The output PPI are built on actual producer prices and comprise of final and delivers the deflators needed for distinct output and intermediate use commodities. Melding detailed volume structures with targeted price indices provides the statistical foundation needed to execute double deflation effectively.

A Measured, Consultative Approach

The transition to double deflation in national accounts was not sudden. It was built on extensive experiments and detailed analysis using historical time-series data from ASI, Supply Use Table (SUT), WPI of 2011-12 series and experimental PPI series under the guidance of ACNAS.

The methodology based on various level of granularity (NIC 2-digit, SUT item-group level, NPCMS item level) along with empirical results were deliberated and validated by the ACNAS Sub-Group on constant prices, comprising of leading economists and statisticians. SUT has fixed product groups against which items are mapped. The sub-committee observed that using products from SUT and their corresponding weights require aggregation of corresponding item level price indices. Hence, the approach wherein deflation at a highly disaggregated (NPCMS) level which goes beyond SUT product categories, was observed to provide consistent results and had an advantage of dynamically updated weights thereby avoiding the static weight of price indices at higher aggregated level (in the case of use of SUT products categories, their weights and composite PPI). Implementing this method aligns domestic economic indicators directly with international standards, making cross-border economic analysis highly reliable.

Major economies, including the United States (via the Bureau of Economic Analysis), member states of the European Union (via Eurostat), Japan, etc. rely on double deflation based on producer/factory-gate prices. The institutional framework prioritized releasing the report of the committee and a discussion paper on methodological changes to gather feedback from public, academics, and industry experts. The methodology is officially adopted in the new series, initially using available WPI (Base:2011-12), and later using PPI (Base: 2022-23) on its release. The estimates are prone to revision because they initially rely on provisional data from administrative sources, latest available ASI, and provisional price indices.

As against 7 basic input items in 2011-12 series, the commodity flow now includes cement and cement products, iron, steel and metallic products, bricks and tiles, bitumen and bitumen products, glass and glass products, timber and wood products, fixtures and fittings, paints and varnishes, sand, stone, granite, marble and related products, other construction materials which also includes, clay, mud, straw and other kutchha materials and services inputs.

The input materials-wise rates and ratios such as inter-industry consumption and Trade and Transport Margins used in the compilation of commodity flow are now updated dynamically in new series using results of Annual Survey of Industries (ASI), Annual Survey of Unincorporated Sector Enterprises (ASUSE) and latest published Supply and Use Tables. Results of recent surveys, viz., ASI, ASUSE, All India Debt and Investment Survey (AIDIS), Household Consumption Expenditure Survey (HCES), and State-wise per Unit Cost for setting up plantations from NABARD have been used in the compilation.

The constant price estimates are compiled using single extrapolation wherein item-wise material and services inputs are deflated by corresponding Producer Price Indices and Consumer Price Index respectively to arrive at deflated input. Then, the fixed Input to Output ratio (derived in the base year) is applied to total of deflated material inputs to estimate the total output at constant prices. The difference between deflated output and input gives the GVA at constant prices.

3.11 Electricity, Gas, Water Supply, Remediation, Sewerage and Other Utility Services

Electricity: In the 2022-23 series, own account generation of electricity by households has been included in the estimation of GVA of household sector for electricity sector.

Gas: In the 2022-23 series, data on biogas plants installed under schemes of M/o Rural Development and D/o Drinking Water and Sanitation have been included in the compilation of estimates of GVA and GVO of Biogas (considered in Household Sector). The GVA and GVO are now compiled using GVA to GVO ratio estimated dynamically based on data provided by source agencies.

Water Supply, Remediation, Sewerage and Other Utility Services: Constant price estimates are compiled using single extrapolation in new series as against single deflation in the 2011-12 series.

3.12 Non-financial services: One major improvement in these industries have been incorporated in estimation of GVA at constant prices. In 2011-12 series, mostly single deflation method was adopted using relevant price indices. However, in the new series, volume extrapolation method has been followed for estimating GVA at constant prices of transport, telecommunication. For the remaining industries, single extrapolation method has been applied.

Expenditure Approach:

3.13 Private Final Consumption Expenditure (PFCE)

In the 2022–23 series, the estimation of Private Final Consumption Expenditure (PFCE) has been significantly refined through a mixed approach comprising enhanced use of the Household

Consumption Expenditure Survey (HCES), direct estimation based on production and other relevant data sources, and the Commodity Flow approach. Benchmark estimates of per capita consumption expenditure for a large number of items have been derived using the HCES. The estimates have also been improved by adopting the Classification of Individual Consumption According to Purpose (COICOP) 2018, to the extent feasible, and by incorporating updated survey and study results along with administrative data sources, including *Vahan* data. In addition, most of the rates and ratios used in the compilation have been made dynamic, and the extensive use of Consumer Price Indices, largely at the item level, has further enhanced the accuracy and robustness of the PFCE estimates.

3.14 Government Final Consumption Expenditure (GFCE):

Major methodological improvements undertaken in the revised series that affect GFCE estimates such as adjustments in pension payments, imputation of accommodation provided by Government in lieu of HRA, treatment of food subsidy to Food Corporation of India (FCI) as social transfer in kind, etc. have already been described in 3.1 on '*General Government*'.

3.15 Gross Fixed Capital Formation (GFCF)

As per SNA-2008, the asset categories are namely Dwellings, Other Buildings and Structures (DOBS), Machinery and Equipment (M&E), Cultivated Biological Resources (CBR) and Intellectual Property Products (IPP). Since the output of construction industry pertaining to new construction is considered as part of Gross Fixed Capital Formation, improvement in commodity flow for estimation of GVO of Construction industry has also improved the estimation of GFCF in DOBS asset. Industry-wise and asset-wise allocation of GFCF of household sector and quasi-corporations are carried out using results of Annual Survey of Unincorporated Sector Enterprises (ASUSE) for industries covered in ASUSE and All India Debt and Investment Survey (AIDIS) for agriculture and allied sectors.

The estimates of total GFCF in Machinery & Equipment are compiled using commodity flow approach i.e. $M\&E \text{ asset} = \text{Total value of domestically produced capital goods} + \text{Net imports of capital goods} + \text{product taxes} + \text{Trade \& Transport Margins (from latest Supply Use Table)}$. The commodity flow is now compiled dynamically using results of ASI and ASUSE. The item basket of goods considered as capital goods has been revisited.

The GFCF in CBR asset 'Tree, crop and plant resources yielding repeat products cover plants whose natural growth and regeneration' are compiled using state-wise, plantation-wise data on capital expenditure per hectare from NABARD which are now available annually. This has helped to improve the quality of estimates and avoid use of prices indices for extrapolating base year expenditure per hectare for subsequent years.

Constant price estimates are compiled using composite indices based on Producer Price Index (PPI) as against Wholesale Price Index (WPI) in case of DOBS and M&E assets.

3.16 Change in Stock (CIS)

The compilation of Change in Stock for quasi-corporations and household sector have been extended to cover all industries using results of Annual Survey of Unincorporated Sector Enterprises (ASUSE), Indian Bureau of Mines data (for Mining & Quarrying sector) and Pilot Survey on Construction (for construction inventories). The price indices used in compilation of CIS at constant prices have been revisited and are based on Producer Price Index (PPI) as against Wholesale Price Index (WPI).

3.17 Valuables

The ratios of inter-industry use (for gold, silver etc.) have been updated annually using results of ASI and ASUSE in the new series which were earlier held static in 2011-12 series. Constant price estimates of valuables are compiled using relevant item-wise CPI index as against WPI based indices used in 2011-12 series.

3.18 Consumption of Fixed Capital (CFC)

Industry-wise and asset-wise CFC are compiled separately for institutional sectors (General Government, Departmental Enterprises, Non-Departmental Enterprises, Private Corporations, Quasi-Corporations and Household Sector). In the 2022-23 series, the useful life of asset used in compilation of CFC by *perpetual inventory method (PIM)* has been updated after extensive discussion with stakeholders which includes Ministries/Departments, Industry Associations, Maintenance Manuals of CPWD, Indian Railway Finance Code, life of assets provided by Public Sector Undertakings, financial statements of the companies, relevant provisions mentioned in Companies Act, Advisory for Asset Accounting issued by Government Accounting Standards Advisory Board Office of the Comptroller & Auditor General of India, guidelines by Regulators.

3.19 Saving

The coverage of instruments in compilation of household savings in shares, debentures, mutual funds and hybrid instruments has been expanded in a new series. The estimates for these financial instruments were provided by RBI in the old series (2011-12 series). In the new series, the estimates of household saving in these instruments are provided by SEBI. The coverage of investment by households in these assets have improved in the new series. Following changes have been carried out by SEBI in reporting of household saving in Shares, debentures, hybrid instruments and mutual funds:

- (a) Inclusion of non-individuals (Non-profit institutions serving Households (NPISH)) while preparing estimates of household saving in shares and debentures,
- (b) Inclusion of new instruments like Real Estate Investment Trust (REIT), Investment Trust (InviT) and Alternate Investment Funds (AIFs) and
- (c) Inclusion of net investment of households and NPISH in equity and debt through secondary markets have expanded the coverage.

3.20 Import and Export

For constant price estimates of import and export of goods, Unit Value Index (UVI) with base year 2022-23 at the principal commodity level has been used in the new series as against the aggregated value of UVI of import and export in 2011-12 series.

For export of services, Implicit Price Deflator (IPD) of production-side estimate of GVA of relevant services in domestic market have been used as deflator in the new series.

For import of services, under the new methodology, relevant Service Producer Price Index of major trading partner countries have been used in new series. In 2011-12 series, both import and export of services were deflated by implicit price index of non-financial service sector.

3.21 Integration of Annual Estimates with SUT framework

In the new GDP series, the Supply and Use Table (SUT) framework serves as the central balancing mechanism for the compilation of annual national accounts estimates. Estimates compiled independently using the production, income, and expenditure approaches are not treated as separate aggregates; rather, they are systematically integrated and reconciled within the SUT framework. This ensures that the three approaches are fully consistent with one another, in line with the recommendations of the System of National Accounts (SNA). By bringing together detailed information on the production, supply and use of goods and services, the SUT provides a comprehensive framework for organizing, confronting and validating aggregates across the economy.

A major improvement in the new GDP series is the use of the SUT framework to eliminate statistical discrepancies in the final annual estimates. This has been made possible through significant enhancements in source data, estimation methodologies and balancing procedures. On the production side, wider use of administrative datasets, methodological improvement, better coverage of the unorganised sector and strengthened benchmark information have enhanced the measurement of output and intermediate consumption. On the expenditure side, improvements in the estimation of final consumption expenditure and gross capital formation together with more accurate estimation and allocation of taxes and subsidies on products and trade and transport margins (TTM), have substantially strengthened product balancing.

Unlike the earlier GDP series, where a statistical discrepancy was explicitly recorded to reconcile differences between independently compiled estimates, the new framework incorporates all necessary adjustments within the balancing process itself. Consequently, the production, income, and expenditure estimates are reconciled simultaneously, eliminating the need for an explicit statistical discrepancy in the final accounts. This represents a significant advancement in the quality of India's national accounts, enhancing their consistency, transparency, reliability and analytical usefulness.

Institutional Sector- wise Estimates

CHAPTER 4

GENERAL GOVERNMENT

4.1 Coverage

Government units are unique kinds of legal entities established by political processes that have legislative, judicial or executive authority over other institutional units within a given area. Viewed as institutional units, the principal functions of Government are to assume responsibility for the provision of goods and services to the community or to individual households and to finance their provision out of taxation or other incomes, to redistribute income and wealth by means of transfers, and to engage in non-market production.

Government units typically make three different kinds of final outlays: The first group consists of actual or imputed expenditures on the free provision to the community of collective services such as public administration, defence, law enforcement, public health, etc. that are organized collectively by Government and financed out of general taxation or other income. The second group consists of expenditures on the provision of goods or services free, or at prices that are not economically significant, to individual households. These expenditures are deliberately incurred and financed out of taxation or other income by Government in the pursuit of its social or political objectives, even though individuals could be charged according to their usage. The third group consists of transfers paid to other institutional units, mostly households, in order to redistribute income or wealth.

The Government Sector is comprised of (i) Producers of Government services, viz., administrative departments of Government and (ii) Departmental enterprises like Railways, Communication and other departmental enterprises.

4.1.1 Producers of Government services (General Government Sector)

Producers of Government services, i.e., administrative departments comprise Government departments, offices and other bodies of central Government, state Governments/union territories and local authorities, whose function is to organise for the community, but not normally to sell those common services which cannot be otherwise conveniently and economically provided. It is also expected to act as an administrative agency for the economic and social policy of the country.

The general Government sector consists of the following groups of resident institutional units: a. All units of central, state or local Government; b. All non-market NPIs that are controlled by Government units. The sector does not include public corporations, even when all the equity of such corporations is owned by Government units. Nor does it include quasi-corporations that are owned and controlled by Government units. However, unincorporated enterprises owned by Government units that are not quasi-corporations remain integral parts of those units and, therefore, must be included in the general Government sector. The subsectors of general Government sector are shown below:

(i) Central Government: The central Government subsector consists of the institutional unit or units making up the central Government plus those non-market NPIs that are controlled by central Government. The political authority of central Government extends over the entire territory of the country.

(ii) State Government: The state Government subsector consists of state Governments that are separate institutional units plus those non-market NPIs that are controlled by state Governments. State Governments are institutional units exercising some of the functions of Government at a level below that of central Government and above that of the Governmental institutional units existing at a local level. They are institutional units whose fiscal, legislative and executive authority extends only over the individual “states” into which the country as a whole may be divided.

(iii) Rural /Urban Local Bodies: The local Government subsector consists of local Governments that are separate institutional units plus those non-market NPIs that are controlled by local Governments. In principle, local Government units are institutional units whose fiscal, legislative and executive authority extends over the smallest geographical areas distinguished for administrative and political purposes. In India, local bodies are the people’s representative bodies which are elected locally under 73rd and 74th Constitutional Amendments. These cover all the rural local bodies - Zila Parishad, Panchayat Samiti and Gram Panchayats as well as Municipal Corporations, Municipalities and Nagar Panchayat in urban areas.

(iv) Autonomous Bodies (Centre and State): The dictionary meaning of the word “autonomous” is “Self-Governing”. Obviously, therefore, such autonomous institutions were set up whenever it was felt that certain functions had to be discharged outside the Government set-up with some amount of independence and flexibility, without the day-to-day interference of the Government machinery. General Government sector’s one of the responsibilities is to provide non-market goods and services to the public. In order to fulfil some of its responsibility, Central and State Governments may set up non-profit institutions to supplement its activities.

Some of the autonomous bodies have been set up as statutory institutions, as a sequel to the provisions contained in various acts. Others have been set up as societies under the Societies Registration Act 1860. Further, while in some cases Parliamentary or Cabinet approval has been obtained, in certain other cases; such institutions have been set up over the years, by resolutions, notifications etc. The Ministry of Finance/ State finance departments also issues instructions from time to time regarding sanction of grant-in-aid by ministries/ departments to such autonomous institutions, besides instructions relating to powers for creation of posts and revision of pay scales etc. by such autonomous institutions.

(v) In addition to Government departments and ministries, there may be agencies of central Government with separate legal identity and substantial autonomy; they may have discretion over the volume and composition of their expenditures and may have a direct source of revenue such as earmarked (“hypothecated”) taxes. Such agencies are often established to carry out specific functions such as road construction or the non-market production of health and education services. These should be treated as separate institutional units if they maintain full sets of accounts but are

part of central Government subsector if the services they produce are non-market and if they are controlled by central Government.

4.1.2 Departmental Enterprises

Departmental Enterprises are un-incorporated enterprises owned, controlled and run directly by the Government. These enterprises normally do not hold or manage financial assets and liabilities apart from their working balances and business accounts payables and receivables. The activities being carried out by Departmental Enterprises, includes Irrigation, Forestry, Road and Water Transport, Manufacturing, Printing, Electricity, Ports and Pilotages, Civil Aviation, Trade and Hotels and Communication.

4.2 Data Sources

4.2.1 Central Government and State Governments: To compile the estimates of Central Government and State Governments, following budget documents are referred to:

- i. Annual Financial Statement
- ii. Finance Accounts
- iii. Receipt Budget
- iv. Expenditure Budget
- v. Detailed Demands for Grants (DDGs) of all Ministries/Departments

4.2.2 Local bodies and Autonomous institutes: Substantial grants are released to local bodies and autonomous institutes. These grants have significant share in the Government current expenditure, and are reflected in the Government budget documents. In addition to the grants, the recipient institutions also generate additional resources on their own to meet their expenditure for payment of salaries, pension, office expenses and acquisition of fixed assets. Details of such expenses are not available in the budget documents. The item wise details of receipts and expenditure are available in the annual accounts. Therefore, annual accounts of local bodies and autonomous institutes are analysed for compilation of estimates.

4.3 Concepts and definitions relating to Budget Document:

4.3.1 Receipts

The receipts of the Government show the different sources from which Government raises revenue. These receipts are of two kinds: (i) Revenue Receipts, and (ii) Capital Receipts

4.3.1.1 Revenue Receipts are current incomes of Government, which neither create liabilities nor cause any reduction in the assets of the Government. These receipts are classified into a) Tax Revenue and b) Non-tax Revenue.

a) Tax Revenue: A tax is a legal compulsory payment by the people and firms to the Government of a country without reference to any direct benefit in return. It is imposed on the people by the Government. A Government collects revenue from various taxes like income tax, sales tax, service

tax, excise duty, custom duty, etc. Traditionally, the revenue from taxes has been the primary source of Government income. Taxes are of two kinds: Direct taxes and Indirect Taxes.

This distinction between taxes depends on the liability of payment of tax to Government and the actual burden of tax. In case of direct taxes, the liability of payment and the burden of the tax falls on the same person. For example, income tax is a direct tax because the person who is liable to pay it also bears the burden of the tax; the burden of the tax cannot be shifted on others. But this does not happen in case of indirect taxes, for example, liability to pay Goods and Services Tax falls on businesses, whereas, actual burden of tax lies on end consumers.

b) Non-Tax Revenue: The incomes accruing to Government from sources other than taxes are non-tax revenues. The major sources of non-tax revenues are:

- **Commercial Revenue:** It is received by Government in the form of prices paid by people for goods and services that Government provides e.g., people pay for services of Railways, postal stamps, toll, etc.
- **Administrative Revenue:** It arises on account of administrative services of the Government, such as passport fees, Government hospital fees, education fees, court fee, etc.

Further Government receive income by taking possession of property which has no legal claimant or legal heir, Interest receipts, profits of public sector undertakings, etc.

4.3.1.2 Capital Receipts are those receipts of the Government which either create liability or cause any reduction in the assets of the Government. The major sources of capital receipts of the central Government are: a) Borrowings, b) Recovery of Loans, and c) Disinvestment – Resale of shares of public sector undertakings.

a) Borrowings: There are two sources from which the central Government borrows. They are:

- **Domestic Borrowings:** The Government borrows from domestic financial market by issuing securities and treasury bills. It also borrows from people through various deposit schemes such as Public Provident Fund, Small Savings Schemes, and National Savings Scheme, etc. These are borrowings of the Government within the country.
- **External Borrowings:** In addition to domestic borrowings, the Government also borrows from foreign Governments and international bodies like International Monetary Fund (IMF), World Bank etc. Foreign borrowings by the Government bring in foreign exchange into the domestic economy.

b) Recovery of Loans: Quite often state and local Governments borrow from the central Government. The loans recovered by the central Government from state and local Governments are capital receipts in the budget because recovery of loans reduces debtor's assets.

c) Disinvestment: The selling of shares of public sector undertakings by the Government is known as disinvestment.

4.3.2 Expenditure

The Government expenditure is classified in followings two ways: (i) Revenue Expenditure, and (ii) Capital Expenditure.

4.3.2.1 Revenue Expenditure: Revenue expenditure is for the normal running of Government departments and for rendering of various services, making interest payments on debt, meeting subsidies, grants in aid, etc. Broadly, the expenditure which does not result in creation of assets is treated as revenue expenditure.

4.3.2.2 Capital Expenditure: When Government incurs expenditure to create assets such as school and hospital buildings, roads bridges, canals, railway lines, etc., or reduce its liability such as repayment of loan, etc., such expenditures are known as capital expenditure.

4.4 Analysis of Budget Documents

The transactions in budget documents are tabulated for three consecutive financial years i.e. for Budget Year, say T, the documents will have information of (i) Actuals for 'T-2' period, (ii) Revised Estimates (RE) for 'T-1' period, and (iii) Budget Estimates (BE) for 'T'.

4.4.1 Coding Pattern in Budget document

For reporting the expenditure figures in the Detailed Demands for Grants, a Six-Tier Budget Head system is being followed in India. The six tiers of this Budget Head system are as given below:

- i. Major Head: (four digit) representing the major function of the Government
- ii. Sub-Major Head: (two digit) representing a sub-function of the Government
- iii. Minor Head: (three digit) representing a programme of the Government
- iv. Sub-Head: (two digit) representing a scheme
- v. Detailed Head: (two digit) representing a sub-scheme
- vi. Object Head: (two digit) representing the type and object of the expenditure

A four-digit code has been allotted to the major heads, the first digit indicating whether the major head is a receipt head or a revenue expenditure head or capital expenditure head or a loan head. The first digit of code for revenue receipt head is either "0" or "1". Adding 2 to the first digit code of the revenue receipt head will give the number allotted to the corresponding revenue expenditure head, adding another 2 the capital expenditure head and another 2 the loan head of the account. For example, for Crop Husbandry, the code 0401 represents the receipt head, 2401 the revenue expenditure head, 4401 capital outlay head and 6401 the loan head.

These tiers are applicable till account head 5475. Top three tiers (Major Head - Sub Major Head - Minor Head) of account heads are uniform across centre and all states. Below third tier, they are state specific. Table 4.1 shows the major head numbers with the corresponding various heads of Receipts and Expenditure.

Table 4.1: Budget Document-Major Heads

Major Head	Description
Consolidated Fund	
0005–1606	Revenue Receipts
2011–3606	Revenue Expenditure
4000	Miscellaneous Capital Receipts
4046–5475	Capital Expenditure
6001–6004	Public Debt
6075–7999	Loans and Advances, Inter-State Settlements, Transfer to Contingency Fund
Contingency Fund	
8000	Contingency Fund
Public Account	
8001–8797	Public Account
8999	Cash Balance

4.4.2 Budget Document analysis

(i) Each entry under Actual and RE against a major Head account is marked with an appropriate abbreviation according to economic classification and purpose classification. Economic Classification shows economic character of the expenditure and receipts like current expenditure, capital expenditure, loans, etc., and Purpose Classification shows the purpose it is likely to serve, such as, health, education, social security and welfare services, etc. Purpose classification is only done for expenditure items. The combination of Economic and Purpose Classification, explains how expenditure for a particular purpose is divided between different economic categories and vice-versa. The adoption of Economic-cum-Purpose classification during the course of budget analysis gives a meaningful presentation of the Government's spending and help to draw logical conclusions about the same.

(ii) For an item, there may be more than one purpose code. In such a case, sub-totals of each item against a major head may be made by purpose and sum of sub-totals should be equal to the sum of all items against the major head.

(iii) This process is repeated for receipts and expenditure.

(iv) After assigning economic and purpose code to each transaction, industry-wise estimates are generated following sum of cost approach. The list of economic codes and purpose codes are at Table 4.4 and Table 4.5, respectively.

(v) The budget analysis in respect of Union Government is done using e-lekha database maintained by O/o CGA. The e-lekha database has data of (i) expenditure for all ministries/departments of Union Government except for Defence Service Estimates and Railways, (ii) Receipts of Union Government and (iii) Public Accounts. For Railways and Defence Service Estimates, respective DDGs are analysed.

(vi) The budget analysis in respect of State/UT Governments is done by respective State DESs.

(vii) Local Bodies: In base year 2022-23, the local bodies coverage has been increased. In the revised series, direct estimates have been compiled for 20 States. In order to account for remaining states, a scaling factor- grant provided to all states' local bodies as reported in the states' budget documents /grant provided to analysed states' local bodies has been used.

(viii) Centre Autonomous Bodies: A large number of Autonomous Institutions (AIs) are set up by various Ministries/Departments of Central and State Governments for different purposes and substantial grants are released to them every year. These grants have significant share in the Government current expenditure, and are reflected in the Government budgets. In addition to the grants, the institutions also generate additional resources on their own to meet their expenditure for payment of salaries, pension, office expenses and acquisition of fixed assets. Details of such expenses are not available in the budget documents. Therefore, it becomes imperative to analyse the accounts of AIs for compilation of estimates. As the number of Central AIs are quite large and their contribution is not very significant, the practice in 2011-12 series was to analyse the accounts of the Central AIs for the base year, for subsequent years, base year estimates were extrapolated on the basis of grants given to Central AIs. Accounts of around 90 autonomous institutes were analysed in the last base year. The number of autonomous institutions has increased drastically over time. Annual accounts of more than 350 autonomous institutes have been analysed for the new series. To take into account remaining AIs, aggregates of the analysed AIs have been scaled up using the ratio - total grants to all AIs/grants given to analysed AIs. For subsequent years, accounts of the autonomous institutes receiving substantial grants will be analysed every year while grant based scaling-up factor will be used to account for the remaining AIs.

(ix) State Autonomous Bodies: In the revised series, direct estimates have been compiled for 16 States. In order to account for remaining states, a scaling factor- grants provided to all state autonomous bodies as reported in the States' budget documents / grant provided to analysed States' autonomous bodies has been used.

4.5 Methodology for Estimation

4.5.1 Estimates of General Government

In the case of General Government, which is engaged in non-market production, the SNA recommends that the output is valued by the sum of the costs incurred in the production, namely, as the sum of: (i) Compensation of employees (salary, wages, benefits and pension) (ii)

Intermediate consumption (expenditure on purchase of goods & services and maintenance) and (iii) Consumption of fixed capital. The basic identities in this case are:

$$\text{Net Value Added (NVA)} = \text{CE} = \text{Salary} + \text{Wages} + \text{Pension} + \text{Other Benefits} \dots\dots\dots(4.1)$$

$$\text{Gross Value Added (GVA)} = \text{NVA} + \text{CFC} \dots\dots\dots(4.2)$$

$$\text{Gross Value of Output (GVO)} = \text{GVA} + \text{IC} \dots\dots\dots(4.3)$$

These estimates are generated for following industries: (i) Construction (ii) Water Supply (iii) Education (iv) Medical & Public Health (v) Sanitation (vi) Public Administration and Defence.

4.5.2 Estimates of Departmental Enterprises

In the case of Departmental Enterprises, the 'Income Approach' is being followed for estimation of GVA. The basic identities in this case are:-

$$\text{Net Value Added (NVA)} = \text{CE} + \text{Rent} + \text{Interest} + \text{Profits} \dots\dots\dots(4.4)$$

$$\text{Gross Value Added (GVA)} = \text{NVA} + \text{CFC} \dots\dots\dots(4.5)$$

$$\text{Gross Value of Output (GVO)} = \text{GVA} + \text{IC} \dots\dots\dots(4.6)$$

These estimates are generated for following industries: (i) Agriculture (Irrigation) (ii) Forestry (iii) Manufacturing (including Railways Manufacturing) (iv) Electricity (v) Ports, Pilotages & Light Houses (vi) Road Transport (vii) Water Transport (viii) Trade (ix) Communication (Postal Services) (x) Railway Transport (xi) Construction (including Railway Construction).

4.5.3 Adjustment for Pension

In the national accounts, under defined benefit pension schemes, the accrual of pension entitlements resulting from employees' service during the current accounting period is treated as a component of compensation of employees. Accordingly, the present value of the future pension entitlements accrued by serving employees is required to be imputed for each accounting period. As a proxy, the annual pension outgo to retired employees was treated as the present value of future pension entitlement of serving employees.

At present, two pension schemes are operating concurrently for Government employees. Under Old Pension Scheme, pension paid to retired employees can be taken as a proxy for serving employees. However, with NPS, both the Government's contribution and employees' own contribution are already reported under Compensation of Employees in budget documents. If pension paid to retired employees is also added to CE, without excluding NPS employees, it may lead to overestimation of NVA. The OPS pension component in CE should therefore taper off in line with the declining number of OPS employees.

To account for this, a factor based on an average service period of 39 years starting from 2005-06 has been applied. Each year, 1/39th of the OPS pension amount reported in the budget will be excluded from CE. The remaining portion will be treated as CE. This will be compensated by

Government and employee contributions under NPS. Over 39 years, the OPS pension component in CE will gradually reduce to zero.

No adjustment has been made for (i) States where OPS is still operational, and (ii) Defence pensions, as NPS is not applicable to the Armed Forces under Ministry of Defence.

4.5.4 Estimates of Government Final Consumption Expenditure

Government final consumption expenditure (GFCE) consists of expenditure, incurred by general Government in its production of non-market final goods and services and also market goods and services provided as social transfers in kind. GFCE consists of expenditure incurred by general Government on both individual consumption goods and services and collective consumption services. Individual consumption, includes, Goods and services provided by Government for satisfying the needs or wants of households and their members such as, Health, Education, Recreation, Social Protection. Collective consumption, includes, Services provided simultaneously to all members of the community or a part of it such as, Defence, Police, External Affairs, Justice.

GFCE is estimated using the following formula:

$$\text{GFCE} = \text{Total Government output} + \text{goods \& services purchased to be provided free to the households (Transfer in Kind)} - \text{receipts from sale of goods \& services} \dots\dots\dots(4.7)$$

$$\text{GFCE} = \text{CE} + \text{Net purchase of G \& S} + \text{Transfers in kind} + \text{CFC} \dots\dots\dots(4.8)$$

The expenditure of the general Government on services provided free to the households are included in GFCE. Though these are actually consumed by the households, they do not make the expenditure and thus not included in the Household Final Consumption Expenditure (HFCE). For instance, Government purchases bicycles, televisions and other articles and gives to individuals, Government provides food, shelter, blankets, medicines and other items to victims of war, flood, famine, earthquakes and natural calamities; all these transfers are given in kind. Government spends money for purchasing these items for final consumption by households. All such expenses are part of Government Final Consumption Expenditure (GFCE) but not of Intermediate Consumption (IC).

4.6 Taxes and Subsidies

Taxes are compulsory, unrequited payments (without counterpart receipts) in cash or kind, made by institutional units – households, enterprises and others - to Government units. They are described as unrequited because Government provides nothing in return directly to the individual unit making the payment although Governments may use the funds raised in taxes to provide goods or services to other units, either individually or collectively, or to the community as a whole.

Taxes have an effect of increasing prices of goods and services in the market. They reduce the financial resources in the hands of the households and enterprises, and thus affect the private consumption expenditure and capital formation. Sometimes Government charges fees for its

services like passport fee, driving licenses fees or fees for issue of birth certificate. These are not treated as tax.

Subsidies are current unrequited payments that Government units, including non-resident Government units, make to enterprises on the basis of the levels of their production activities or the quantities or values of the goods or services that they produce, sell or import. Subsidies are not payable to final consumers; current transfers that Governments make directly to households as consumers are treated as social benefits. Subsidies also do not include grants that Governments may make to enterprises in order to finance their capital formation, or compensate them for damage to their capital assets, such grants being treated as capital transfers. Collection of taxes and distribution of subsidies for production activities is integral part of a Governments function and are called redistributive activities of Government.

4.6.1 Classification of Taxes

The taxes such as customs, excise, sales tax, GST, land revenue, stamp duty, income tax, corporation tax etc. are classified as: i. Product tax, ii. Production tax, iii. Taxes on income and wealth.

(i) Product tax: A tax on a product is a tax that is payable per unit of some good or service. The tax may be a specific amount of money per unit of quantity of a good or service (the quantity units being measured either in terms of discrete units or continuous physical variables such as volume, weight, strength, distance, time, etc.), or it may be calculated ad valorem as a specified percentage of the price per unit or value of the goods or services transacted. A tax on a product usually becomes payable when it is produced, sold or imported, but it may also become payable in other circumstances, such as when a good is exported, leased, transferred, delivered, or used for own consumption or own capital formation. Some examples are – GST, excise, sales tax, customs

(ii) Production tax: Production Tax consist of all taxes except taxes on products that enterprises incur as a result of engaging in production. Such taxes do not include any taxes on the profits or other income received by the enterprise and are payable regardless of the profitability of the production. They may be payable on the land, fixed assets or labour employed in the production process or on certain activities or transactions. For instance, land revenue and stamp duties are treated as production taxes.

(iii) Income & Wealth Taxes: Taxes on incomes, profits and holding gains like personal income tax, corporate income tax, taxes on financial or capital transactions, etc. are treated as Income & Wealth Tax. The transactions of this category are treated as current transfers in the SNA and are recorded in secondary distribution of income account.

4.6.2 Classification of Subsidies

The subsidies are classified either as product subsidy or production subsidy.

(i) Product Subsidy: A subsidy on a product is a subsidy payable per unit of a good or service. The subsidy may be a specific amount of money per unit of quantity of a good or service, or it

may be calculated ad valorem as a specified percentage of the price per unit. A subsidy may also be calculated as the difference between a specified target price and the market price actually paid by a buyer. A subsidy on a product usually becomes payable when the good or service is produced, sold or imported, but it may also be payable in other circumstances such as when a good is transferred, leased, delivered or used for own consumption or own capital formation. Some examples are: fertilizer subsidies, petroleum subsidies, subsidy provided to banks for providing cheap loans to beneficiaries.

(ii) Production Subsidy: Production Subsidy consist of subsidies except subsidies on products that resident enterprises may receive as a consequence of engaging in production. Subsidy on inputs provided to farmers is an example of production subsidy. In respect of the Departmental Enterprises (DEs) of the Government, which are engaged in market operations, these enterprises function despite regular losses because of financial support received from the Government (Central or State, as the case may be). The losses to these DEs are also treated as production subsidies.

4.6.3 Methodology for Estimation at Current Prices

The information of taxes is culled out from the analysis of budget documents (receipt budget/ Finance Accounts) in the case of centre and State Governments and from annual accounts in the case of local bodies. Similarly, the information of subsidies is culled from the DDGs of ministries/departments of Central and State Governments.

4.6.4 Methodology for Estimation at Constant Prices

4.6.4.1 Product taxes: In the 2011-12 series, the estimates of product taxes at constant prices were derived using volume extrapolation. Different types of taxes were extrapolated with the growth observed in the relevant indicators. For example, excise duty was moved each year with growth in output of manufacturing at constant prices. However, after implementation of Goods and Services Tax (GST) in 2017-18, various taxes have been subsumed in GST. The indicators for moving base year tax values for different types of taxes are as follows:

(i) For estimating GST at constant prices, base year estimates of total GST have been moved with growth observed in the combined output of all industries at constant prices excluding the output of Agriculture, Ownership of Dwelling, Public Administration and Defence, Electricity and output of General Government across all industries.

(ii) For State excise, which is applicable on liquor, growth observed in the output of manufactured alcoholic beverages at constant prices has been used to move base year estimates.

(iii) For union excise, which is applicable on petroleum product, growth observed in the output of manufactured petroleum products at constant prices has been used to move base year estimates.

For sales taxes, combined growth observed in the output of manufactured alcoholic beverages and manufactured petroleum products has been used to move base year estimates.

(iv) For custom duty, growth observed in the imports of goods at constant prices has been to move base year values.

(v) For remaining taxes, which have minor share in overall taxes, combined growth observed in the above taxes has been used to move base year estimates.

4.6.4.2 Product Subsidies: In case of product subsidies, estimates at constant prices in the 2011-12 series were derived by deflating product subsidies at current prices by Implicit Price Deflator (IPD) of GVA of total economy. In the new series, volume extrapolation for estimating the product subsidies at constant prices has been used. Major subsidies, namely, fertilizer subsidy and electricity subsidy constitute more than 75 percent share in overall subsidies. Different indicators have been used to move base year values of different types of subsidies in the new series.

(i) For fertilizer subsidy, growth observed in the consumption of NPK fertilizers have been used to move respective base year subsidies.

(ii) For electricity subsidy, as rates of subsidy differ from state to state, base year subsidies of respective states have been moved with the growth observed in subsidized units consumed in respective states. In case of those states for which information on the subsidized unit is not available, base year estimates of electricity subsidies are moved with the growth in sales of electricity for domestic and agriculture purpose in these states.

(iii) Remaining subsidies have been deflated with the overall IPD GVA.

4.7 Limitations

Estimates of macroeconomic aggregates pertaining to General Government Sector are compiled using the budget data contained in the Detailed Demands for Grants (DDGs) of all Central Government Ministries/State Departments. In case of Central Government, PFMS data of all Ministries at standard 15-digit code is used, which has eliminated the entry of data from DDGs to a large extent. However, in case of States' budget, data contained in the detailed demand for grants is entered manually by the States' DES from the budget documents in database format for processing, which delays the process. Availability of the information in digital format (database/spreadsheet) would result in a substantial improvement over the present process of manual data entry which is error prone.

Besides, with the availability of Public Financial Management System (PFMS) data in case of Central Government, First Revised Estimates (FRE) for a particular year are compiled on the basis of 'actuals' for that particular year. However, for states, revised estimates of expenditures and receipts are still being used for compiling the estimates of FRE. Actual estimates are made available in the budget documents at the time of Final Estimates (FE) only, resulting in huge revision in the estimates. If Integrated Financial Management System (IFMS) data of actuals is

provided at the FRE stage itself, extent of revision from FRE to SRE in case of the estimates of General Government sector may be minimized significantly.

In the case of local bodies, there is a considerable time lag in the availability of state-wise consolidated accounts for most of the states. Detailed information on income and expenditure of local authorities needs to be collected regularly on an annual basis. The number of local bodies within a region is likely to be large depending upon its size and tiers of local administration. However, the collection of data alone will not suffice and economic analysis of the details would be necessary. The task of analysis would require considerable resources. Moreover, the presentation of the budget is also not uniform.

Table 4.2 shows the estimates of GVA, GFCE and Taxes & Subsidies of General Government and Table 4.3 shows the estimates for Departmental Enterprises for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices.

Table 4.2: Estimates of GVA, GFCE and Taxes & Subsidies of General Government for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. crore)

Gross Value Added (GVA) by Activity			
Activity	2011-12 series	2022-23 series	% difference
Construction	59,652	66,450	11.4
Water Supply*	35,173	33,265	-5.4
Education [#]	5,82,914	6,18,552	6.1
Health [#]	1,68,587	1,57,191	-6.8
Remediation and other utilities*	21,587	23,220	7.6
Public Administration & Defence	14,43,484	14,30,119	-0.9
Total	23,11,397	23,28,798	0.8
Government Final Consumption Expenditure (GFCE)			
Component	2011-12 series	2022-23 series	% difference
GFCE	27,57,628	29,34,060	6.4
Taxes and Subsidies on Production and Product			
Taxes and subsidies	2011-12 series	2022-23 series	% difference
Product Taxes	29,91,014	29,63,201	-0.9
Product Subsidies	7,47,239	6,09,335	-18.5
Production Taxes	2,5,7219	2,52,086	-2.0
Production Subsidies	3,26,148	3,21,811	-1.3

*: Included in 'Electricity, gas, water supply, remediation and other utility services' industry in NAS publication

[#]: Included in 'Other Services' industry in NAS publication

Table 4.3: Estimates of GVA of Departmental Enterprises for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. crore)

S. No.	Activities	2011-12 series	2022-23 series	% difference
1	Agriculture, forestry & fishing	68,839	72,411	5.2
1.1	Crops	47,533	53,173	11.9
1.2	Forestry & logging	21,307	19,238	-9.7
2	Manufacturing (including railway manufacturing)	45,182	45,676	1.1
3	Electricity, gas, water supply and other utility services	6,432	8,259	28.4
4	Construction	29,983	26,659	-11.1
5	Trade & Repair Services	9,887	9,887	0.0
6	Transport, storage, communication & services related to broadcasting	1,95,112	1,70,133	-12.8
6.1	Railways	1,56,204	1,35,987	-12.9
6.2	Road transport	6,529	5,453	-16.5
6.3	Water transport	711	692	-2.6
6.4	Services incidental to transport	631	631	0.0
6.5	Communication & services related to broadcasting	31,037	27,369	-11.8
	Financial Services	11,962	12,191	1.9
	Total	3,67,397	3,45,215	-6.0

Table 4.4: List of Economic Codes

SNA Description	Economic Code	Definition
Receipts		
Capital Transfers	Captf	Capital Transfers from Foreign Countries/Organisations
Commercial Receipts	Cr	Commercial Receipt
Current Transfers	Tc	Transfers, Central Government
	Ts	Transfers, State Governments
	Tl	Transfers, Local Authorities
	Tn	Transfers, Non-Profit Institutions
	Tf	Transfers, Foreign Governments
Other Receipts	F	Withdrawal from Funds
	G	Sale of Goods and Services
	Txn	Production Tax
	Txt	Product Tax
	Txo	Taxes on income & wealth
	Mr	Fees and Miscellaneous
	Ssh	Sale, Second Hand
	Sl	Sale, Land
	Sfa	Sale, Financial Assets
Pension Receipts	Pn	Pension Contribution
Property Income	Into	Interests, Non-Government Bodies
	Intf	Interest, Foreign Government/Organisations
	Intc	Interest, Central Government
	Ints	Interests, State Governments
	Intl	Interests, Local Bodies
	Pr	Property Receipts
Expenditure		
Advances	Ang	Advances, Non-Government
	Af	Advances Foreign Countries
	Al	Advances, Local Authorities
Capital Transfers	Capti	Capital Transfers to Individuals
	Captp	Capital Transfers to Private Institutions
	Capta	Capital Transfers to Autonomous Bodies
	CaptS	Capital Transfers to State Government
	Captl	Capital Transfers to Local Authorities
	Captf	Capital Transfers to Foreign Countries/Organisations
Compensation of Employees	S	Salaries
	W	Wages
	A	Allowances
	Bcs	Social (Cash) Benefits
	Bco	Others (Cash) Benefits
	Bk	Benefits in Kind
	P1	Pension Payments
	P2	Employers' Contributions to Pension Fund
Current Transfers	Ti	Transfers to Individuals

SNA Description	Economic Code	Definition
	Tp	Transfers to Private Institutions
	Ta	Transfers to Autonomous Bodies
	Tk	Transfers in kind
	Tc	Transfer to Centre
	Ts	Transfer to State
	Tl	Transfer to Local Bodies
	Tf	Transfer to Foreign
Financial assets	Pfa	Purchase of Financial Assets
Gross Capital Formation	Psh	Purchase of Second Hand Assets
	Pl	Purchase of Land
	Stof	Change in stock of Food
	Stoi	Change in stock of Inventory
Gross Fixed Capital Formation	Bor	Expenditure on Construction of Buildings - Residential
	Bonr	Expenditure on Construction of Buildings - Non-Residential
	Ro	Expenditure on Construction of Road
	Co	Expenditure on Construction of Other
	Tro	Expenditure on Purchase of Transport
	Mo	Expenditure on Purchase of Machinery
	ICT	ICT Equipment
	So	Expenditure on Purchase of Software
	Cao	Expenditure on acquiring Cultivated Assets
	Aso	Expenditure on acquiring Animal Stock
	Rnd	Research and Development
	OIPP	Other Intellectual Property Product
	Ws	Weapon System
Intermediate Consumption	G	Purchase of Goods & Services
	Bm	Maintenance of Buildings
	Rm	Maintenance of Roads
	Cm	Maintenance of Other Construction
Property Income	Intl	Interest to Local Bodies
	Into	Interests to Non-Government Bodies
	Intf	Interest to Foreign Government/Organisations
	Intc	Interest to Central Government
	Ints	Interests to State Governments
Subsidies	Subn	Production Subsidy
	Subt	Product Subsidy

Table 4.5: List of Purpose Codes

Code	Description
1	General Public Services
1.1	General Administration, External affairs, Public Order & Safety
1.1.1	Public Order & safety
1.1.2	Planning & Statistical Activities
1.1.3	General Administration, External affairs, Public Order & Safety, n.e.c
1.2	General Research
2	Defence
3	Education
3.1	Administration, Regulation & Research
3.1.1	Primary Education
3.1.2	Secondary Education
3.1.3	Higher Secondary and University Education
3.1.4	Other Educational Administration n.e.c.
3.2	Education Services n.e.c.
3.2.1	Primary Education
3.2.2	Secondary Education
3.2.3	Higher Secondary and University Education
3.2.4	Education Services n.e.c.
4	Health Affairs and Services
4.1	Administration, Regulation and Research
4.1.1	Allopathic
4.1.2	Homeopathic
4.1.3	Ayurvedic
4.1.4	Unani
4.1.5	Other Medical Administration n.e.c.
4.2	Health Services
4.2.1	Allopathic
4.2.2	Homeopathic
4.2.3	Ayurvedic
4.2.4	Unani
4.2.5	Other Medical Services
5	Social Security and Welfare Affairs and Services
5.1	Social Security Affairs and Services
5.2	Welfare affairs and Services
5.3	Social Security and Welfare Affairs Services n.e.c.
6	Housing and Community Amenity Affairs and Services
6.1	Housing and Community Services
6.2	Sanitary affairs Services
6.3	Housing and Community Amenity Affairs and Services n.e.c.
7	Cultural, Recreational and Religious Affairs and Services
7.1	Art and Cultural Affairs Services
7.2	Recreational and Sporting Services
7.3	Tourism Affairs and Services
7.4	Cultural, Recreational and Religious Affairs Services n.e.c.

Code	Description
8	Economic Affairs and Services
8.1	General Administration, Regulation and Research
8.2	Agriculture, Forestry, Fishing and Hunting
8.3	Mining, Manufacturing and Construction
8.4	Electricity, Gas, Steam and Other Sources of Energy
8.4.1	Electricity, Gas and Steam
8.4.2	Atomic Energy
8.4.3	Non-Conventional Sources of Energy
8.5	Water Supply
8.6	Transport and Communication
8.6.1	Road Transport
8.6.2	Water Transport
8.6.3	Air Transport
8.6.4	Transport and Communication n.e.c.
8.7	Other Economic Services
9	Environmental Protection
9.1	Waste Management
9.2	Waste Water Management
9.3	Prevention and Control of Pollution
9.4	Environmental Research & Education
9.5	Environmental Protection n.e.c.
10	Relief on Calamities and Other Misc. Services
10.1	Relief on Calamities
10.2	Other Miscellaneous Services
0.0	Others (It is a dummy code. It is used for entering data in the software, where purpose code is not given, e.g. DCU)

CHAPTER 5

NON-FINANCIAL NON-DEPARTMENTAL ENTERPRISES SECTOR

5.1 Introduction

The Non-Departmental Enterprises (NDEs) sector comprises public enterprises that function as separate institutional units outside Government departments. It includes Government companies in which not less than 51 percent of the paid-up share capital is held by the Central Government, or any State Government, or jointly by them, subsidiaries of such Government companies, and statutory corporations established under Acts of Parliament or State Legislatures. The NDEs are primarily engaged in market production. This chapter covers the compilation of estimates for Non-Financial Non-Departmental Enterprises (Non-Financial NDEs).

The Non-Departmental Enterprises (NDEs) Sector comprises the categories based on their ownership and type of registration as given in Table 5.1.

Table 5.1: Categories of Non-Departmental Enterprises

Type of Registration	Type of Ownership	
	Central Government	State Government
Government Companies (Incorporated under Companies Act, 2013)	Central Public Sector Enterprises (CPSEs)	State Public Sector Enterprises (SPSEs)
Statutory Corporations (Established under specific acts)	Central Statutory Public Corporations	State Statutory Public Corporations

(i) Central Public Sector Enterprises (CPSEs)

Central Public Sector Enterprises (CPSEs) are the Government companies incorporated under the Companies Act, 2013, with the Ministry of Corporate Affairs (MCA), in which the Central Government holds not less than 51 per cent of the paid-up share capital. CPSEs are separate legal entities distinct from the Government and are primarily engaged in market production. Some of the examples of CPSEs include Indian Oil Corporation Limited (IOCL), Steel Authority of India Limited (SAIL), etc.

(ii) State Public Sector Enterprises (SPSEs)

State Public Sector Enterprises (SPSEs) include the Government companies incorporated under the Companies Act, 2013, with the Ministry of Corporate Affairs (MCA), in which one or more State Governments hold not less than 51 per cent of the paid-up share capital. SPSEs are separate legal entities distinct from the State Governments and are primarily engaged in market production. Some of the examples of SPSEs include Uttar Pradesh Power Corporation Limited (UPPCL), Tamil Nadu Power Distribution Company Limited (TNPDC), etc.

(iii) Central Statutory Public Corporations

Central Statutory Public Corporations are statutory bodies established under specific acts of Parliament to undertake specified public functions. Some of the examples include Central Warehousing Corporation (CWC), National Highways Authority of India (NHAI), etc.

(iv) State Statutory Public Corporations

State Statutory Public Corporations are statutory bodies established under specific enactment by State legislative assemblies. Some of the examples include Uttar Pradesh Warehousing Corporation, Kerala State Road Transport Corporation (KSRTC), etc.

5.2 Coverage

In terms of economic activity, the estimates of various macroeconomic aggregates for the non-financial NDEs sector are compiled for 28 industries by grouping various activities as per NIC 2008. The industries covered under this sector are: (i) Agriculture, (ii) Livestock, (iii) Forestry, (iv) Fishing, (v) Other Mining, (vi) Petroleum And Natural Gas Mining, (vii) Coal Mining, (viii) Mining Of Non-Ferrous Metal Ores, (ix) Manufacturing, (x) Electricity, (xi) Gas, (xii) Water Supply, (xiii) Construction, (xiv) Trade, (xv) Hotel And Restaurant, (xvi) Road Transport, (xvii) Water Transport, (xviii) Air Transport, (xix) Services Incidental To Transport, (xx) Communication, (xxi) Broadcasting, (xxii) Storage, (xxiii) Railways, (xxiv) Computer Related Services, (xxv) Scientific Research, (xxvi) Professional Services, (xxvii) Education and (xxviii) Other Services.

5.3 Data Sources

The primary data sources used for the compilation of estimates of non-financial NDEs sector are annual accounts of individual enterprises and MCA-21 database. The details of these data sources are given as follows:

(i) Frame of non-financial NDEs

The NDE frame is a comprehensive list of all active non-financial NDEs. It includes Central and State Public Sector Enterprises, as well as Central and State Statutory Corporations. The frame is prepared during the base year revision and updated annually to account for newly established enterprises and those that have ceased to operate. The estimates are compiled only for the enterprises that are included in the updated NDE Frame.

(ii) Annual Accounts of non-financial NDEs

The annual account of each non-financial NDE is analysed to compile the national accounts estimates of this sector. The annual accounts of the enterprises as given in annual reports contain Profit & Loss Account and Balance Sheet. The Profit & Loss Account provides the detail of income earned and expenditure incurred by the enterprise during the year, while the Balance Sheet provides the details of holding of economic assets and liabilities of the enterprise at the end of the

year. Various financial variables given in the annual accounts of the enterprises are mapped to the corresponding SNA aggregates and accordingly the estimates are compiled.

(iii) MCA-21 database

For the enterprises included in the NDE frame whose annual accounts are not available for a particular year, or whose contribution in the GVA of the sector is relatively small, the estimates are compiled using the MCA-21 database in the manner delineated in Chapter- 6 on Non-Financial Private Corporations Sector.

For the enterprises with a significant contribution to the GVA of the sector, preference is given to annual reports of the enterprises for compiling estimates, as the notes to Profit & Loss Account and Balance Sheet provide detailed information required for more accurate mapping of business accounting variables to the SNA aggregates.

(iv) Estimation for non-reporting enterprises

For the enterprises included in the NDE frame whose estimates could neither be compiled from the annual reports nor from the MCA-21 database, estimates are generated using industry-wise growth rates computed based on the enterprises for which information is available either from annual reports or from MCA- 21 database.

5.4 Methodology for Estimation of Aggregates

Table 5.2 presents the methodology for compilation of various aggregates in respect of Non-Financial Non-Departmental Enterprises.

Table 5.2: Aggregates from Production Approach

Aggregate	Methodology of Compilation
Output	Output is the value of sales together with the value of change in stocks of finished and semi-finished goods, work in progress and the value of own account fixed capital formation. For NDEs, output is calculated from profit & loss account.
Intermediate Consumption (IC)	Intermediate Consumption (IC) consists of the value of the goods and services consumed as inputs in the process of production, excluding fixed assets whose consumption is recorded as Consumption of Fixed Capital. For NDEs, IC is calculated from profit & loss account.
Gross Value Added (GVA)	Derived figure; $GVA = Output - IC$
Compensation of Employees (CE)	CE consists of wages and salaries payable in cash or in kind and the value of the social contribution payable by employers. For NDEs, value of CE is calculated from profit & loss account.
Production Tax	Production Taxes are those which are independent of production volume but usually levied for owing factors of production, e.g., taxes on payroll, stamp duties etc. For NDEs, Production Taxes are calculated from profit & loss account.

Aggregate	Methodology of Compilation
Production Subsidy	Production Subsidies are unrequited payments received by the producers as a consequence of engaging in production irrespective of production volume, e.g., grant given for salary, interest subsidy etc. For NDEs, Production Subsidy is calculated from profit & loss account.
Operating Surplus (OS)	Derived figure; $OS = GVA-CE-Production\ tax + Production\ subsidy$
Property Income Received	Property income accrues when the owners of financial assets and natural resources put them at the disposal of other institutional units. The income payable for the use of financial assets is called investment income while that payable for the use of a natural resource is called rent. Property income is the sum of investment income and rent. $Property\ Income\ Received = Interest\ Received + Dividend\ Received + Rent\ Received$
Property Income Paid	$Property\ Income\ Paid = Interest\ Paid + Dividend\ Paid + Rent\ Paid$
Balance of Primary Income (BoPI)	Derived figure; $BoPI = OS + Property\ Income\ Received - Property\ Income\ Paid$
Other Current Transfer (OCT) Received	A transfer is a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as a direct counterpart. A capital transfer is one that is linked to the acquisition or disposal of an asset, either financial or nonfinancial. Current transfers consist of all transfers that are not transfers of capital. For NDEs, OCT Received is calculated from profit & loss account.
Other Current Transfer (OCT) Paid	For NDEs, OCT Paid is calculated from profit & loss account.
Income Tax Paid	Income Tax consists of direct taxes on income paid by the enterprise to the Government. Income Taxes Paid are reported in profit & loss account.
Saving	Derived figure; $Saving = BoPI - Income\ Tax\ Paid + OCT\ Received - OCT\ Paid.$

B) Aggregates from Expenditure Approach:

(i) Change in Stock (CIS)

The Change in Stock (CIS) for an enterprise is estimated from the Balance Sheet and comprises of the change in the value of inventories of raw materials, work-in-progress, semi-finished goods, finished goods, tools, and other consumable stores during the accounting period.

(ii) Gross Fixed Capital Formation (GFCF)

The Gross Fixed Capital Formation (GFCF) is estimated from the Balance Sheet and comprises of expenditure incurred during the year on the acquisition of fixed assets, including residential and non-residential buildings, other construction works, machinery and equipment, transport equipment, capital work-in-progress, etc. It is measured as the total value of acquisitions of fixed assets less disposals of fixed assets during the accounting period.

5.5 Limitations

For the enterprises in NDE frame information in respect of which is not available, the estimates are compiled using industry-wise growth rates computed on the basis of enterprises for which information is available. Consequently, the growth rate based estimates may diverge from those compiled using the actual annual accounts of the enterprises, when available. This causes revision in the Final Estimates of GVA.

Table 5.3 shows the estimates of GVA in respect of Non-Financial Non-Departmental Enterprises Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices.

Table 5.3 : Estimates of GVA in respect of Non-Financial Non-Departmental Enterprises Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

S. No.	Industries	2011-12 series	2022-23 series	% difference
1	Agriculture, forestry & fishing	548	1,568	186.4
1.1	Crops	-1,125	-4	99.6
1.2	Livestock	78	23	-70.0
1.3	Forestry & logging	1,528	1,506	-1.4
1.4	Fishing and aquaculture	67	43	-35.4
2	Mining & quarrying*	2,74,911	2,72,094	-1.0
3	Manufacturing	1,71,649	1,76,953	3.1
4	Electricity, gas, water supply and other utility services	3,18,459	3,24,387	1.9
5	Construction	16,007	37,188	132.3
6	Trade, repair, hotels and restaurants	31,830	23,626	-25.8
6.1	Trade & Repair Services	30,544	22,567	-26.1
6.2	Hotels & restaurants	1,286	1,059	-17.7
7	Transport, storage, communication & services related to broadcasting	75,987	76,126	0.2
7.1	Railways	5,232	5,171	-1.2
7.2	Road transport	29,284	29,658	1.3
7.3	Water transport	2,321	2,309	-0.5
7.4	Air transport	969	215	-77.8
7.5	Services incidental to transport	24,378	24,977	2.5
7.6	Storage	3,531	3,448	-2.3
7.7	Communication & services related to broadcasting@	10,274	10,349	0.7
8	Real estate, ownership of dwelling and professional services^	9,145	9,163	0.2
9	Other services#	2,306	3,884	68.4
	Total	900,842	924,990	2.7

*: Includes 'Other Mining', 'Petroleum and Natural Gas mining', 'Coal Mining' and 'Mining of Non- Ferrous Metal Ores' Industry

@: Includes 'Communication' and 'Broadcasting' Industry

^: Includes 'Computer related Services', 'Scientific Research' and 'Professional Services' Industry

#: Includes 'Education' and 'Other Services' Industry

CHAPTER 6

NON-FINANCIAL PRIVATE CORPORATE SECTOR

6.1 Coverage

In Indian context, Non-Financial Private Corporations (NFPC) Sector comprises of:

- i. Non-financial Private Companies registered with Ministry of Corporate Affairs (MCA) under the Companies Act, 2013
- ii. Limited Liability Partnership Companies registered with MCA under LLP Act, 2008
- iii. Quasi-corporations
- iv. Co-operatives

This chapter specifically deals with compilation of estimates for non-financial sector. In terms of economic activity, Non-financial Private Corporate Sector, as per NIC 2008, covers following industries: (i) Crops, (ii) Livestock, (iii) Forestry, (iv) Fishing, (v) Other Mining, (vi) Crude Oil Mining, (vii) Coal Mining, (viii) Manufacturing, (ix) Electricity, (x) Gas, (xi) Water Distribution, (xii) Electricity: Renewable, (xiii) Construction, (xiv) Wholesale Trade, (xv) Retail Trade, (xvi) Trade and Repair of Motor Vehicles, (xvii) Hotel, (xviii) Land Transport, (xix) Water Transport, (xx) Air Transport, (xxi) Supporting and Auxiliary Transport, (xxii) Telecommunication, (xxiii) Media and Cable Networks, Channels, etc., (xxiv) Storage, (xxv) Post and Courier, (xxvi) Railways, (xxvii) Real Estate, (xxviii) Renting, (xxix) Computer and Related Activities, (xxx) Research and Development, (xxxi) Other Business Activities, (xxxii) Education, (xxxiii) Health, (xxxiv) Sewage, Sanitation, (xxxv) Activities of Membership Organisations etc., (xxxvi) Recreation, (xxxvii) Other Services.

6.2 Concepts and Definitions

The SNA defines corporations, in general, as the entities that are:

- i. capable of generating a profit or other financial gain for their owners,
- ii. recognized at law as separate legal entities from their owners who enjoy limited liability,
- iii. set up for purposes of engaging in market production,

In SNA, the term corporation is used in broader sense. Besides legally constituted units, corporations include cooperatives, limited liability partnerships, quasi-corporations, etc.

(i) Legally constituted corporations

Legally constituted corporations may be described by different names: corporations, incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, limited liability partnerships, and so on. A legally constituted corporation is a legal entity, created for the purpose of producing goods or services for the market, that may be a source of profit or other financial gain to its owner(s); it is collectively

owned by shareholders who have the authority to appoint directors responsible for its general management.

(ii) Cooperatives

Cooperatives are set up by producers for purposes of marketing their collective output. The profits of such cooperatives are distributed in accordance with their agreed rules and not necessarily in proportion to shares held, but effectively they operate like corporations. Data sources and methodology used in compilation of estimates of Cooperatives are given in Chapter 8 (Household Sector) as the data sources and methodology for the compilation of estimates of Cooperatives, Quasi-Corporations and Household Sector is the same.

(iii) Limited Liability Partnerships

Partnerships whose members enjoy limited liability are separate legal entities that behave like corporations. In effect, the partners are at the same time both shareholders and managers.

(iv) Quasi-corporations

Some unincorporated enterprises function in all (or almost all) respects as if they were incorporated. These are termed quasi-corporations in the SNA and are included with corporations in the non-financial and financial corporation sectors. A quasi-corporation is:

- i. either an unincorporated enterprise owned by a resident institutional unit that has sufficient information to compile a complete set of accounts and is operated as if it were a separate corporation and whose de facto relationship to its owner is that of a corporation to its shareholders; or
- ii. an unincorporated enterprise owned by a non-resident institutional unit that is deemed to be a resident institutional unit because it engages in a significant amount of production in the economic territory over a long or indefinite period of time.

Details on the methodology for compiling estimates of quasi-corporations and co-operatives are given in Chapter 8 (Household Sector) as the data sources and methodology for the compilation of estimates of Cooperatives, Quasi-Corporations and Household Sector is the same. The GVA and other aggregates of Non-Financial Private Corporations, co-operatives and quasi-corporations are disseminated in National Accounts Statistics under 'Private Corporations Sector' following SNA guidelines.

6.3 Data Sources

The primary data source for compilation of estimates of Non-Financial Private Companies is MCA-21 data. MCA-21 is an e-governance project launched in 2006 by the Ministry of Corporate Affairs. Under MCA-21 project, companies registered under Companies Act file their financial statements (balance sheet and Profit & Loss accounts) and other information on MCA-21 portal using two webforms, namely, (i) Form AOC-4 XBRL, and (ii) Form AOC-4 (for non-XBRL

companies). Based on these e-filings, a database of the annual financial statements and other related information about the company is created every year.

MCA has mandated the filing of financial statements (Balance Sheet and Profit & Loss Account) in eXtensible Business Reporting Language (XBRL) taxonomy⁴ for the following classes of companies:

- a. all companies listed with any Stock Exchange(s) in India and their Indian subsidiaries; or
- b. all companies having paid up capital of Rupees five crore and above; or
- c. all companies having turnover of Rupees one hundred crore and above; or
- d. all companies which are required to prepare their financial statements in accordance with Companies (Indian Accounting Standards) Rules, 2015.
- e. The companies which have filed their financial statements for FY 2010-11 in XBRL mode shall continue to file their financial statements and other documents following XBRL taxonomy in succeeding years.

However, non-banking financial companies, housing finance companies and companies engaged in the business of banking and insurance sector are exempted from filing of financial statements under these rules.

Following two XBRL taxonomies are currently being used by MCA for filing of financial statements by companies:

- a. Commercial and Industrial Companies (C&I) Taxonomy for companies that are required to prepare Financial Statements under Accounting Standards notified under the Companies (Accounting Standards) Rules, 2006.
- b. Indian Accounting Standard (IND AS) Taxonomy for companies that are required to prepare Financial Statements under Indian Accounting Standards notified under the Companies (Indian Accounting Standards) Rules, 2015.

INDAS taxonomy has been introduced w.e.f. 1st April, 2016. Use of INDAS taxonomy was made mandatory for bigger companies (turnover more than Rs. 500 crores) to begin with. Gradually, the mandatory threshold has been lowered and more and more companies are shifting from C&I taxonomy to INDAS taxonomy. Companies not falling in the above categories are required to file their financial statements in the summarized Form AOC-4.

MCA shares the financial statements for XBRL and Non-XBRL companies with NAD for compilation of national accounts statistics. In addition to financial statements, MCA also shares additional details about the companies which are used in compilation of estimates. The details of additional datasets are as follows:

⁴ An XBRL taxonomy a standardized digital dictionary used to define, classify, and structure financial and business reporting concepts.

Frame of Active Companies

Each year, MCA shares the list of all the active companies registered with MCA, which is referred to as Frame of Active companies. As not all companies file their financial returns each year, the estimates are prepared using the reporting data and then scaled-up to account for remaining companies in the frame.

MGT-7 and MGT-7A Forms

Filing of Form No. MGT-7 (or MGT-7A: for one-person companies and small companies only) is a statutory annual requirement under Companies Act. These forms, *inter alia*, capture details like number of business activities undertaken by the enterprise, description of business activity as per NIC 2008 and percentage turnover from each business activity. Details upto 10 activities can be recorded in Form No. MGT-7/7A. In case enterprise is undertaking more than 10 activities, details for the additional activities can be recorded in an optional attachment to Form No. MGT-7/7A.

The above-mentioned information available in MGT forms is used to assign the industrial activity code to the companies. In case of multi-activity enterprise, MGT data is used to segregate economic activities and consequently the value addition done by each business of the enterprise.

Limited Liability Partnership Data

LLPs are the legal corporate entities that registered under LLP Act, 2008. Like CIN, at the time of registration, each LLP company is assigned a unique 7-digit alphanumeric code called as Limited Liability Partnership Identification Number (LLPIN). Financial data of LLP companies shared by MCA is used in compilation of estimates of GVA and other aggregates in respect of LLPs.

6.4 Methodology of Estimation

The financial data for XBRL, Non-XBRL and LLP companies, shared by MCA, is used to compile the Sequence of Accounts of Non-Financial Private Companies which in the later stage is topped-up with the estimates of Quasi-Corporation and Co-operatives for covering the entire NFPC sector. In order to compile estimates of various macroeconomic aggregates like Output, Intermediate Consumption (IC), Gross Value Added (GVA), Gross Fixed Capital Formation (GFCF), etc., financial variables given in accounts of companies are mapped to concerned SNA aggregates. Detailed mapping of business accounting variables with SNA aggregates is given in report of the Sub-committee on Private Corporate Sector including PPPs constituted for 2011-12 base revision. The report of the said sub-committee is available on the website of the Ministry.

Once company-wise estimates for various variables of sequence of accounts are arrived at, following steps are executed to arrive at industry-wise aggregates:

6.4.1 Segregation of Economic Activities of Multi-activity Enterprises

In 2011-12 series, in case of Multi-activity non-financial private companies with a primary and one or more secondary activities, entire contribution was allocated to its major activity ensuring that broad industry group is correctly captured.

In 2022-23 series, the economic activities of multi-activity enterprises have been segregated using the information on activity-wise turnover available in MGT-7/7A forms.

For each multi-activity enterprise, activity-wise share of turnover available in Form No. MGT-7/7A was used to calculate activity-wise turnover. Multi activity companies with Financial Services as major activity were not considered whereas those where financial services had minor share were allocated entirely in Non-Financial Corporations. Thereafter, Output-Turnover Ratios calculated on the basis of single activity companies for each industry for which estimates are compiled for NFPC Sector were used to calculate activity-wise output. Activity-wise output so computed was adjusted pro-rata in such a manner that sum of activity-wise output matches with enterprise level output. For calculating activity-wise inputs in case of multi-activity enterprises, Input-Output Ratios calculated on the basis of single activity enterprises across industries were applied over activity-wise outputs.

Like activity-wise output, activity-wise inputs were also adjusted pro-rata to match enterprise level input. Activity-wise outputs and inputs so obtained were used to calculate activity-wise GVAs. Table 6.1 presents the variable used for segregating the activity mix in case of all the aggregates.

Table 6.1 : Methodology for aggregates

Aggregate	Method
Output	In proportion to industry-wise Output-Turnover Ratio as per single activity companies; activity-wise output thus obtained is then pro rata adjusted to company level total
Intermediate Consumption (IC)	In proportion to industry-wise Input-Output Ratio as per single activity companies; activity-wise IC thus obtained is then pro rata adjusted to company level total
Gross Value Added (GVA)	Derived figure
Compensation of Employees (CE)	In proportion to industry-wise CE-GVA ratio as per single activity companies; activity-wise CE thus obtained is then pro rata adjusted to company level total
Production Tax less Subsidy	In proportion to industry-wise Net Production Tax-GVA Ratio as per single activity companies; activity-wise Net Production Tax thus obtained is then pro rata adjusted to company level total
Operating Surplus (OS)	Derived figure
Property Income Received	In proportion to industry-wise Property Income Received-OS Ratio as per single activity companies; activity-wise Property Income Received thus obtained is then pro rata adjusted to company level total
Property Income Paid	In proportion to activity-wise Operating Surplus
Balance of Primary Income	Derived figure
Other Current Transfer Received	In proportion to industry-wise Other Current Transfer Received-OS Ratio as per single activity companies; activity-wise Other Current

Aggregate	Method
	Transfer Received thus obtained is then pro rata adjusted to company level total
Other Current Transfer Paid	In proportion to activity-wise Operating Surplus
Income Tax Paid	In proportion to activity-wise Operating Surplus
Savings	Derived figure

6.4.2 Application of Multiplier (or blow-up factor) to account for non-reporting companies

In 2011-12 series, for compilation of Second Revised or Final Estimates, the Paid-Up Capital (PUC) based multiplier was used for scaling up the estimates of reporting companies, to account for the contribution of active companies that had not filed their returns. Following formula was used for scaling up the estimates:

$$Aggregate_{population} = Aggregate_{reporting_PLC} \times \frac{(Global\ PUC)_{PLC}}{(Reporting\ PUC)_{PLC}} + Aggregate_{reporting_NPLC} \times \frac{(Global\ PUC)_{NPLC}}{(Reporting\ PUC)_{NPLC}} \dots\dots\dots(6.1)$$

where PLC denotes Public Limited Companies and NPLC denotes Non-Public Limited Companies or companies other than PLCs; Aggregate is Output, IC, GVA etc.

The PUC based blow-up method relies on the assumption that PUC and GVA have a linear relation. In absence of availability of any information on aggregate related to the population of active companies, the estimates were compiled on the basis of the global PUC made available by the Ministry of Corporate Affairs. Even though, the global PUC figures were made available by MCA for a few broad categories of industry (industry disaggregation used in NAS is much more detailed), only overall PUC, for public limited companies (PLC) and companies other than public limited companies (NPLC), was used as a scaling up factor in 2011-12 series.

However, the availability of frame of active companies has enabled the use of multiplier at disaggregated level in 2022-23 series instead of overall level. As distribution of non-reporting companies vary across industries and size classes and as capital intensity (measured by GVA to PUC Ratio) also vary across industries and size class, it was found more appropriate to apply paid up capital, as a scaling-up factor, at Industry x Size Class level. The estimates for a particular industry can be computed using the following formula:

$$Aggregate_{(population)} = \sum_i Aggregate_{(reporting)_i} \times \frac{(Frame\ PUC)_i}{(Reporting\ PUC)_i} \dots\dots\dots(6.2)$$

where i denotes size class

6.4.3 Compilation of Estimates of LLP Companies

The estimates of LLP companies are also compiled using production approach. In order to compile estimates of various macroeconomic aggregates like Output, Intermediate Consumption (IC), GVA, etc., as has been done in case of companies, financial variables given in accounts of LLPs

are mapped to concerned SNA aggregates. In order to account for non-reporting LLPs, multiplier based on variable ‘Obligation to Contribution’, available in both frame and reporting set, is used.

The total estimate of Private Corporations (as described above), including the Quasi-Corporations and Cooperatives are disseminated in National Accounts Statistics as that of Private Corporations.

6.5 Assumptions and Limitations

- (i) In case of unavailability of MGT data for a company, the economic activity is assigned on the basis of NIC embedded in CIN. Since, CIN is assigned to the company at the time of registration, the information (such as NIC) contained in CIN may not reflect the actual economic activity of the company. This might lead to mis-classification of companies. However, as bigger companies (in terms of GVA) are more likely to file MGT-7/7A Form regularly, the extent of misclassification is not significant.
- (ii) Segregation of activities is possible only in case of those multi-activity companies which have filed MGT-7/7A Form. Other multi-activity companies which have not filed MGT-7/7A Form are assumed to be single activity companies. However, as bigger companies (in terms of GVA) are more regular in filing MGT-7/7A Form, industry mix is captured fairly accurately for the sector.
- (iii) XBRL companies are mandated to file financial returns following either C&I or INDAS taxonomies, wherein detailed financial disclosures are required. On the other hand, for Non-XBRL companies, information on financial variables is required to be filed at a broader level. Different components of a particular variable are mapped to different SNA aggregates like output, IC, GVA, etc., as per the nature of the component. As component-wise information is not available for some of the variables for Non-XBRL companies, such variables are split into components based on C&I filings, assuming that component-wise distribution of Non-XBRL companies will be same as that for C&I companies.

Table 6.2 shows the Industry-wise estimates of GVA in respect of Non-Financial Private Corporations Sector (including Quasi-Corporations and cooperatives) for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices.

Table 6.2: Industry-wise estimates of GVA in respect of Non-Financial Private Corporations Sector (including Quasi-Corporations and cooperatives) for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

S. No.	Industries	2011-12 series	2022-23 series	% difference
1	Agriculture, forestry & fishing	106,872	90,278	-15.5
1.1	Crops	102,426	84,596	-17.4
1.2	Livestock	1,584	2,100	32.6
1.3	forestry & logging	296	345	16.6
1.4	fishing and aquaculture	2,565	3,237	26.2
2	Mining & quarrying*	95,810	85,741	-10.5
3	Manufacturing	2,848,638	2,743,850	-3.7
4	Electricity, gas, water supply and other utility services [#]	180,767	181,925	0.6
5	Construction	353,377	7,45,784	111.0
6	Trade, repair, hotels and restaurants	1,266,722	766,775	-39.5
6.1	Trade (wholesale, retail) & Repair Services	1,147,933	657,562	-42.7
6.2	Hotels & restaurants	118,789	109,213	-8.1
7	Transport, storage, communication & services related to broadcasting	657,276	527,997	-19.7
7.1	Railways	1,044	3,192	205.7
7.2	Road transport	124,909	54,788	-56.1
7.3	Water transport	16,642	15,514	-6.8
7.4	Air transport	17,171	20,471	19.2
7.5	Services incidental to transport	118,303	90,557	-23.5
7.6	Storage	18,559	21,329	14.9
7.7	Communication & services related to broadcasting, post & courier	360,648	322,147	-10.7
8	Real estate, ownership of dwelling and professional services [%]	2,485,924	2,553,207	2.7
9	Other services [^]	719,546	441,816	-38.6
	Total	8,714,931	8,137,375	-6.6

* : Mining & quarrying includes Other Mining, Crude oil Mining and Coal Mining

#: Electricity, gas, water supply and other utility services includes Electricity: renewable

% : Real estate, ownership of dwelling and professional services includes 'Computer and related activities', 'Research and development', 'Other business & Renting'

^ : Other services includes 'Education', 'Health', 'Activities of membership etc.', 'Recreation & others'

CHAPTER 7

FINANCIAL CORPORATIONS

7.1 Coverage

The Financial Corporations sector comprises all resident institutional units principally engaged in providing financial services, including insurance and pension funding services, to other institutional units. It is broadly classified into three categories: financial intermediaries, financial auxiliaries and other financial corporations. Financial intermediaries incur liabilities on their own account to acquire financial assets and channel funds between lenders and borrowers. This category includes deposit taking corporations, non-banking financial corporations (NBFCs), insurance corporations and pension funds. Financial auxiliaries facilitate financial intermediation and the functioning of financial markets without taking ownership of the financial assets and liabilities they handle. Other financial corporations provide financial services where most of their assets and liabilities are not transacted on open financial markets. Together, these institutions constitute the Financial Corporations sector (S.12) of the System of National Accounts (SNA) and play a central role in mobilizing savings, allocating capital, managing financial risks and supporting economic activity.

Consistent with the recommendations of the System of National Accounts (SNA 2008), the sector is classified into nine institutional sub-sectors, namely: Central Bank (S-121), Deposit-taking Corporations except the Central Bank (S-122), Money Market Funds (S-123), Non-Money Market Investment Funds (S-124), Other Financial Intermediaries except Insurance Corporations and Pension Funds (S-125), Financial Auxiliaries (S-126), Captive Financial Institutions and Money Lenders (S-127), Insurance Corporations (S-128) and Pension Funds (S-129).

The revised methodology aims to ensure comprehensive coverage of both organized and unorganized financial activities and reflects the evolving structure of India's financial system through greater utilization of regulatory and administrative databases.

7.2 Concepts and Definitions

7.2.1 The estimates of the Financial Corporations sector are compiled in accordance with the production boundary and institutional sector classification prescribed under the System of National Accounts (SNA) 2008.

7.2.2 The principal measure of economic activity is Gross Value Added (GVA), which is defined as the difference between output and intermediate consumption:

$$\text{GVA} = \text{Output} - \text{Intermediate Consumption} \dots\dots\dots(7.1)$$

7.2.3 The measurement of output varies across different financial subsectors, depending on the nature of their activities:

- a) Financial intermediaries such as banks and NBFCs: Output comprises explicitly charged financial services as well as Financial Intermediation Services Indirectly Measured (FISIM). FISIM represents the value of financial intermediation services provided through the margin between the interest rates applicable to funds borrowed and funds lent.
- b) Insurance corporations: Output is measured in accordance with the SNA framework as the actual premiums earned plus premium supplements, less adjusted claims incurred. Premium supplements represent the investment income attributable to insurance policyholders. The treatment of claims and other adjustments is made in accordance with the relevant insurance-output methodology.
- c) Pension funds: The output of pension funds is measured separately for administration fund activities and contribution fund activities, in accordance with their respective functions. The administration fund primarily provides administrative services relating to the management of pension schemes, while the contribution fund represents the funds accumulated on behalf of beneficiaries.

7.3 Data Sources

The estimates of the Financial Corporations sector are primarily compiled using administrative records, audited financial statements, regulatory returns, annual reports and survey-based information. The principal data sources used for the various subsectors are as follows:

7.3.1 S-121: Central Bank

The estimates are compiled using data from the Annual Report and financial statements of the Reserve Bank of India (RBI).

7.3.2 S-122: Deposit-taking Corporations except the Central Bank

The principal data sources include:

1. Statistical Tables Relating to Banks in India (STRBI) published by the RBI;
2. Publications/data of the National Bank for Agriculture and Rural Development (NABARD);
3. Data from the National Federation of State Cooperative Banks Ltd. (NAFSCOB);
4. Government Budget Documents;
5. Post Office Savings Bank Statistics obtained from the Budget Unit, NAD.

7.3.3 S-123 and S-124: Investment Funds

The primary data sources comprise Profit and Loss Accounts, Balance Sheets and other financial statements of investment funds and schemes, as received from the Securities and Exchange Board of India (SEBI).

7.3.4 S-125: Other Financial Intermediaries

The estimates are compiled using:

1. Annual reports and financial statements of public sector NBFCs and State Financial Corporations;
2. Ministry of Corporate Affairs (MCA) database;
3. Financial statements/annual reports of major private financial corporations and other relevant financial intermediaries.

7.3.5 S-126: Financial Auxiliaries

The principal data sources include:

1. Annual reports and financial statements of financial auxiliary institutions;
2. Ministry of Corporate Affairs (MCA) database;
3. Annual Survey of Unincorporated Sector Enterprises (ASUSE).

The administrative funds of Provident Fund Organisations are classified under financial auxiliaries in the current series.

7.3.6 S-127: Captive Financial Institutions and Money Lenders

Data sources include ASUSE and AIDIS unit level data.

7.3.7 S-128: Insurance Corporations

Data are obtained from:

1. Annual reports of public sector insurance companies,
2. Insurance Regulatory and Development Authority of India (IRDAI),
3. Postal Life Insurance accounts-Budget Unit (NAD).

7.3.8 S-129: Pension Funds

Data are compiled from annual reports of:

1. Employees' Provident Fund Organisation (EPFO),
2. National Pension System (NPS),
3. Coal Mines Provident Fund Organisation (CMPFO),
4. Seamen's Provident Fund Organisation (SMPFO),
5. Assam Tea Employees Provident Fund Organisation (ATEPFO).

The contribution funds of Provident Fund Organisations are classified under Pension Fund in the current series.

7.4 Methodology for Estimation at Current Prices:

The current price estimates are compiled using detailed financial statements and administrative records available for each sub-sector.

7.4.1 Central Bank (S-121)

The output of the Reserve Bank of India is estimated using the Sum of Cost Method. Output is measured as the sum of Intermediate Consumption, Compensation of Employees, Consumption of Fixed Capital and Net Taxes on Production. GVA is obtained by deducting Intermediate Consumption from Output.

7.4.2 Deposit-taking Corporations (S-122)

The Production Approach is adopted. Output is estimated as the sum of FISIM and Actual Receipts from banking services. FISIM is calculated separately for loans and deposits using lending rates, deposit rates and the reference rate. GVA is obtained by subtracting intermediate consumption from output.

7.4.3 Money Market Funds and Non-Money Market Funds (S-123 and S-124)

Output is estimated using the Sum of Cost Method. Estimates are derived from audited accounts and balance sheets obtained from SEBI. Output is measured as equivalent to intermediate consumption.

7.4.4 Other Financial Intermediaries (S-125)

Public sector NBFCs and State Financial Corporations are estimated using the Production Approach as followed in the banking sector. In case of private NBFCs, the estimates are compiled using MCA database.

7.4.5 Financial Auxiliaries (S-126)

Financial auxiliaries such as stock exchanges, brokers, asset management companies, insurance agents and provident fund administrative organisations are estimated using the production approach based on their annual accounts. Since these institutions do not perform financial intermediation, output is derived primarily from actual service receipts.

In the case of insurance agents, the Output is estimated based on the total commissions received by insurance agents from life and non-life insurance companies and treated as actual receipts. Intermediate Consumption (IC) is estimated by applying the IC-to-Output ratio derived from ASUSE data (for NIC-66) to the estimated output of insurance agents. For the current estimates, a three-year moving average of the IC-to-Output ratio is used to derive the corresponding intermediate consumption.

7.4.6 Captive Financial Institutions and Money Lenders (S-127)

For Captive Financial Institutions and Money Lenders, the current prices estimates are derived using the lending rates obtained from the AIDIS 2019 and the stock of loans estimated through latest inter-survey growth rates (AIDIS 2013 and AIDIS 2019). Output is estimated as FISIM, using the reference rate derived from the S-122 and S-125. Intermediate Consumption (IC) is estimated by applying the three-year moving average of the IC-to-Output ratio derived from

ASUSE data (for NIC-64) to the estimated output. GVA is then obtained as the difference between output and intermediate consumption.

For the remaining unorganised financial segment, GVA estimates are derived directly from ASUSE data, based on the relevant information on output and intermediate consumption.

7.4.7 Insurance Corporations (S-128)

The Production Approach is followed for estimating the insurance sector. The output is measured as sum of

- (i) Net premiums earned,
- (ii) Premium supplements (interest, dividends and investment income),
- (iii) Miscellaneous receipts.

From this, adjusted claims, surrender payments, actuarial reserve changes and bonuses to policyholders are deducted. Intermediate consumption includes management expenses, commission to agents, bank charges, repairs and maintenance and other miscellaneous expenses.

7.4.8 Pension Funds (S-129)

The Sum of Cost Method is followed for estimating the output of pension funds. The output is measured as equivalent to the value of intermediate consumption. The contribution funds of organisations such as the Employees' Provident Fund Organisation (EPFO), Coal Mines Provident Fund Organisation (CMPFO), Seamen's Provident Fund Organisation (SMPFO), Assam Tea Employees Provident Fund Organisation (ATEPFO) and National Pension System (NPS) are included under this sub-sector. The administration funds associated with these organisations, which provide administrative services for managing the respective schemes, are separately classified under Financial Auxiliaries (S-126).

7.4.9 Computation and Allocation of FISIM

The new series continues the reference-rate approach introduced in the 2011–12 series for computing FISIM. FISIM is computed using the following formula:

$$FISIM = \frac{(LR - RR) * \text{average stock of loans}}{\text{average stock of deposits}} + \frac{(RR - DR) * \text{average stock of deposits}}{\text{average stock of deposits}} \dots\dots\dots(7.2)$$

where LR denotes the lending rate, DR denotes the deposit rate and RR denotes the reference rate.

Here, the reference rate (RR) is calculated as the harmonic mean of lending rate and deposit rate. The total FISIM estimated is then allocated among industries and households based on sector-wise loans and deposits from financial institutions.

7.5 Methodology for Estimation at Constant Prices

The measurement of real growth in the financial sector is estimated by single or volume extrapolation techniques.

- (i) For the Central Bank, compensation of employees is deflated using the Consumer Price Index (General) and the resulting volume indicators are used to extrapolate output and GVA.
- (ii) For Deposit-taking Corporations, average aggregate credits and deposits are deflated using CPI (General). Volume measures of FISIM on loans and deposits are then calculated using base-year lending, deposit and reference rates. Actual Receipts are deflated using Banking Services Price Indices (Direct) provided by RBI. Accordingly, output is computed as sum of deflated Actual Receipts and Volume measures of total FISIM. The resulting volume indicator of output are used for extrapolating GVA. For Post Office Savings Banks, volume indices based on the number of subscribers are used to extrapolate output and GVA at constant prices.
- (iii) For Money Market Funds and Non-Money Market Investment Funds, investments are deflated using CPI (General) and the resulting volume indicator of the deflated investments are used to extrapolate output.
- (iv) For Other Financial Intermediaries, Financial Auxiliaries, Captive Financial Institutions and Moneylenders and Insurance Corporations, output is deflated using CPI (General) and volume indices derived from deflated output are used to extrapolate GVA.
- (v) For pension funds, single extrapolation is used using BkSPI (Direct).

7.6. Assumptions and Limitations

- (i) The estimation methodology assumes relative stability in the relationship between financial variables such as loans, deposits, premiums, investments and output over the time. It also assumes that administrative data supplied by regulatory agencies are complete, accurate and representative of the activities of the respective financial institutions. In the estimation of FISIM, the reference rate is assumed to appropriately reflect the pure cost of funds, while variables such as loans, deposits, investments, subscribers and insurance related indicators are considered suitable proxies for measuring real changes in output.
- (ii) The estimates are subject to certain limitations. They depend heavily on the quality and timeliness of administrative data, while coverage of informal financial activities remains constrained by the periodicity of surveys such as AIDIS and ASUSE. Intermediate Consumption for money lenders and certain unorganized financial activities is estimated using a three-year moving average of IC-output ratios derived from ASUSE to reduce survey-related volatility, which may not fully capture short-term changes in cost structures.
- (iii) The preferred method for estimating GVA at constant prices is double deflation; however, owing to the non-availability of suitable price indices and detailed information on intermediate consumption, constant-price estimates are compiled using single deflation and volume extrapolation techniques. Consequently, the estimates may not fully capture differences in the price movements of output and intermediate consumption. Further, the use of proxy deflators and volume indicators may not adequately reflect changes in the quality, complexity and technological sophistication of financial services. FISIM estimates are also sensitive to changes in lending rates,

deposit rates and the choice of reference rate. In addition, rapid developments in digital finance and emerging financial products may not be fully captured in the existing estimation framework.

Table 7.1 presents the estimates of GVA of Financial Corporations for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices.

Table 7.1: Estimates of GVA in respect of Financial Corporations for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

S. No.	Sub sectors	2011-12 series	2022-23 series	% difference
1	Gross Value Added (S-12)	1452679	1477694	1.72
1.1	Monetary Financial Institutions (S-121 to S-123)	774327	780364	0.78
1.1.1	Central Bank (S-121)	6307	6307	0.00
1.1.2	Deposit Taking Corporations (S-122) & Money Market Funds(S-123)	768019	774057	0.79
1.2	Other Financial Corporations (S-124 to S-127)	480503	504333	4.96
1.2.1	Other Financial Intermediaries except ICPF(S-125) and Non-MMF Investment Funds (S-124)	264176	292913	10.88
1.2.2	Financial auxiliaries (S-126)	121884	127182	4.35
1.2.3	Captive Financial Institutions and moneylenders (S-127)	94442	84238	-10.80
1.3	Insurance Corporation and Pension Funds (S-128 to S-129)	197849	192997	-2.45
1.3.1	Life Insurance (S-128)	105249	105249	0.00
1.3.2	Non-Life Insurance (S-128)	87748	87748	0.00
1.3.3	Pension Funds (S-129)	4852	0	-100.00

CHAPTER 8

HOUSEHOLD SECTOR

8.1 Coverage

According to System of National Accounts (SNA 2008), the household sector includes all resident households that operate as institutional units within an economy. A household is defined as a single person or a group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food. In general, each member of a household should have some claim upon the collective resources of the household. At least some decisions affecting consumption or other economic activities must be taken for the household as a whole. The sector also covers individuals residing for extended periods in institutions such as hospitals, prisons, military establishments, religious institutions, and old-age homes. Beyond consumption, households may engage in productive activities through unincorporated enterprises that are not legally distinct from their owners. These include sole proprietorships, own-account enterprises, and small partnerships involved in activities such as agriculture, manufacturing, construction, trade, transport, and other services. Households are treated as institutional units because they have the capacity to own assets, incur liabilities, make independent economic decisions, and participate in both production and consumption activities.

Households can be engaged in production in the following industries

1. Agriculture & Allied Sectors
2. Manufacturing
3. Construction
4. Services

The estimation of GVA for the household sector covering the activity categories of Agriculture and Allied Activities and Construction is discussed in Chapters 9, 10, 11 and 14. Accordingly, the present chapter discusses the estimation of GVA of the household sector pertaining to Manufacturing and Services.

8.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

In the 2011-12 series, GVA estimates in respect of unincorporated segments of manufacturing and services sectors were compiled indirectly through Effective Labour Input Method (ELI Method) using the benchmark-indicator procedure. In this method, benchmark GVA estimates were prepared at detailed activity level for base year using workforce estimates (i.e. total of principal and subsidiary workers engaged in an activity) from Employment and Unemployment Survey (EUS) 2011-12 and value added per worker (VAPW) in corresponding activity using Enterprise Survey (ES) 2010-11. For subsequent years, base year GVA estimates at economic activity level were extrapolated using appropriate indicators.

With the availability of annual results from the ASUSE and PLFS, GVA estimates of unincorporated sector for 2022-23 series have been generated annually using Labour Input method, as opposed to the indicator-based extrapolation approach followed in 2011-12 series.

8.2.1 Concepts and Definitions Adopted in ASUSE and PLFS

The concepts and definitions as adopted by NSO, MoSPI for conducting Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS) have been considered while estimating GVA of household sector.

i. **Enterprise:** An institutional unit in its capacity as a producer of goods and services is known as an enterprise. An enterprise is an economic entity with autonomy in respect of both financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services. It may be engaged in one or more economic activities at one or more locations. It may be noted that unincorporated enterprises owned by households, all of whose output is intended either for final consumption or gross fixed capital formation by those households is outside the coverage of the definition of enterprises used in ASUSE.

ii. **Establishment:** An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which either only a single productive activity is carried out or in which the principal productive activity accounts for major part of the value added. The enterprise and the establishment are the same for single-establishment firms.

The unit of inquiry of the ASUSE is an establishment and not the enterprise.

iii. **Unincorporated non-agricultural establishments:** Non-agricultural establishments which are not incorporated (*i.e.*, neither registered under Companies Act, 1956 nor under Companies Act, 2013) have been covered in ASUSE.

iv. **Household establishment:** A household establishment is one which is run by one or more members of a household or run jointly by two or more households on partnership basis irrespective of whether the establishment is located in the premises of the household(s) or not. In other words, all proprietary and partnership establishments are household establishments.

v. **Own account establishment (OAE):** An establishment which is run without, any hired worker employed, on a fairly regular basis⁵ is termed as an own account establishment.

vi. **Hired worker establishment (HWE):** An establishment which is employing at least one hired worker on a fairly regular basis is termed as hired worker establishment. Paid apprentices, paid household member/servant/resident worker in an establishment are considered as hired workers.

⁵ "fairly regular basis" means the major part of the period when operation(s) of an establishment are carried out during a reference period.

vii. **Proprietary enterprise:** An enterprise owned and operated by a single individual is termed a proprietary enterprise.

viii. **Partnership enterprise:** A partnership refers to a relationship between two or more persons who agree to share the profits of a business carried on by all or any of them acting on behalf of all. Partnership enterprises may consist of owners belonging to the same or different households, with or without formal registration, based on a mutual understanding regarding profit-sharing.

ix. **Cooperatives:** A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled establishment. In ASUSE, only cooperatives registered under the Cooperative Societies Act have been considered as eligible cooperatives.

x. **Society:** Any group of persons associated for any literary, scientific or charitable purpose, registered under the Societies Registration Act 1860 or any State specific Societies Act have been considered as society in ASUSE.

xi. **Trust:** An arrangement through which one set of people, the trustees, are the legal owners of property which is administered in the interest of another set, the beneficiaries. Trusts may be set up to provide support for individuals or families, to provide pensions, to run charities, to liquidate the property of the bankrupts for the benefit of their creditors, or for the safe keeping of securities bought by trusts with their investor's money. In ASUSE, only trusts registered under the Indian Trust Act 1882 or any State specific act have been considered as eligible trusts.

xii. **Club/Association/Body of individuals:** A club/association/body of individuals is a group of two or more people united by a common interest or goal. They may or may not be registered with any authority.

xiii. **Non-profit institutions (NPI):** Non-profit institutions are legal or social entities created for the purpose of producing goods and services whose status does not permit them to be a source of income, profit or other financial gain for the units that establish, control or finance them. NPIs are principally non-market producers but they may engage in market production also. Most market NPIs serving businesses are created by associations of the businesses whose interests they are designed to promote. NPISHs are necessarily non-government non-market NPIs. Non-market producers are producers that provide most of their output to others free or at prices which are not economically significant, i.e., at prices which do not have a significant influence on the amount the producers are willing to supply or on the amount purchasers wish to buy. Their major income comes from grants and donations. NPISHs provide goods and services to households, financed mainly by transfers from non-governmental sources - households, corporations or non-residents.

xiv. **Self-help Groups:** A self-help group (SHG) is a financial intermediary usually composed of 10-20 local persons. The members of SHG make small regular savings contributions over a few

months until there is enough capital in the group to begin lending. Funds are lent back to the members or at times to others. In India, many SHGs are 'linked' to banks for the hand delivery of microcredit.

xv. **Quasi-corporations:** Quasi-corporations are essentially unincorporated enterprises that are sufficiently autonomous and have accounting records that permit them to be treated, for statistical purposes, like corporations. For the purpose of estimating GVA, an establishment has been identified as quasi-corporation based on the information collected in ASUSE (establishments maintaining book of accounts).

xvi. **Activity status:** It is the activity situation relating to participation in economic and/or non-economic activities in which a person is found engaged during a reference period. According to this, a person will be in one or a combination of the following three broad activity statuses during a reference period:

- (i) Working or being engaged in economic activity (work),
- (ii) Being not engaged in economic activity (work) and either making tangible efforts to seek 'work' or being available for 'work' if the 'work' is available and
- (iii) Being not engaged in any economic activity (work) and also not available for 'work'.

Activity statuses, as mentioned in (i) & (ii) above, are associated with 'being in labour force' and the last with 'not being in the labour force'.

xvii. **Usual activity status:** The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively long time (major time criterion) during the 365 days preceding the date of survey is considered the usual principal activity status of the person.

xviii. **Subsidiary economic activity status:** Usual principal status of a person is determined as the status on which the person spent relatively long time (major time criterion) during the 365 days preceding the date of survey. Such persons may have also pursued, in addition to his/her usual principal status, some economic activity for 30 days or more during the reference period of 365 days preceding the date of survey. The status in which such economic activity is pursued during the reference period of 365 days preceding the date of survey is the subsidiary economic activity status of the person. In case of multiple subsidiary economic activities, the major activity and status based on the 'relatively long time spent' criterion have been considered.

xix. **Current Weekly Activity Status (CWS):** The current weekly activity status refers to the activity status of a person during a reference period of 7 days preceding the date of survey.

xx. **Workers (or Employed Persons):** Persons engaged in any economic activity during the reference period are considered workers. This also includes persons who were temporarily absent from work due to illness, injury, disability, bad weather, festivals, social or religious functions, or

other contingencies, despite having a job attachment. Unpaid helpers engaged in household farm or non-farm enterprises are also treated as workers.

xxi. **Self-employed:** Persons operating their own farm or non-farm enterprises, or independently engaged in a profession or trade on their own account or in partnership with one or more persons, are classified as self-employed in household enterprises. The essential feature of the self-employed is that they have autonomy (i.e., how, where and when to produce) and economic independence (i.e., market, scale of operation and money) for carrying out their operation. The remuneration of the self-employed consists of a non-separable combination of two parts: a reward for their labour and profit of their enterprise.

xxii. **Own-account workers:** These are self-employed persons who operate enterprises on their own or with one or a few partners and generally run the enterprise without hiring labour. However, they may engage unpaid helpers in the enterprise activities.

xxiii. **Employers:** Self-employed persons who operate enterprises on their own account or with one or a few partners and generally run the enterprise by employing hired labour are classified as employers.

xxiv. **Helpers in Household Enterprise:** Helpers are self-employed persons, usually family members, who assist in household enterprises on a full-time or part-time basis without receiving regular wages or salaries for their work.

xxv. **Regular wage/salaried employees:** Persons working in others' farm or non-farm enterprises, whether household or non-household, and receiving salary or wages on a regular basis (rather than through daily or periodic work contracts) are classified as regular wage/salaried employees.

xxvi. **Casual wage labourers:** Persons casually engaged in others' farm or non-farm enterprises and receiving wages according to daily or periodic work contracts are treated as casual wage labourers.

xxvii. **Compilation Categories:** In National Accounts Statistics, the estimates of value added are compiled at detailed activity level, known as 'compilation categories'. These compilation categories are determined by regrouping the economic activities at 3, 4- and 5-digit level described in the National Industrial Classification (NIC) 2008, which follows the International Standards Industrial Classification of All Economic Activities, Rev.4 (ISIC Rev.4) of the United Nations. As per the recommendations of the Advisory Committee, the same compilation categories of 2011-12 series have been used for the base year 2022-23 to maintain comparability of data between the two series.

8.2.2 Data sources

(i) Annual Survey of Unincorporated Sector Enterprise

ASUSE serves as a key data source for the estimation of GVA in the unincorporated sector of the economy (excluding agriculture and construction). The survey covers enterprises operating outside the corporate and registered institutional framework, including proprietary and partnership establishments, co-operatives, quasi-corporations, society, trust, self-help groups and private non-profit institutions including non-profit institutions serving households etc. engaged in manufacturing, trade, and various service activities.

The survey collects detailed establishment-level data on parameters such as gross receipts, operating expenses, intermediate consumption, employment, fixed assets, compensation to workers, and entrepreneurial income. These data are used to estimate output and value added generated by different economic activities in the unincorporated sector. In the context of GVA estimation, ASUSE enables the compilation of value-added per worker, GVA to output ratio, GVA to compensation to workers ratio for various industries classified according to the NIC 2008.

(ii) Periodic Labour Force Survey

PLFS is an important data source for workforce estimation for measuring economic activity. The survey provides comprehensive information on labour force participation across institutional sectors, workforce distribution, employment status, industry of work and occupation across rural and urban areas.

8.2.3 Methodology of GVA estimation

Though quasi-corporations and cooperatives are considered under non-financial private corporations while disseminating estimates of National Accounts, methodology and data sources of GVA compilation of quasi-corporations and cooperatives is same as that of household sector. The estimation of GVA for the household sector (including all types of enterprises mentioned in para 8.2.2(i)) has been done using establishment level GVAPW information from ASUSE and worker level data from PLFS.

8.2.3.1 Estimation of GVAPW from ASUSE

The surveyed enterprises, fall within the scope of the unincorporated sector, have been considered for GVA estimation purpose. The estimation framework covers market establishments, including non-profit institutions that derive the major part of their receipts from the sale of goods and services rather than from donations or grants. Establishments functioning solely as headquarters, as well as purely non-market establishments, have been excluded from the estimation process.

Establishments have been classified by type of ownership to ensure consistency with the institutional coverage adopted in national accounts. The ownership categories included for the compilation of Gross Value Added per Worker (GVAPW) comprise proprietary concerns, partnership firms, cooperative societies, self-help groups, trusts, societies, clubs, associations,

bodies of individuals, and other membership organisations. These ownership categories together capture the broad spectrum of unincorporated enterprises engaged in economic activity.

ASUSE and PLFS survey results reveal that reported earnings of own-account workers in PLFS appeared higher than the GVA levels reported for corresponding OAEs in ASUSE, suggesting possible under-reporting of output or value added by OAEs. Hence, establishments in ASUSE classified as hired-worker enterprises, with at least one hired worker employed on a fairly regular basis, have been considered for compilation of GVA estimates for the unincorporated sector.

Establishments from ASUSE have been segregated by excluding establishments with implausible productivity values (*viz.*, negative GVA or GVA per worker lower than recorded wage payments). This was intended to obtain a more stable and consistent estimate of productivity from economically viable establishments, before applying it to PLFS workforce estimates.

The eligible establishments have been mapped to appropriate Compilation Categories (CCs) and identified as household enterprises, cooperatives, and quasi-corporations, which constitute the basic framework used for estimation. Over the years, the GVA shares of cooperatives, quasi-corporations and household establishments have been derived at the Compilation Category (CC) level, with due consideration to any discernible trends emerging from ASUSE data. Gross Value Added per worker (GVAPW) for different compilation categories have been compiled separately for rural and urban sectors.

8.2.3.2 Estimation of workforce from PLFS

The estimation of workforce using PLFS data begins with the classification of each surveyed individual according to employment status. In PLFS, each individual is assigned an activity status based on established reference periods, *viz.* the usual status (principal and subsidiary status) and the Current Weekly Status. For the purpose of annual GVA estimation, workforce estimates have been derived using usual status (principal and subsidiary status), as it captures the economic activity of persons over a relatively longer reference period and therefore provides more stable and representative estimates of employment.

Within the usual status framework, persons have been identified as employed if they are engaged in one of the following categories of work: own-account workers in household enterprises, employers in household enterprises, unpaid family workers (helpers) in household enterprises, regular salaried or wage employees, and casual wage labourers in other types of work. These categories together encompass both self-employed and hired workers and provide comprehensive coverage of the workforce associated with unincorporated sector.

After identifying the relevant worker population related to unincorporated sector, each individual is classified to an industry group according to the National Industrial Classification (NIC 2008). Workers engaged in enterprises with ownership types such as proprietary concerns, partnership firms, cooperative societies, trusts and other non-profit institutions, and other unincorporated organisational firms are treated as part of the unincorporated workforce. This step ensures that only those workers associated with eligible unincorporated enterprises are included in the

estimation process. Table 8.1 shows the concordance between type of worker in ASUSE and status of worker in PLFS.

Table 8.1: Concordance between type of worker in ASUSE and status of worker in PLFS

Type of worker in ASUSE	Status of worker in PLFS
Working owner (781)	Worked in HH enterprise (self-employed): own account worker (11), employer (12)
Formal hired worker (782)	Worked as regular salaried/wage employee (31)
Informal hired worker (783)	Worked as casual wage labour in other types of work (51)
Unpaid family member (784), other workers (including helper/ apprentice/ intern, etc.) (785)	Worked as helper in HH enterprise (unpaid family worker) (21)

8.2.3.3 Compilation of Estimates of GVA by Labour Input (LI) method

Compilation category-wise Gross Value Added for the unincorporated sector have been derived using Labour Input (LI) method with GVAPW estimated separately for rural and urban areas, from ASUSE and corresponding workforce from PLFS, duly adjusted using projected population published by Ministry of Health & Family Welfare, using the formula:

$$GVA = \{GVAPW(Rural) \times Workforce(Rural)\} + \{GVAPW(Urban) \times Workforce(Urban)\} \dots\dots\dots(8.1)$$

GVAPW: from ASUSE

Workforce: from PLFS adjusted for projected population

Aggregating over compilation categories and areas, final GVA of unincorporated sector have been estimated. However, while estimating GVA at compilation category level, it was decided by the Advisory Committee that three years moving average of GVAPW from ASUSE may be used to avoid sampling fluctuations, wherever necessary (except in base year).

8.2.3.4 Compilation of Compensation of Employees (CE) and Gross Value of Output (GVO) for the unincorporated sector

In the new series with base year 2022–23, estimates of Compensation of Employees (CE) and Gross Value of Output (GVO) for the unincorporated sector have been derived using compilation category level ratio of CE and GVO with GVA as obtained from ASUSE. Under this approach, the ratios of CE to GVA and GVO to GVA, computed from ASUSE data, have been applied to the estimated GVA (as mentioned in para 8.4.3) to obtain corresponding estimates of CE and GVO.

8.3 Limitations

GVA estimation is based on GVAPW estimates derived from ASUSE for different Compilation Categories (combinations of NIC codes), with establishment selection in the survey being undertaken at a relatively aggregated level. Consequently, the representation of individual industries may vary across Compilation Categories. Further, as both GVAPW and workforce

estimates are based on survey information, the estimates may be influenced by the inherent variability associated with survey-based estimation and reporting.

Table 8.2 shows the estimates of GVA of household sector, including household enterprises and NPISH, for the year 2022-23 as per 2011-12 series and 2022-23 series at current prices.

Table 8.2: Estimates of GVA of household sector (including household enterprises and NPISH) for the year 2022-23 as per 2011-12 series and 2022-23 series at current prices

(in Rs crore)

Industry	Households including NPISH		
	2011-12 series	2022-23 series	% Difference
Agriculture, livestock, forestry & fishing	42,73,074	45,80,296	7.2
Crops	22,65,455	27,91,359	23.2
Livestock	13,63,101	11,79,869	-13.4
Forestry & logging	3,21,552	3,67,973	14.4
Fishing and aquaculture	3,22,966	2,41,095	-25.3
Mining & quarrying	1,39,961	1,48,182	5.9
Manufacturing	4,69,397	5,16,367	10.0
Electricity, gas, water supply & remediation and other utility services	46,650	19,900	-57.3
Construction	17,12,383	12,36,730	-27.8
Trade, repair, hotels and restaurants	15,61,107	11,46,412	-26.6
Trade & repair services	14,16,588	9,77,084	-31.0
Hotel & restaurant	1,44,519	1,69,327	17.2
Transport, storage, communication & services related to broadcasting	6,14,087	5,43,525	-11.5
Railways	-	-	-
Road transport	5,66,916	5,14,955	-9.2
Water transport	2,470	571	-76.9
Air transport	-	-	-
Services incidental to transport	8,616	12,150	41.0
Storage	2,134	3,367	57.8
Communication & services related to broadcasting	33,951	12,482	-63.2
Financial services	-	-	-
Real estate, ownership of dwellings & professional services	16,52,691	20,05,112	21.3
Public administration & defence	-	-	-
Other services	4,42,064	4,24,730	-3.9
Total	1,09,11,414	1,06,21,255	-2.7

Industry-wise Estimates

CHAPTER 9

AGRICULTURE

9.1 Coverage

The agriculture sector encompasses a range of activities related to crop cultivation, livestock production, allied services and irrigation, which together form an important component of the national economy. This chapter presents the methodology adopted for the estimation of output and value added of the agriculture sector in the National Accounts. Further, the sector recognises the economic production of crops and livestock controlled, managed and undertaken under the responsibility of all institutional units.

According to National Industrial Classification (NIC) 2008, the agriculture sector includes crop and animal production, hunting and related service activities. These are covered under NIC 2008 codes - 011, 012, 013, 014, 015, 016 and 017. Major economic activities included in the sector are:

- (i) growing of perennial and non-perennial crops,
- (ii) animal production involving raising and breeding of different species of animals,
- (iii) production of animal products (*viz.* milk, raw wool, eggs, silk, honey and beeswax),
- (iv) growing crops combined with farming of animals (mixed farming). If either production of crops or animals in a given unit exceeds 66 per cent or more of standard gross margins, the combined activity is not included here but allocated to either crop or animal farming.
- (v) support activities related to crop or animal production, including post-harvest crop activities,
- (vi) hunting, trapping and related service activities etc.

The sector also includes operation of irrigation systems, involving the supply of water to farmers through Government irrigation systems. In addition, it covers ancillary activities such as *gur* making, transportation of agricultural produce, rental income from farm assets, and interest on agricultural loans. Veterinary services associated with livestock activities are also included.

9.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

The estimates of Gross Value of Output (GVO) and Gross Value Added (GVA) for the agriculture sector are compiled separately for the crop, livestock and irrigation sub-sectors. For the crop and livestock sectors, GVO is estimated primarily using production and price data, supplemented by estimated prices, value per hectare, conversion and yield rates, and other specific estimation procedures wherever required. GVA is derived using the production approach by valuing output and by-products at producer prices and deducting the value of intermediate inputs at purchasers' prices. For the operation of Government irrigation systems, GVA is estimated using the income approach. The detailed data sources and methodology followed for each sector are presented below.

9.2.1 Crop sector

The crops considered for compilation of Gross Value Added (GVA) of this sector are broadly classified into 14 broad groups *viz.* (i) cereals, (ii) pulses, (iii) oilseeds, (iv) sugars, (v) fibres, (vi) spices and condiments, (vii) fruits, (viii) vegetables, (ix) drugs and narcotics, (x) indigo, dyes and tanning material, (xi) floriculture, (xii) by-products, (xiii) crops produced in kitchen garden and (xiv) other crops.

9.2.1.1 Data sources

(a) Data sources for output related to crop production

(i) The primary source of crop-wise area and production data at State level is Ministry of Agriculture and Farmers Welfare (M/o Ag&FW), while information on some state specific crops is reported by corresponding State Directorate of Economics and Statistics (DES). Prices of all crops are reported by State DES.

(ii) Area and production data of certain crops *viz.* tea, coffee, cocoa, areca-nut, rubber, cashew nut, are available from their respective commodity boards and that of opium is obtained from Central Bureau of Narcotics.

(iii) Quantity of paddy produced is derived using a multiplying factor of 1.5 to production of rice as available from M/o Ag&FW. The output data provided by the Tea Board pertains to the production of processed tea, which falls outside the scope of the agriculture sector. Since output of raw tea leaves is relevant for inclusion in the crop sector, it is necessary to derive this from the available data. As per the practice followed in existing series based on Techno-Economic surveys conducted by Tea Board, a normative ratio of 4.44 is applied for conversion of processed tea into raw tea leaves.

(iv) State-wise procurement prices and quantities of paddy and wheat procured are available from Department of Food and Public Distribution, Ministry of Consumer Affairs, Food and Public Distribution. State-wise quantity of sugarcane crushed by sugar factories are provided by Directorate of sugar and vegetable oils, Ministry of Consumer Affairs, Food and Public Distribution.

(v) For compilation of value of by-products, Cost of Cultivation Survey (CCS) launched by M/o Ag&FW in 1970–71, is used.

(b) Data sources for input related to crop production:

(i) Seed: The Cost of Cultivation Survey (CCS), launched by the Ministry of Agriculture and Farmers Welfare in 1970–71, provides annual data on seed rates (value per hectare) for major crops. For the 2022–23 series, seed-rate data from CCS are available for paddy, wheat, *jowar*, *bajra*, barley, maize, *ragi*, gram, *arhar*, *urad*, *moong*, lentil, safflower, sesamum, soyabean, sunflower, groundnut, niger seed, rapeseed and mustard, cotton, onion, potato and jute. These data are supplemented with information on seed expenditure from the Situation Assessment Survey

(SAS) of Agricultural Households conducted by NSS, MoSPI in 2019. State-wise seed values per hectare for certain fruits and vegetables are compiled from SAS 2019 and adjusted using relevant price indices. The total value of seed used in the crop sector is estimated by applying the State-wise seed value per hectare derived from CCS and SAS to the corresponding crop area.

(ii) Pesticides: Estimates of consumption of pesticides and insecticides used as inputs in the crop sector is available state-wise based on annual data on quantities consumed and corresponding prices obtained from the Directorate of Plant Protection, Quarantine & Storage, Ministry of Agriculture and Farmers Welfare. The value of pesticides and insecticides is estimated by multiplying quantities by the respective prices, and the resulting estimates are incorporated in the assessment of intermediate consumption for the crop sector.

(iii) Chemical fertilizers: State-wise estimates of consumption of chemical fertilizers are available from Fertilizer Association of India. The consumption of chemical fertilisers is valued using the corresponding retail prices reported by the same source and incorporated as intermediate consumption of the crop sector.

(iv) Organic manure: Organic manure is represented by dung manure, as separate estimates for other forms of organic manure are not available. The quantity of dung produced by the livestock sector, excluding the portion used for preparing dung cakes for fuel purposes, is assumed to be entirely consumed as an input in the crop sector.

(v) Electricity: Data on state-wise consumption of electricity for agricultural purposes are obtained annually from the Central Electricity Authority (CEA). Corresponding average tariff or price per unit of electricity is reported by State DES, after considering Government subsidy, if any. The value of electricity used in crop cultivation is estimated by multiplying the quantity of electricity consumed for agricultural purposes by the applicable subsidized price per unit. These state-wise estimates are then aggregated to derive the total expenditure on electricity as an input in crop production.

(vi) Diesel oil: Consumption of diesel oil in the crop sub-sector is estimated based on the number of tractors and diesel engines in use and their respective per-unit consumption norms. Data on the number of tractors are obtained from the Ministry of Agriculture and Farmers Welfare, while the number of diesel engines was estimated based on information from the Livestock Census (LC) conducted in 1997 and 2003. As data on the number of diesel engines are not available from the latest Livestock Census or any other relevant source, the number of diesel engines estimated up to 2015–16 has been retained for subsequent years. For the new series with base year 2022–23, the per-unit diesel consumption norms for tractors and diesel engines, along with the price of diesel oil, have been updated using information from the Cost of Cultivation Studies (CCS). For subsequent years, the per-unit diesel consumption norms are applied to the number of tractors and diesel engines used in agriculture, with the number of tractors updated annually based on the latest available data, while the number of diesel engines is retained at the level estimated for 2015–16.

(vii) Feed of livestock: The feed consumed by animals used for crop cultivation and to produce livestock and livestock products comprises dry fodder, green fodder and concentrates, including

salt, medicines and other miscellaneous feed. Since feed is an input common to both the crop and livestock sub-sectors, its estimation and allocation are discussed under the input data sources for the crop sub-sector.

In the 2011–12 series, daily feed requirements were estimated separately for different livestock categories, namely cattle, buffalo, goat, sheep, pig, poultry and other animals. For the 2022–23 series, in the absence of updated feed rates, available studies and reports were examined to revise the feed requirements. The feed rate for cattle used in the 2011–12 series was apportioned between indigenous and crossbred cattle based on the category- and species-wise feed rates reported in the *Assessment of Livestock Feed and Fodder* study conducted during 2018–19 by the Agricultural Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bengaluru, under the aegis of the Ministry of Agriculture and Farmers Welfare.

The feed consumption rates for all livestock categories and species were subsequently adjusted based on State-wise production of fodder and grass. The total production of fodder and grass in the agriculture sector has been assumed to be consumed by the livestock population. Accordingly, the estimated consumption of green fodder was aligned with the availability of grass and green fodder in each State, and the quantities of dry fodder and concentrates were adjusted proportionately while retaining their respective shares in total feed consumption at the levels prevailing in the 2011–12 series. The updated feed quantities were valued using the prices adopted in the 2011–12 series, adjusted using the Output Producer Price Index with base year 2022–23.

Distribution of livestock feed between the crop and livestock sub-sectors: For allocating livestock feed between the two sub-sectors, it is assumed that the feed used for crop production represents a share of the total feed consumed by adult male cattle and buffalo. This share is estimated using the category-wise information on the use of adult male cattle and buffalo available from the Livestock Census. The use categories reported in the Livestock Census are as follows:

- i. Used for breeding only
- ii. Used for agriculture only
- iii. Used for agriculture and breeding only
- iv. Used for bullock cart/farm operations
- v. Others

For better coverage and appropriate allocation of feed consumption between the crop and livestock sub-sectors in the new series, the adult male cattle and buffalo population used for crop and livestock activities has been bifurcated as follows:

$$\text{For livestock sector: category (i) + category (iii) * } \frac{\text{category (i)}}{\text{sum of categories (i) and (ii)}} \dots\dots\dots(9.1)$$

$$\text{For crop sector: category (ii) + category (iv) + category (v) + category (iii) * } \frac{\text{category (ii)}}{\text{sum of categories (i) and (ii)}} \dots\dots\dots(9.2)$$

In addition to cultivated fodder, grass and crop residues, livestock obtain a portion of their fodder through grazing and other activities in forest areas. To account for this component, estimates of fodder availability and consumption from forest sources have been incorporated in the current series based on the study titled *Assessment of Dependence of Inhabitants of Forest Fringe Villages*

(FFVs) on Forests for Fuelwood, Fodder, Small Timber & Bamboo: Quantified Estimation of Removals, conducted by FSI during September 2018 to June 2019. The study indicates that around 42% of the livestock population is dependent on forest areas for fodder and roughages. It covers various sources of fodder, including grazing in forest and outside forest areas, stall-feeding using forests, market and own-farm sources, and lopping from forests. State-wise annual quantities of fodder collected by inhabitants of FFVs, along with fodder consumption by different livestock species, have been incorporated in the estimates.

(viii) Market charges: These charges represent the expenses borne by the producer/seller in connection with the sale of agricultural produce in the market. Since the prices of agricultural commodities used for compiling Gross Value of Output (GVO) are generally based on mandi arrival prices, such market-related expenses are included as intermediate consumption in the crop sector. In the 2011–12 series, market charges were estimated at a uniform rate of 3.22% of the value of crop output, based on the Market Margin Study conducted by the Ministry of Agriculture and Farmers Welfare for 2004–05.

For the 2022–23 series, to ensure greater uniformity, consistency and comparability in the estimation of market charges, States were requested to report producer/farmer expenses incurred in selling agricultural produce under the following heads: weighment; cleaning/threshing; transportation; commission to middlemen, where borne by the farmer; stitching and bagging; loading and unloading; and milling charges, where milling is required before sale and the cost is borne by the farmer/producer. For States reporting crop-wise market charges, the reported charges have been used for estimating market charges for the crop sector. For the remaining States, the existing rate of 3.22% of total crop sector GVO has been retained for the 2022–23 series.

(ix) Repair and maintenance: The crop sector utilizes a variety of fixed assets in the production process, including (i) agricultural implements, machinery and transport equipment, (ii) farm houses, barns and cattle sheds, (iii) orchards and plantations, (iv) bunding and other land improvements, (v) wells, and (vi) other irrigation infrastructure. Estimates of expenditure on current repairs and maintenance (R&M) of these assets are compiled as part of the intermediate consumption of the crop sector.

For fixed assets other than agricultural implements and machinery, benchmark estimates of R&M expenditure are derived from the data available in the All-India Debt and Investment Survey (AIDIS) separately for rural and urban areas. The benchmark estimates are extrapolated to other years using appropriate price indices for rural and urban construction activities, specifically the index of cost of ‘other construction works’, to obtain current-price estimates. The resulting estimates are incorporated under intermediate consumption while compiling the Gross Value Added (GVA) of the crop sector.

(x) Irrigation charges: Irrigation charges constitute an important component of intermediate consumption in the crop sector. State-wise annual data on irrigation charges payable by farmers for the use of water supplied through Government-owned canals and other public irrigation systems are derived through an analysis of the State budget documents. This data generally

includes receipts from (i) sale of water for irrigation purposes, (ii) irrigation cess (iii) local cess on water charges, (iv) betterment levy, and (v) other irrigation-related charges.

9.2.1.2 Methodology for Estimation at Current Prices

The GVA of the Agriculture sector is estimated using the production approach. It is derived by valuing products, by-products and ancillary activities at producer prices and deducting the value of inputs consumed in the production process at purchasers' prices. For the operation of irrigation systems by the Government, GVA is estimated using the income approach. Irrigation activities undertaken by farmers are not separately estimated, as their output is reflected in the value of crop output and the associated expenditure is included in the overall input costs. The methodology used for estimating crop-wise GVO at current prices are presented below.

Method 1: When both production and price data are available ($GVO = \text{Production} \times \text{Reported Price}$)

GVO is estimated by multiplying quantity of production with the corresponding current-year price reported by the State/UT DES. Production data is mostly taken from Ministry of Agriculture & Farmers Welfare and some concerned boards/agencies. The crops for which GVO is estimated using this methodology are listed below:

i. Cereals: paddy, wheat, maize, *bajra*, barley, *jowar* and *ragi*

ii. Pulses: gram, lentil (*masoor*), *moong*, *arhar*, *urad*, horsegram (*kulthy*), kidney beans, peas (*matar*), *khesari*, *lobhiya* (cowpea), *moth* and chickpea (*chola*)

iii. Oilseeds: groundnut, rapeseed & mustard, safflower, sesamum, sunflower, soyabean, linseed, castor seed, coconut and niger-seed

iv. Fruits: almond, *amla*, apple, grapes, guava, litchi, mango, papaya, pineapple, pomegranate, sapota, strawberry, *ber*, dragon fruit, jackfruit, muskmelon, pear, peach, plum, *mosambi*, orange, lemon, walnut, watermelon, kiwi, custard apple, passion fruit and cashew-nut

v. Vegetables: beans, bitter gourd, bottle gourd, brinjal, cabbage, cauliflower, capsicum, carrot, cucumber, green peas, mushroom, okra, pointed gourd, pumpkin, radish, tomato, green chillies, elephant foot yam, potato, onion, sweet potato, tapioca, beetroot, broccoli, turnip, ash gourd, drumstick, snake gourd, cluster bean, taro and ridge gourd

vi. Sugar crops: sugarcane used as such and palmyra

vii. Fibre crops: cotton, jute, san-hemp and mesta

viii. Drugs & narcotics: *isabgol*, saffron, cocoa, tea, coffee, opium, areca-nut, tobacco leaf and betel leaves

ix. Condiments & Spices: *ajwain*, black pepper, cardamom, dry chilli, ginger, cinnamon, cloves, coriander, cumin, fennel, garlic, nutmeg, tamarind, turmeric, curry leaf, fenugreek and poppy seed

x. Cut flowers and spike flowers

xi. **Misc. crops:** rubber and *guar*-seed

Method 2: When production is available but price data are not available ($GVO = \text{Production} \times \text{Estimated Price}$)

When individual crop-wise prices are not available, GVO is estimated by multiplying the reported production with an estimated price. The estimated price is generally derived as a weighted average of prices of relevant crops for which separate price information is available in the State/UT. The crops for which GVO is estimated using this methodology are listed below:

i. **Small millets:** Production is obtained crop-wise from M/o Ag&FW. Prices are estimated as weighted average price of *jowar*, *bajra*, barley and *ragi*, with production quantity as weight.

ii. **Other pulses:** Production is obtained from M/o Ag&FW and prices are estimated as weighted average price of *arhar*, *urad*, *moong*, lentil and horse-gram, with corresponding production quantity as weights.

iii. **Other fruits and other citrus fruits:** Production is obtained from the M/o Ag&FW and price is estimated using the weighted average price of all fruits/citrus fruits for which separate price data are available in the State/UT.

iv. **Other vegetables:** Production is obtained from the M/o Ag&FW and price is estimated using the weighted average price of all vegetables for which separate price data are available in the State/UT.

Method 3: When both production and price data are not available ($GVO = \text{Area} \times \text{Value per Hectare (VPH)}$)

When both production and price data are not available, GVO is estimated by multiplying the area under the crop by the corresponding Value per Hectare (VPH). The VPH is derived from comparable crops in the reference year or is directly provided by the State/UT DES. The crops for which GVO is estimated using this methodology are listed below:

i. **Other Cereals:** Area from State DES; VPH = average VPH of *jowar*, *bajra*, barley and *ragi* in the reference year.

ii. **Other Oilseeds:** Area from State DES; VPH = average VPH of linseed, sesamum, castor seed, niger-seed and safflower in the reference year.

iii. **Other Sugars (excluding Palmyra):** Area from State DES; VPH = VPH of sugarcane and *gur* in the reference year.

iv. **Other Fibres:** Area from State DES; VPH = average VPH of san-hemp and mesta.

v. **Dyes and Tanning Material:** Area and VPH provided by the State/UT DES

vi. Other Condiments & Spices: Area from State DES; VPH = average VPH of dry chilli, ginger, cardamom and black pepper.

vii. Other Drugs & Narcotics: Area from State DES; VPH = average VPH of tobacco leaf, tobacco stem and opium.

viii. By-products: Area from M/o Ag&FW and VPH from the Cost of Cultivation Studies (CCS), M/o Ag&FW, for crops for which information is available.

ix. Miscellaneous Food and Non-food Crops: Area and VPH provided by the State/UT DES.

Method 4: Particular Cases

Certain crops/items require specific estimation procedures based on studies, surveys, conversion rates, yield rates or consumption information, instead of the aforementioned approaches. The crops for which GVO is estimated using this methodology are listed below:

i. Fodder and Grass

State-wise fodder production is estimated using the average productivity of Kharif and Rabi green fodder and the corresponding area, while grass production is estimated using the area under permanent pastures and other grazing land and the average grass productivity. GVO is subsequently obtained by applying State DES prices.

ii. Tobacco Stem

Production of tobacco stem is estimated as 86.63% of tobacco leaf production, with production of tobacco leaves obtained from M/o Ag&FW. The price of tobacco stem is taken as 50% of the price of tobacco leaves. GVO is calculated by multiplying the total volume of production by its corresponding market price.

iii. Gur and Bagasse

$Gur\ production = Total\ quantity\ of\ sugarcane\ produced \times percentage\ of\ sugarcane\ used\ for\ gur\ production \times conversion\ rate\ of\ gur$

Conversion rate of gur is state-specific for Karnataka, Maharashtra, and Tamil Nadu, as derived from studies, while national average is used for other states.

$GVO\ of\ gur = total\ gur\ produced \times price$

$Production\ of\ bagasse = Quantity\ of\ sugarcane\ used\ for\ gur\ production \times yield\ rate\ of\ bagasse$

Yield rate of bagasse is state-specific for Karnataka, Maharashtra, and Tamil Nadu, as derived from studies, while national average is used for other states.

$GVO\ of\ bagasse = total\ bagasse\ produced \times price$

iv. Toddy

Value of toddy is estimated following consumption approach, using Monthly Per Capita Expenditure (MPCE) on toddy from HCES 2022-23 and 2023-24 and State-wise projected

population. MPCE as derived from HCES 2023-24 to be continued until the results of the next HCES become available. GVO is estimated as $\text{MPCE} \times 12 \times \text{projected population}$.

v. Kitchen Garden (Backyard)

Area under kitchen garden = Net Sown Area from Land Use Statistics, M/o Ag&FW $\times$ State-wise percentage share of kitchen garden area obtained from All India Debt and Investment Survey, 2019. GVO is estimated by multiplying the estimated area with current-year VPH of fruits and vegetables.

9.2.1.3 Methodology for Estimation at Constant Prices

At constant prices, the GVO of the crop sector is generally estimated by valuing the current-year quantity of production at base-year (2022–23) prices. Where production is available but crop-specific price data are not available, the current-year production is valued using the corresponding base-year estimated price, generally derived as a weighted average of the base-year prices of relevant crops. Where both production and price data are unavailable, the current-year area is multiplied by the base-year Value per Hectare (VPH), derived from comparable crops or provided by the State/UT DES. For crops requiring specific estimation procedures, such as fodder and grass, *gur* and bagasse, *toddy* and kitchen gardens, the respective production, conversion, yield, consumption or area-based methodology is applied using base-year prices or VPH, as appropriate.

9.2.2 Livestock sector

9.2.2.1 Data sources

(a) Data sources for output related to livestock sector:

(i) Integrated Sample Survey: To meet the growing requirement for reliable, comprehensive, and seasonally representative statistics on livestock production, the Ministry of Fisheries, Animal Husbandry and Dairying, Government of India implements the Integrated Sample Survey (ISS) under the centrally sponsored scheme “Livestock Census and Integrated Sample Survey.” The scheme aims to strengthen the statistical capabilities of the Animal Husbandry and Veterinary Departments of States and Union Territories for the regular estimation of major livestock products such as milk, eggs, meat, and wool, as well as related herd and flock characteristics and management practices.

Under the scheme, annual sample surveys are conducted across all states and union territories during three distinct seasons - summer, rainy, and winter – covering the entire year. Data are collected from selected rural villages and urban wards. The surveys gather detailed information on milk production, including milk yield, feed consumption, production and disposal of milk and milk products, and bovine management practices etc. For poultry, data are collected on egg production, procurement and disposal, feed usage, breed composition, and management practices etc. In the case of sheep, information is obtained on flock size, wool production and disposal, feeding and grazing patterns, diseases, mortality, and husbandry practices. For meat production,

survey records the number of animals slaughtered by species, breed, and age, along with live and carcass weights.

Ministry of Fisheries, Animal Husbandry and Dairying regularly publishes state-wise and all-India estimates of milk, meat, egg, and wool production in its annual publication, *Basic Animal Husbandry Statistics (BAHS)*.

Livestock Census (LC): Livestock Census (LC) conducted quinquennially is another major source of data on livestock. LC provides age-wise and sex-wise data at the district level on a number of different categories of animals separately for urban and rural areas. The estimates for inter-censal and post-Census years are arrived at based on compound growth rate observed for each category between two consecutive Censuses. The latest Livestock Censuses used are 19th LC (2012) and 20th LC (2019).

Other sources: Data on silk production is reported by State DES while that of honey is received from M/o Ag&FW.

For purpose of estimation of value of output, the livestock products are divided into 7 broad groups viz., (i) milk, (ii) meat group, (iii) eggs, (iv) wool and hair, (v) dung, (vi) silkworm cocoons & honey, and (vii) increment in livestock.

(i) Milk group: The milk group includes milk consumed or sold in liquid form, as well as ghee, butter, and lassi produced by household producers. Since only a small proportion of milk is typically processed into these products by producer households, and the processed products are largely retained for household consumption, total milk production is valued as if it were consumed or marketed in its liquid form. Estimates of milk production published by the Department of Animal Husbandry and Dairying (DAHD) and prices provided by State DES are used to estimate the value of output. These estimates are primarily based on data collected through the Integrated Sample Survey (ISS). Production of camel milk is estimated using production and prices received from State DES (Rajasthan, Gujarat & Haryana).

(ii) Meat group: It comprises meat, including edible offal, glands and poultry meat; meat products such as fat, heads and legs; and by-products such as hides, skins, guts, blood, bones, horns and hoofs. Production of meat, excluding poultry meat, is obtained from the Department of Animal Husbandry and Dairying (DAHD), while corresponding prices are sourced from the State Directorates of Economics and Statistics (DES). For poultry meat, the poultry population is obtained from the Livestock Census (LC) 2012 and 2019, while production of poultry meat and prices of birds for meat are obtained from DAHD and State DES, respectively. The proportions used for estimating meat products and by-products are based on the study conducted by the National Research Centre on Meat (NRCM) during 2013–14.

(iii) Eggs: Estimates of egg production are obtained from the Integrated Sample Survey (ISS) conducted by the DAHD. Price data are sourced from state DES. The value of output of hen eggs at current prices is estimated by multiplying the current year's production by the corresponding current-year producer prices.

For duck eggs, production estimates are based on ISS data wherever available. In states and union territories not covered by the ISS for duck eggs, production is estimated as a fixed proportion of hen egg production, namely 3.5% in Gujarat and 3.0% in Goa, Mizoram, and Daman and Diu and Dadra and Nagar Haveli. The value of output is obtained by multiplying the estimated production by the relevant producer prices.

(iv) Wool and Hair: Estimates of wool production are obtained from the Department of Animal Husbandry and Dairying (DAHD), while the corresponding prices are sourced from the State Directorates of Economics and Statistics (DES). For camel hair and goat hair, livestock population data are obtained from the Livestock Census (LC), and the number of slaughtered pigs for estimation of pig bristles is obtained from DAHD. Yield rates for goat hair are based on reports of the Directorate of Marketing and Inspection (DMI), while the yield rates for camel hair and pig bristles are 800 grams per single-humped camel per year and 155 grams per pig per year, respectively. Prices are obtained from the State DES.

(v) Dung: Data on livestock population by species and the corresponding evacuation rates are used for estimating total dung production. Information on dung utilisation rates for fuel and manure purposes is also used for estimating the respective components.

(vi) Silkworm cocoons and honey: Production of silkworm cocoons by types, viz. mulberry, *tussar*, *eri* and *muga*, and prices of silk are obtained from state DES. Production of honey is obtained from M/o Ag&FW, and prices reported by state DESs. Value of output is estimated as in the current year production multiplied by current year price.

(vii) Increment in livestock: Data on livestock population are obtained from the Livestock Census (LC) 2012 and 2019, while livestock prices are sourced from the State Directorates of Economics and Statistics (DES).

(b) Data sources for input items related to livestock sector:

(i) Feed of livestock: Detailed methodology for updating feed of livestock in 2022-23 series is given in para 9.2.1.1(b)-(vii).

(ii) Market Charges for Livestock: Data on the number of animals slaughtered are obtained from the Department of Animal Husbandry and Dairying (DAHD), while information on slaughter charges prescribed by municipal corporations is obtained from the respective State Directorates of Economics and Statistics (DES). For States reporting State-specific slaughter charges, the corresponding rates are applied to the respective species. For States for which updated information was not available for the 2022–23 series, the national average rate is applied. At current prices, market charges are estimated by multiplying the prevailing municipal charge per slaughtered animal by the corresponding number of animals slaughtered. The applicable charge rates are retained unchanged until revised by the respective State Governments.

(iii) Repair & maintenance: Benchmark estimates of expenditure on repairs and maintenance of barns, animal sheds and other miscellaneous assets are derived from the All India Debt and Investment Survey (AIDIS), 2013. For current-price estimates, these benchmark values are

extrapolated using the estimates of capital stock of farm business at current prices. In addition, operational costs are estimated at 0.25% of the value of output of major livestock products, comprising milk, poultry meat, skins and hides, eggs, wool, silk, honey and livestock increment. These estimates are included under intermediate consumption.

9.2.2.2 Methodology for Estimation at Current Prices

The output value of livestock products is estimated using the production approach. For most livestock products, output is calculated by multiplying quantity produced during the current year by the corresponding current-year prices. Corresponding sources have been discussed in Section 9.2.2.1 along with sources of output. Price information is primarily collected from state DESs. Where direct production data are unavailable, output is estimated using specific coefficients, rates, and ratios derived from relevant studies and surveys, as described under the respective product categories. The Gross Value Added of the livestock sector is derived by deducting intermediate consumption from the value of output. Detailed methodology for compilation of item-wise GVO is given as follows.

Method 1: When both production and price data are available $GVO = \text{Production} \times \text{Price}$

GVO is estimated by multiplying production with the corresponding current-year price. Production is primarily obtained from DAHD/BAHS, State DES and other relevant agencies. The items for which GVO is estimated using this methodology are milk, hen eggs, duck eggs, meat, wool, silk, honey and bee wax.

For states not covered under ISS for duck eggs, production is estimated as 3% of hen eggs for Goa, Mizoram, Dadra & Nagar Haveli and Daman & Diu and 3.5% for Gujarat.

Method 2: Estimation using rates and ratios

Certain livestock products and by-products are estimated using rates/ratios derived from studies or DMI reports, along with population from livestock census and state-reported prices. The items for which GVO is estimated using this methodology are

i. Meat products and by-products: The value of meat products and by-products is estimated as a percentage of the value of meat at current prices. The proportions adopted for cattle, buffalo, goat, sheep and pig are 16.0%, 14.49%, 21.59%, 23.05% and 9.4%, respectively.

ii. Hides/skins from fallen animals: In addition to slaughtered animals, hides and skins obtained from fallen animals are also valued. The mortality rates used in the 2011–12 series, as derived from reports of the Directorate of Marketing and Inspection (DMI), have been retained for the 2022–23 series and applied to the estimated livestock population based on the 2012 and 2019 Livestock Censuses. Value of hides/skin = mortality rate $\times$ population $\times$ price of hide/skin per fallen animal.

iii. Fat from fallen animals: Similarly, value of fat from fallen animals = mortality rate from DMI reports $\times$ population $\times$ yield rate $\times$ price.

iv. Camel hair, goat hair and pig bristles: The value of wool output is estimated by multiplying annual wool production by the corresponding current-year price. For camel hair, goat hair and pig bristles, output is estimated using the respective yield rates and livestock population or number of slaughtered pigs, as applicable.

The value of output is estimated as follows:

Value of Output = yield rate × relevant population/number of animals slaughtered × Current-year price

Method 3: Particular estimation procedures

i. Poultry meat

Poultry meat GVO is estimated separately for (a) chickens and ducklings killed, (b) adult fowls killed, (c) adult ducks killed and (d) other poultry killed, using poultry population, egg production and category-specific rates, along with the corresponding prices per bird.

ii. Dung fuel and dung manure

Total dung production is estimated by multiplying the livestock population of each species by the corresponding evacuation rate. The quantity of dung used for fuel purposes is estimated by applying the fuel-use rate (i.e. 0.40) to total dung production to derive the quantity used for making dung cakes and the resulting quantity is valued at current-year prices to estimate the value of dung used as fuel. The value of dung used as manure is estimated by applying the manure-use rate to total dung production and valuing the resulting quantity at current-year prices.

iii. Increment in livestock

Estimates of change in livestock are compiled separately for each livestock category at the State level. For intercensal years, annual livestock populations are derived by projecting the Census populations using the corresponding annual growth rates observed between the 2012 and 2019 Livestock Censuses. The annual net increase in livestock population is estimated as the difference between the projected populations of two successive years. The value of output arising from the addition to stock of livestock is then estimated by multiplying the net increase in livestock population by the prevailing price of the respective livestock category provided by State DES.

GVO of increment in livestock = additions to livestock population during the year × current-year price

9.2.2.3 Methodology for Estimation at Constant Prices

At constant prices, the GVO of the livestock sector is estimated by valuing current-year production quantities at base-year (2022–23) prices. For livestock products for which direct production data are available, the current-year production is multiplied by the corresponding base-year price. For products and by-products estimated using specific rates, ratios or coefficients, the relevant current-

year livestock population or production is combined with the applicable rate or ratio, and the resulting quantity is valued at base-year prices. For particular items such as poultry meat, dung fuel and dung manure, and increment in livestock, the respective estimation procedures are followed and the resulting output is valued at base-year prices.

9.3 Limitations

9.3.1 Limitations of crop sector

(i) For unspecified crops like 'other oilseeds', 'other cereals', 'other fibres', 'other drugs & narcotics' and 'other condiments and spices' etc., only area figures are available on an annual basis. The value of output of these crop groups are, therefore, estimated on the basis of area and value of output of related major crops in respective groups. The estimates for these 'other category' crops are comparatively less reliable. However, their respective share is quite small in crop sector.

(ii) The estimates of production of plantation crops like tea, coffee, cardamom, arecanut, cashew nut, cocoa and rubber are directly obtained from the respective boards on an annual basis. These are estimated by the boards on the basis of the returns received from the growers.

(iii) The farm output should ideally be valued at the price received by the producer at the first point of sale i.e at farm harvest price. M/o Ag&FW has clearly defined the farm gate price and the method of collection of the same. In practice, however, there is variation in price collection mechanism at State level. Hence, average annual price as reported by State DES is being used for compilation of GVO of crop sub-sector.

9.3.2 Limitations of livestock sector

(i) The results of the livestock census 2012 and 2019 provide state-level information on livestock population by age, sex, species and use category for various animals. However, annual estimates of livestock population are derived using intercensal growth rates. Such estimates may not adequately reflect unusual conditions that may have occurred in the intercensal years.

(ii) Estimates of meat production from different categories of animals are compiled using information supplied by the State Animal Husbandry Departments in Integrated Sample Surveys. However, these estimates have certain inherent limitations, particularly because they do not adequately cover the unregistered sector. In addition, poultry meat production is not directly estimated through these sources and is instead calculated using indirect estimation methods.

(iii) For the 2022–23 series, in the absence of updated species and category-wise feed rates, available studies were reviewed to revise these estimates. The cattle feed rate was apportioned between indigenous and crossbred cattle using species- and category-specific rates from the 2018–19 Assessment of Livestock Feed and Fodder study by ADRTC, Bengaluru. Feed consumption estimates for all livestock categories were then adjusted according to state-wise availability of fodder and grass, assuming that total fodder and grass production was consumed by livestock. Green fodder consumption was aligned with state-level availability, while dry fodder and concentrates were adjusted proportionately, maintaining their 2011–12 shares in total feed

consumption. In absence of state-wise prices of dry fodder, green fodder and concentrates 2011–12 prices have been updated using Output Producer Price Index with 2022–23 as the base year.

The estimates of GVA of Crop sector and Livestock sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at Table 9.1 and 9.2, respectively.

Table 9.1: Estimates of GVA of Crop sector for FY 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>				
S. No.	Items	2011-12 series	2022-23 series	% difference
Value of output				
1	Cereals	8,17,373	8,15,175	-0.3
2	Pulses	1,51,118	1,51,614	0.3
3	Oilseeds	2,82,814	2,84,884	0.7
4	Sugars	1,63,688	1,68,960	3.2
5	Fibres	1,54,869	1,57,280	1.6
6	Dyes & Tanning Material	210	206	-1.9
7	Drugs & Narcotics	82,090	1,35,837	65.5
8	Condiments & Spices	2,17,922	1,64,244	-24.6
9	Fruits	8,36,200	4,16,828	3.9
10	Vegetables		4,52,192	
11	Floriculture	47,548	47,243	-0.6
12	Other Crops ⁶	1,77,084	4,20,587	137.5
13	By Products	1,35,336	1,38,962	2.7
14	Kitchen Garden	12,575	29,075	131.2
Total Output		30,78,825	33,83,088	9.9
Value of input				
1	Seed	87,433	83,391	-4.6
2	Organic Manure	57,120	57,184	0.1
3	Chemical Fertilizers	66,875	56,479	-15.5
4	Repair & Maintenance	28,912	33,537	16.0
5	Feed of Livestock	34,510	36,296	5.2
6	Irrigation Charges	7,842	7,842	0.0
7	Market Charges	99,138	79,687	-19.6
8	Electricity	89,924	20,665	-77.0
9	Pesticides & Insect.	2,779	3,303	18.9
10	Diesel Oil	88,128	50,851	-42.3
11	FISIM	1,47,874	77,501	-47.6
Total Inputs		7,10,535	5,06,735	-28.7
GVA – crops		23,68,290	28,76,353	21.5
GVA – irrigation		45,999	52,772	14.7
GVA (including irrigation)		24,14,289	29,29,125	21.3

⁶ In 2011-12 series, mulberry and mushroom are removed from 'other crops' and included under fruits and vegetables.

Table 9.2 Estimates of GVA of Livestock sector for FY 2022-23 as per 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

S. No.	Items	2011-12 series	2022-23 series	% difference
Value of output				
1	Milk Group	11,23,554	11,23,450	0.0
2	Meat Group	4,21,535	4,21,599	0.0
2.1	Meat	3,91,423	3,91,602	0.0
2.1.1	Beef	39,479	39,524	0.1
2.1.2	Mutton	1,55,509	1,55,531	0.0
2.1.3	Pork	8,913	8,907	-0.1
2.1.4	Poultry Meat	1,87,522	1,87,641	0.1
2.2	Meat Product	14,784	14,788	0.0
2.3	By Products	15,328	15,208	-0.8
2.3.1	Hides	4,351	4,241	-2.5
2.3.2	Skins	5,030	5,018	-0.2
2.3.3	Other by-products	5,947	5,949	0.0
3	Eggs	60,189	60,209	0.0
4	Wool & Hair	614	579	-5.7
4.1	Wool	375	375	0.0
4.2	Hair and Bristles	239	204	-14.6
5	Dung	86,246	86,312	0.1
5.1	Dung fuel	29,126	29,128	0.0
5.2	Dung manure	57,120	57,184	0.1
6	Silkworm cocoons & honey	17,331	17,550	1.3
7	Increment in stock	24,949	25,027	0.3
Total Output		17,34,418	17,34,725	0.0
Value of input				
1	Market Charges	146	746	411.0
2	Repair & Maintenance	11,077	11,812	6.6
3	Feed of Livestock	3,57,457	4,89,314	36.9
4	FISIM	974	50,861	5,121.9
Total Input		3,69,655	5,52,732	49.5
GVA		13,64,763	11,81,992	-13.4

CHAPTER 10

FORESTRY AND LOGGING

10.1 Coverage

Forests play an important role in economic development and ecological balance of the country. They provide livelihood support to a large section of the population and are a significant source of biodiversity. The forestry and logging sector contributes to the economy through supply of industrial wood, fuel wood and non-timber forest products.

As per the National Industrial Classification (NIC) 2008, the forestry sector encompasses a range of activities classified under NIC Division 02. These include: (i) the cultivation and management of standing timber through planting, replanting, transplanting, thinning, and forest conservation, as well as the operation of tree nurseries; (ii) logging activities carried out by logging camps and workers engaged in felling trees and producing rough wood products such as pit props, split poles, pickets, hewn railway sleepers, and fuelwood; (iii) the collection of tendu leaves; (iv) the gathering of other naturally occurring forest products, including balata and similar gums, cork, lac, resins, balsams, vegetable fibers, eel grass, acorns, horse chestnuts, mosses, and fuelwood; (v) forestry support services such as timber surveying, timber valuation, forest fire control, forest management, afforestation, and reforestation; and (vi) logging-related services, including the transportation of logs within forest areas in connection with logging operations.

In addition, the sector covers the production of wood from trees outside forests (TOF), as well as the processing of timber and charcoal wood. The major forest products comprise industrial wood, such as timber, roundwood and pulpwood, and fuelwood, including fuelwood and charcoal wood. Other forest products include bamboo, fodder, sandalwood, honey and lichens. Production of field crops, including Jhum cultivation, and extraction of minor and major minerals in forests are covered under the agriculture and mining sectors, respectively.

10.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA)

The GVO of the forestry and logging sector is compiled by estimating the value of industrial wood from forests and trees outside forests, fuelwood, minor forest products and fodder from forests. The estimates are prepared at the State level using production and price data, administrative sources and indirect estimation methods, as applicable, and are subsequently aggregated to obtain the All-India estimates. GVA is estimated using the production approach, except for fuelwood, for which the consumption approach is followed. The value of intermediate inputs, including expenditure on transportation, water, electricity, fuel and repairs and maintenance, is deducted from GVO to derive GVA. State-wise input-output ratios are updated annually based on available expenditure and output data. The detailed data sources and methodology followed for each activity are presented below.

10.2.1 Data Sources

The output of the sector comprises industrial wood obtained from forests as well as trees outside forests, fuelwood, and non-timber forest products.

(i) **Industrial Wood:** The data on production and prices of industrial wood from forest areas are obtained from State DES. These data relate to recorded removals of forest produce. The production of industrial wood from trees outside forests is estimated using potential production and growth rates of growing stock assessed by Forest Survey of India (FSI). Prices of industrial wood from trees outside forests are obtained from respective DES based on surveys of registered saw mills.

(ii) **Fuelwood:** The estimates of fuelwood production are based on data on monthly per capita consumption of fuelwood obtained from Household Consumption Expenditure Survey (HCES) 2022-23 and 2023-24. Prices of fuelwood are obtained from state DES. The survey also records in addition to total consumption of fuelwood, consumption from market purchases and own sources of production.

(iii) **Non-timber Forest Product:** The value of non-timber forest products is based on data obtained from state DES. However, relevant quantity information is usually not available. The value of non-timber forest products could be the royalty figures or economic value derived from the royalty figures. In the case of fodder from forest, estimates are derived using state-wise dependence of livestock on forests as obtained from studies conducted by FSI.

10.2.2 Methodology for Estimation at Current Prices

The estimation of output is based on a combination of production data obtained from administrative sources and indirect estimation methods wherever direct data are not available. The Gross Value Added (GVA) from forestry and logging sector is estimated using the production approach, except for fuel wood where consumption approach is followed. This involves estimating the total value of output of forest products at producer prices. The estimates are prepared at the state level based on available data on production and prices and are subsequently aggregated to obtain all-India estimates. The state wise input output ratio is obtained from Central and State Government budget documents.

10.2.2.1 Value of Output

The methodology followed for estimates at current prices is as follows:

Industrial Wood from forests: The estimates of value of output of industrial wood are prepared by multiplying production with corresponding prices. The data on production and prices of industrial wood within forests relate to authorized removals from forests and are obtained from state DES. However, these recorded removals do not fully capture total production, as there are authorized but unrecorded removals and also, unauthorized removals of timber from forests by right holders and local inhabitants staying in the periphery of natural forests. To account for such

production, the value of unrecorded production is taken as 10% of recorded production. Thus, the value of output of industrial wood from forests is taken as 1.1 times the recorded value.

Industrial wood from Trees outside forests (TOF): The production of industrial wood from trees outside forests is available from biennial publication India State of Forest Report (ISFR) by FSI. The production of industrial wood from TOF is extrapolated in the intermittent year using state-wise CAGR of growing stock. Prices of industrial wood for TOF are being provided by state DESs from a survey conducted on registered sawmills. The total value of output of industrial wood is obtained by combining these components.

Non-Timber Forest Products (NTFP): Non-timber forest products include minor forest products (MFP) and fodder available from forests. Usually, components of MFP vary from state to state and item-wise information related to price and quantity are not available. Hence, direct value of MFP is being provided by states.

In respect of fodder from forests, it has been estimated in a study - ‘Assessment of Dependence of Inhabitants of Forest Fringe Villages (FFVs) on Forests for Fuelwood, Fodder, Small Timber & Bamboo: Quantified Estimation of Removals’ conducted by the FSI during September 2018 to June 2019 that around 42% of livestock population is dependent on forest areas for fodder/roughages. Various sources of fodder such as grazing (forest, outside forest), stall-feeding (forest, market and own farm) and lopping from forest were considered in the study of Forest Fringe Villages (FFV) conducted by FSI during 2018-19. State-wise estimated quantity of fodder collected annually by people living in FFVs have been estimated, along with fodder consumption for different livestock species. Accordingly, state-wise dependence of livestock on forest (both from grazing and stall feed) is available from this study which is applied to total fodder consumption of livestock to estimate the value of fodder obtained from forest sources.

Fuelwood: Fuelwood constitutes an important component of forest output and is estimated using the consumption approach. Prices are available from state DES. Monthly per capita consumption of fuelwood (in kg) is obtained from Household Consumption Expenditure Survey (HCES) conducted during 2022-23 and 2023-24. The estimated value of total consumption of fuelwood is based on the monthly per capita quantity consumed across states and sectors, combined with projected rural and urban population respectively, along with prices reported by state DES. From the household total consumption of fuelwood, actual estimates of value of output of agricultural by-products, viz., cotton sticks, arhar sticks, jute sticks etc., whose output has already been considered in the agriculture sector is subtracted. The resulting value represents value of output of fuel wood strictly from forest sources.

Note: - In the 2011-12 series, a fraction of 0.0764 was applied on value of output of fuelwood to incorporate consumption of fuelwood in different industries and funerals. This practice has been discontinued in the new series owing to the fact that aforementioned uses have already captured through industrial wood production and valuation.

10.2.2.2 Value of Input

Expenditure on transportation, water, electricity, fuel, and normal repairs and maintenance of fixed assets, among others, are considered as material inputs in the forestry sub-sector. In the case of forest areas operated by contractors, separate data on material and non-material inputs are not available. As state-wise information on expenditure towards the purchase of goods and services (including repairs and maintenance of fixed assets) as well as total value of forestry outputs are compiled annually, this information has been utilized to update and compile state-wise input–output ratios for the forestry sector on an annual basis, ensuring that estimates reflect current expenditure patterns and operational conditions.

10.2.3 Methods of Estimation at Constant Prices

The estimates at constant (2022–23) prices for the forestry and logging sector are prepared using appropriate methods such as volume/single extrapolation, depending upon the nature of availability of data for different components. The methodology followed for major components is as follows:

Industrial Wood from Forest: Base year constant price GVA estimates are extrapolated using quantum indices based on state-wise production (quantity) to derive constant price estimates for the current year.

Industrial Wood from Trees Outside Forest (TOF): Base year constant price GVA estimates are extrapolated using quantum indices based on state-wise production (quantity) to derive constant price estimates for the current year.

Fuelwood: A quantum index is derived by deflating the current year value of output using OPPI (“Fuelwood”). The base year constant price GVA estimates are then extrapolated using growth in the deflated output to obtain estimates at constant prices for the current year.

Minor Forest Products: A quantum index is derived by deflating the current year value of output using OPPI (“Other Forestry Products”). The base year constant price GVA estimates are then extrapolated using the growth in the deflated output to obtain constant price estimates.

Fodder from Forest: A quantum index is derived by deflating the current year value of output using OPPI (“Fodder”). The base year constant price GVA estimates are then extrapolated using the growth in the deflated output to obtain constant price estimates.

10.3 Limitations

The data on forestry sector are subject to limitations due to variations in reporting practices across states and time lag in availability of data. Estimates of non-timber forest products are often based on administrative data and may not fully capture actual production. Fuelwood estimates are derived indirectly using consumption approach. Estimates of production from trees outside forests and fodder from forest sources are based on periodic studies and require further strengthening for improved accuracy and coverage.

The estimates of GVA for Forestry Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at Table 10.1.

Table 10.1: Estimates of GVA of Forestry Sector for FY 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

S. No.	Items	2011-12 series	2022-23 series	% difference
Value of Output				
1	Industrial Wood	11,845	11,864	0.2
2	Industrial wood from Trees outside forests (TOF)	2,63,445	2,88,955	9.7
3	Fuelwood	82,546	62,735	-24.0
4	Minor Forest Product (MFP)	5,710	5,679	-0.5
5	Fodder from forests	48,008	84,799	76.6
Total Output		4,11,554	4,54,032	10.3
Value of Input				
1	Input	66,672	64,931	-2.6
2	FISIM	200	38	-81
Total Inputs		66,871	64,969	-2.8
Total GVA		3,44,683	3,89,062	12.9

CHAPTER 11

FISHERIES

11.1 Coverage

According to the National Industrial Classification (NIC) 2008, the fishing sector, classified under NIC Division 03, encompasses a broad range of activities. These include: (i) commercial fishing in oceans, seas, coastal regions, offshore waters and inland water bodies (such as rivers, irrigation canals, lakes, tanks, flooded fields, and other similar sources) involving the catching, trapping, and collection of fish; (ii) collection of marine resources such as natural pearls, sponges, corals, seaweeds, seashells, and algae; (iii) aquaculture activities, including fish farming, breeding, and rearing, as well as hatchery operations for finfish, shellfish, mollusks, aquatic plants, and oyster cultivation for food or pearl production; and (iv) support and service activities related to marine and freshwater fisheries, including services provided to fish hatcheries and aquaculture farms.

Following the recommendations of the System of National Accounts (SNA), production meant for self-consumption is also accounted for in national estimates, and therefore subsistence fishing undertaken in inland waters and artificial ponds has been incorporated within the sector's coverage. Similarly, fish processing activities such as salting and sun-drying are included because these tasks are largely carried out by the same households involved in commercial or subsistence fishing.

11.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

Gross Value Added (GVA) from fishing sector is estimated using the production approach. This involves estimation of total value of output at producer prices and deduction of intermediate consumption, used in production process, at purchasers' prices. The estimates are compiled at the State level and aggregated to obtain the national estimates. The detailed data sources and methodology followed for each activity are presented below.

11.2.1 Sources of Data

The primary source of data on fish production is the State Fisheries Departments (SFD). Fish production is classified into marine and inland sectors, including aquaculture and capture fisheries.

(i) Marine fish production

Estimates of production of fish from coastal marine sector are usually compiled, following a sampling design developed by the Central Marine Fisheries Research Institute (CMFRI), Kochi, through a sample survey in all the maritime states.

(ii) Inland fish production

Inland fish production is estimated using sampling of water bodies and fishing units based on established survey methods developed by Central Inland Fisheries Research Institute (CIFRI).

(iii) Input-output ratio

For the 2022-23 series, input-output ratios have been updated based on scientific studies conducted by Central Marine Fisheries Research Institute (CMFRI) for marine fisheries and Central Inland Fisheries Research Institute (CIFRI) for inland fisheries. Survey for estimating input cost of inland fisheries was conducted during 2019-21 with reference period of the data pertaining to 2019-20 while the study on marine fisheries was done during 2024-25.

11.2.2 Methodology for Estimation at Current Prices**Value of Output**

(i) Marine fish: The data on production of marine fish in raw form and corresponding prices are directly obtained from the state DES. The value of output is estimated by multiplying the production with the respective prices.

(ii) Inland fish: The data on production of inland fish in raw form and corresponding prices are directly obtained from the state DES. The estimates are prepared on the basis of market arrivals of fish or on the basis of surveys conducted in selected landing centers. The value of output is estimated by multiplying the production with the respective prices.

(iii) Prawns: The data on production of prawn fish in raw form and corresponding prices are directly obtained from the state DES. The value of output is estimated by multiplying the production with the respective prices.

(iv) Subsistence fishing: The data provided by the State DES generally include production from subsistence fishing for most States. For States where such data are not available, subsistence fishing is estimated at 12.5% of inland fish production, based on type studies conducted by select State Governments. This ratio has been retained in the 2022–23 series. Prices are generally obtained from the State DES; where such prices are not available, the price of inland fish in raw form is used to estimate the value of subsistence fishing output.

(v) Salting, sun-drying and frozen fish: The data on quantities and prices of fish let-in (raw fish going into salting, sun drying and frozen purposes) and fish let-out (the resultant salted, sundried and frozen fish) is also available from state DES. In the case of frozen fish, the quantity of fish let-in is considered as the produced quantity where for sun-drying and salting, fish let-out is considered as produced quantity. The value of output is estimated by multiplying respective quantities with corresponding prices.

Value of Input

Input costs for marine fisheries include fuel, food provisions, cost of ice, auction and marketing charges, repairs and maintenance, and related costs including interest on working capital or marketing expenses. For aquaculture part of inland fisheries, the major components of operating cost are seed, feed, wages of hired labour, fuel cost, chemicals and fertilizers, medicines, marketing cost (if any) and repairing and maintenance charges. For capture (inland) fisheries the major components of operating cost are wages of hired labour, fuel cost, marketing cost (if any), rent paid for net, boat and other assets (if any) and repairing and maintenance charges. Input cost for inland fisheries is worked out by subtracting the wages of hired labour from the operating cost.

For the 2022-23 series, input-output ratios have been updated based on scientific studies conducted by Central Marine Fisheries Research Institute (CMFRI) for marine fisheries and Central Inland Fisheries Research Institute (CIFRI) for inland fisheries. The CMFRI study covers 11 major marine fish producing states viz. Andhra Pradesh, Daman & Diu and Dadra & Nagar Haveli, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Odisha, Puducherry, Tamil Nadu and West Bengal. The study provides state-wise input-output ratios for marine fish.

CIFRI conducted study in 12 major inland fish producing states viz. Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Odisha, Tripura, Uttar Pradesh and West Bengal. The study also focused on brackish water aquaculture, riverine, estuarine, wetland, reservoir, backwater and lagoon fisheries.

State-wise input-output ratios as derived from the aforementioned studies have been used for estimating value of input for marine and inland fishing. For the states not under the coverage of studies, national average input-output ratios have been used. Input valuation for prawns is carried out based on the variety reported, i.e. marine or inland species. For subsistence fishing, input cost has been estimated at 1% of value of output. For the activity of salting of fish, an additional cost of 1% of the value of output has been assumed while estimating input value. The value of inputs is estimated at state level using respective input-output ratio.

11.2.3 Estimates at Constant Prices

In order to derive GVA estimates at constant prices (2022-23) for the fishing sector, a volume extrapolation approach has been used, since input costs are not available directly.

(i) Marine fish, inland fish and prawns (raw form including curing activities): Base year constant price GVA estimates are extrapolated using quantum indices based on state-level production (quantity), separately for marine, inland and prawn, to derive constant price estimates for the current year.

(ii) Subsistence fish: Base year constant price GVA estimates are extrapolated using quantum indices based on state-level subsistence production (quantity) to derive constant price estimates for the current year.

11.3 Limitations of existing database

A major limitation of using a fixed study-based input–output ratio to estimate the GVA of the fisheries sector is that it assumes a constant relationship between output and intermediate consumption over time. In reality, input costs (such as fuel, feed, and labour), production technologies, fishing practices and the composition of fisheries activities change continuously. Fixed ratios also fail to capture policy impacts, and short-term shocks, such as, disease outbreaks or adverse weather conditions.

The estimates of GVA for Fisheries Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at Table 11.1.

Table 11.1: Estimates of GVA of Fisheries Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

Sr. No	Item	2011-12 series	2022-23 series	% difference
Value of Output				
1	Marine Fish*	1,68,537	61,930	3.2
2	Prawn	-	1,12,035	
3	Inland Fish including Subsistence Fish	2,14,833	2,19,004	1.9
Total Output		3,83,369	3,92,969	2.5
Value of Input				
1	Marine Fish*	37,676	18,870	95.2
2	Prawn	-	54,696	
3	Inland Fish including Subsistence Fish	20,078	74,034	268.7
4	FISIM	17	994	5747.1
Total Inputs		57,771	1,48,594	157.2
Total GVA		3,25,598	2,44,375	-24.9

Note: *In 2011-12 series, output as well as input of prawn was reported under marine fish.

CHAPTER 12

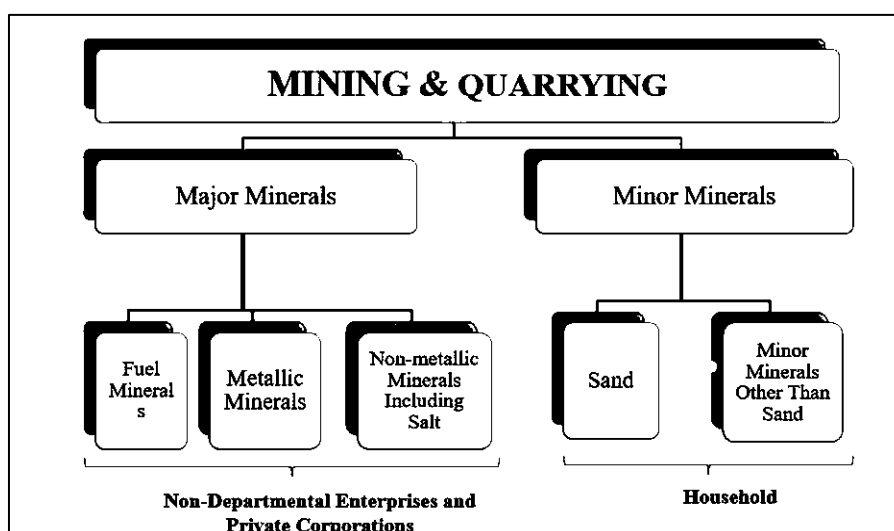
MINING AND QUARRYING

12.1 Coverage

Under the National Industrial Classification (NIC-2008) framework used in India, Mining and Quarrying is classified under Section B, encompassing Divisions 05 through 09. Mining activities are classified into divisions, groups and classes on the basis of the principal mineral produced. Divisions 05, 06 are concerned with mining and quarrying of fossil fuels (coal, lignite, petroleum, gas); divisions 07, 08 concern metal ores, various minerals and quarry products. Some of the technical operations of this section, particularly related to the extraction of hydrocarbons, may also be carried out for third parties by specialized units as an industrial service which is reflected in division 09. It also covers supplementary activities aimed at preparing the crude materials for marketing, for example, crushing, grinding, cleaning, drying, sorting, concentrating ores, liquefaction of natural gas and agglomeration of solid fuels. These operations are often accomplished by the units that extracted the resource and/or others located nearby. Salt production by solar evaporation of sea water is considered under mining sector. Large expenditure on preparing mining sites, prospecting and boring activities are not included here as they are included under the 'construction' sector.

For the purpose of compilation, the minerals are classified into five compilation categories: (a) Fuel Minerals (Coal, Petroleum & Natural Gas), (b) Major Metallic Minerals, (c) Major Non-Metallic Minerals, (d) Salt Mining and (e) Minor Minerals including sand. The classification of minerals and their coverage by institutional sector are given at Figure 12.1.

Figure 12.1: Classification of Minerals and Their Coverage by Institutional Sector



12.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA)

The estimates for the Mining and Quarrying sector are compiled following an institutional sector approach. Non-Departmental Enterprises and Non-Financial Private Corporations are engaged in the mining of fuel minerals, including coal, petroleum and natural gas, as well as major metallic and non-metallic minerals, while the Household sector covers the mining of minor minerals, including sand. The GVA estimates for the sector are compiled using the production approach, wherein the value of intermediate inputs is deducted from the value of output. The detailed data sources and methodology followed for each sector are presented below.

12.2.1 Data Sources

(i) Non-Departmental Enterprises

The estimates for Non-Departmental Enterprises (NDEs), both Central and State, are compiled through a detailed analysis of their Annual Reports.

(ii) Non-Financial Private Corporations

Estimates of GVA and related aggregates are compiled using the MCA-21⁷ database.

(iii) Household Sector

For the Household sector, output data for minor minerals, excluding sand, are obtained from the State/UT Directorates of Economics & Statistics (DES), based on information sourced from their respective Geological/ Forest / Revenue Departments.

Due to challenges reported by State DES in estimating the value of output from sand mining, an indirect method, as followed in the 2011–12 series, has been adopted to estimate the value of sand extraction at basic prices. The method uses data from the CBRI study on the Construction Industry commissioned by MoSPI in 2021–22, inter-industry consumption ratios of sand derived from ASI, ASUSE and trade and transport margins and product taxes from the latest available SUT. The detailed methodology for estimating the value of sand output is described in the subsequent paragraphs.

12.2.2 Methodology for Estimation at Current Prices

Fossil Fuels:

Fuel minerals comprise coal and lignite mining and the mining of crude petroleum and natural gas. These activities are undertaken by Non-Departmental Enterprises (NDEs) and Private Corporations. Accordingly, GVO and GVA at current prices are estimated using the production approach, based on a detailed analysis of the Annual Reports of public sector companies (NDEs) and the MCA-21 database for private sector companies engaged in coal and lignite mining and the mining of crude petroleum and natural gas, respectively.

⁷ Official digital repository of Ministry of Corporate Affairs

Metallic and non-metallic minerals:

The estimates of NDEs and Private Corporations are derived at the enterprise level and do not specify the mineral produced. Therefore, the total GVA/GVO of metallic and non-metallic minerals is allocated in proportion to the GVA/GVO estimates derived from the output information received from the Indian Bureau of Mines (IBM).

Salt:

The quantity and price data for salt mining are provided by respective State/UT Directorates of Economics & Statistics and also by Indian Salt Manufacturers Association. The input rate (value of input required to generate one unit of output) has been compiled using Annual Survey of Industries (ASI). In the 2011-12 series, the input rate was derived using the input to output ratio compiled by analysing the accounts of Hindustan Salt Limited (NDE) and the input rate was held static (constant) throughout the series.

As against this static input rate, in the new series with base year 2022-23, the input rate has been compiled and updated every year based on results of Annual Survey of Industries. ASI covers the establishments under NIC-2008 code 08932: Salt production by evaporation of sea water or other saline waters. By analysing ASI data for these establishments, input rate (ratio of Input to Output) has been compiled.

Minor Minerals:

Data on output of minor minerals excluding sand are provided by Directorates of Economics & Statistics (DES) of States/UTs. These data are sourced from their State Geological Departments / Forest Departments / Revenue Departments. The input rate for minor minerals are derived using the average input rate for major non-metallic minerals which is estimated annually using data compiled by Indian Bureau of Mines (IBM). By applying the input rate to the value of output of minor minerals, the GVA is estimated.

$$\text{GVA} = \text{GVO} \times (1 - \text{Input Rate}) \quad \dots\dots\dots (12.1)$$

Sand:

Due to difficulties in obtaining reliable data on the actual output of sand mining and restrictions on sand mining in various States/UTs, the output of sand is estimated indirectly. Sand is mainly used in construction activity and as an input in manufacturing sector.

The share of sand in the total material inputs used in construction is derived from the 2022 study of the CBRI. This share is applied to the estimates of construction material inputs obtained through the commodity flow approach to estimate the value of sand consumed in construction. As this value is at market prices, it is adjusted for Trade and Transport Margin (TTM) using the latest available Supply and Use Table (SUT). In addition, the value of sand used as an input in manufacturing is estimated using ASI and ASUSE data. The total output of sand mining is then estimated by combining the sand used in construction and manufacturing.

The input rate for sand mining is taken as the average input rate for major non-metallic minerals, estimated using data from the Indian Bureau of Mines (IBM). GVA is then estimated by applying this input rate to the estimated value of output using formula (12.1) given above.

12.2.3 Methodology for Estimation at Constant Prices

Estimates of GVA at constant prices were derived using single deflation in 2011-12 series. In the new series, the GVA for all compilation categories of Mining & Quarrying have been derived using the volume extrapolation.

Estimates of real value added are compiled by extrapolating the base year value using a quantity (volume) index. If $t=0$ is the base year (2022-23) and t is subsequent Financial Years then

$$\text{Real GVA}_t = \text{GVA}_0 \times (Q_t / Q_0) \quad \dots\dots\dots(12.2)$$

Or

$$\text{Real GVA}_t = \text{GVA}_0 \times \text{Index of Production} \quad \dots\dots\dots(12.3)$$

For carrying out the volume extrapolation, mineral-wise index of production compiled by the Indian Bureau of Mines has been used.

In case of salt mining, minor minerals and sand mining, the volume extrapolation has been carried out using the index of production compiled from the quantity data provided by State DES.

12.3 Limitations

In the new series, volume extrapolation has been adopted for the estimation of GVA at constant prices. However, the availability of detailed data on inputs consumed across different types of mining activities is presently limited, which constrains the application of double deflation for the Mining and Quarrying industry. Further improvements in the availability and coverage of input-related data may facilitate consideration of double deflation in the next base year revision.

The current prices estimates of GVA for Mining & Quarrying Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at Table 12.1.

Table 12.1: Estimates of GVA in respect of Mining & Quarrying Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

Sectors	2011-12 series	2022-23 series	% difference
Public sector	2,74,911	2,72,094	-1.0
Private Corporations	95,810	85,741	-10.5
Households	1,39,961	1,48,182	5.9
Total	5,10,682	5,06,017	-0.9

CHAPTER 13

MANUFACTURING

13.1 Coverage

All the enterprises engaged in economic activities covered in Section C (Divisions 10 to 33) as per National Industrial Classification (NIC)-2008 are considered in the estimation of Gross Value of Output (GVO) and Gross Value Added (GVA) of the Manufacturing industry. For the purpose of compilation and dissemination of GVO and GVA, the NIC Divisions 10 to 33 have been grouped into 30 compilation categories, given at Table 13.1.

13.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

The estimates of GVO and GVA for the Manufacturing sector are compiled by covering enterprises across the departmental enterprises, non-departmental enterprises, private corporate enterprises, ASI non-corporate and unincorporated sectors enterprises. The estimates are compiled using appropriate data sources and methodologies for each type of enterprise. At current prices, the estimates are derived using the cost of production approach⁸ for departmental enterprises and the production approach ($GVA = \text{Output} - \text{Intermediate consumption}$) for non-departmental enterprises, private corporations and ASI non-corporate enterprises, while the GVA of the unincorporated sector is estimated using the 'Labour Input Method'. The detailed data sources and methodology followed for each sector are presented below.

13.2.1 Data Sources

(i) Departmental Enterprises

The estimates are compiled by analysis of budget documents. The railway manufacturing units and railway workshops, which are departmental enterprises are also covered.

(ii) Non-Departmental Enterprises

The estimates for Non-Departmental Enterprises (NDEs), both Central and State, are compiled through a detailed analysis of their Annual Reports.

(iii) Non-Financial Private Corporations

Estimates of GVA and related aggregates are compiled using MCA-21⁹ database.

(iv) Annual Survey of Industries (ASI) Non-Corporate

⁸ In cost of production approach, value of output is estimated by summing the costs incurred in producing goods and services, including intermediate consumption, compensation of employees, consumption of fixed capital and other taxes less subsidies on production, along with the operating surplus/mixed income.

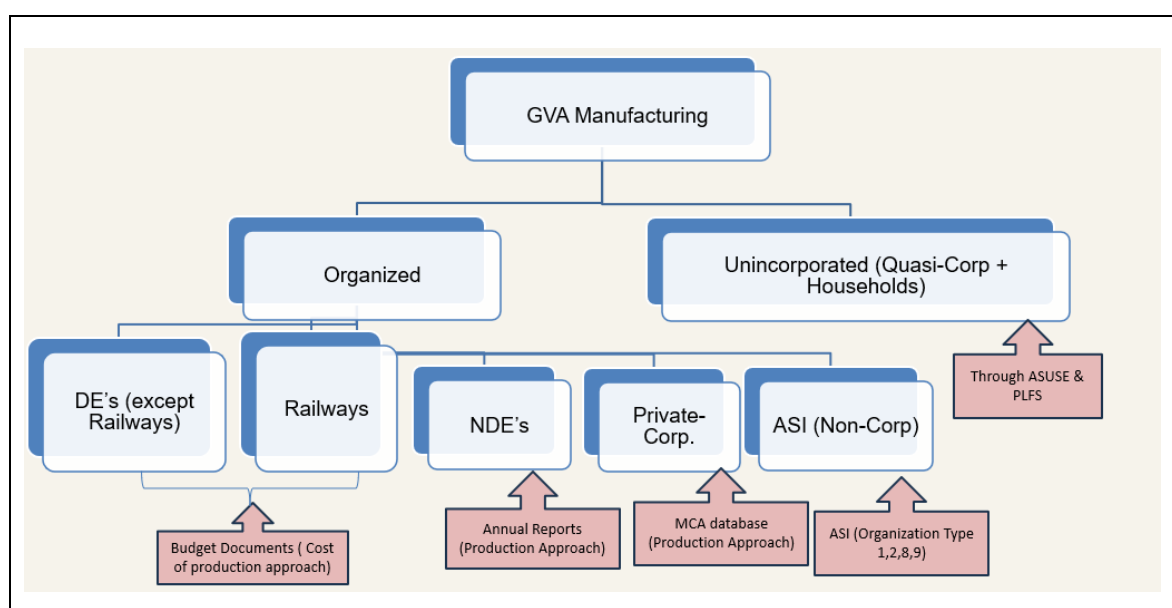
⁹ Official digital repository of Ministry of Corporate Affairs.

These are establishments which fall under manufacturing industry and are covered in Annual Survey of Industries (ASI) but are neither non-departmental enterprises nor private corporations. These are identified using the following ‘type of organisation code’ captured in Block B of ASI survey schedule: Code 1: Individual Proprietorship, Code 2: Partnership, Code 8: Co-operative Society and Code 9: Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)

(v) Unincorporated Sector

The GVA for the unincorporated sector (household sector + quasi-corporations) have been derived using results of Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS) using Labour Input Method. Figure 13.1 shows the framework for Compilation of GVA of the Manufacturing Sector.

Figure 13.1: Framework for Compilation of GVA of the Manufacturing Sector



13.2.2 Methodology for Estimation at Current Prices

The estimates of GVO, GVA and other aggregates are compiled by analysis of budget documents using cost of production approach for Departmental Enterprises including Rail Manufacturing. The estimates for NDE and Private Corporations are compiled using production approach (output *minus* intermediate consumption).

The GVA of private corporations in the manufacturing sector is first estimated at the overall manufacturing industry level using the MCA-21 database through the enterprise approach. Since the estimates are required to be presented separately for 30 compilation categories, the total GVA of private corporations is further bifurcated into 30 compilation categories based on the respective compilation category-wise shares in GVA derived from the Annual Survey of Industries (ASI) for the private corporations. For this purpose, the private corporations are identified from the ASI

using the type of organisation codes, namely, Code 3 for Limited Liability Partnership, Code 6 for Non-Government Company – Public and Code 7 for Non-Government Company – Private.

The GVA of ASI Non-Corporate enterprises is compiled using the production approach based on unit-level data from the ASI for the respective financial year. The non-corporate enterprises are identified from the ASI using the relevant codes under ‘Type of Organisation’, as specified in paragraph 13.2.1(iv).

GVA for the unincorporated sector has been derived for each of the 30 compilation categories using Labour Input Method. Details have been described in Chapter 8 on Household sector.

The GVA of the unincorporated sector thus estimated is further bifurcated between Quasi-Corporations and the Household sector based on their respective shares in the total GVA of each compilation category, as derived from ASUSE data. The estimates of GVA for the Non-Profit Institutions serving households (NPISH) is included in Household sector.

13.2.3 Methodology for Estimation at Constant Prices

Manufacturing has high Intermediate Consumption-to-output ratios and it varies over different compilation categories, since raw materials and energy dominate with varying costs.

In 2011-12 series, single deflation was used for constant price estimation of GVA of Manufacturing. The single deflation was carried out at disaggregated level (compilation categories which are a combination of two/ three digits of National Industrial Classification. Deflating GVA at current prices by one index — the compilation category specific WPI in 2011-12 series implicitly assumed that wholesale prices of inputs and outputs move at the same rate. In manufacturing this assumption is not feasible because input and output prices diverge. Output prices may be held down by competition in short run even as input costs rise. A firm engaged in ‘Production of Vegetable oils and fats may experience a sharp movement in input prices of crude palm oil or crude soyabean oil without a corresponding change in the prices of processed product, the refined oil. Similarly, manufacturer of basic metal products may experience a differential price movement in key inputs like iron ore, coking coal, electricity whereas prices of finished steel products may not vary by similar rate.

Double deflation avoids this by deflating output and intermediate consumption separately, each with its own appropriate price index (price index for output; price index for inputs — often a mix of PPI components matching the input basket for IC), and then differencing:

$$\text{Real GVA} = \text{Real Output} \text{ minus Real IC (both independently deflated)} \dots\dots\dots(13.1)$$

This correctly captures the actual change in the volume of value added, because it lets the volume of inputs used and the volume of output produced move independently and reflects genuine productivity/technology change, terms-of-trade effects between inputs and outputs, and substitution between materials — none of which could be captured with single deflation (i.e., with one blanket price index).

Implementation of double deflation in new series:

In the new series with base 2022-23, double deflation has been implemented for constant price estimation of GVA. The double deflation has been carried out using elementary item-level output Producer Price Indices (PPI) based on the ex-factory price for manufactured products, released by the Office of Economic Adviser, DPIIT, M/o Commerce & Industry. The output PPI includes final goods, and intermediate goods (i.e. goods which are further used in production process) such as wheat, milk, bauxite, coking coal, electricity, palm oil refined, gram flour (*besan*), cotton yarn, sacks/ gunny bags for packing of goods, leather crome/ wet blue, tanned, naphtha, phosphoric acid, cement, semi-finished products of iron and non-alloy steel, etc. are available in the output PPI. The statistical framework of deflation aligns with the advanced economies like the US, Japan, Eurozone, etc. The double deflation has been implemented for 28 compilation categories out of total 30 compilation categories of manufacturing sector. For remaining two compilation categories namely: C01: 'Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats' and C22: 'Manufacture of pharmaceutical; medicinal chemicals and botanical products' wherein share of imported input is high and direct mapping of input items with the elementary item-level output PPI is challenging, single extrapolation has been used.

For carrying out double deflation, the item basket for both input ('**Block H: Indigenous input items consumed**' and '**Block I: Imported input items consumed**') as well as output (from '**Block J: Products and by-products manufactured by the unit**') and their corresponding weights have been derived every year using the results of corresponding year Annual Survey of Industry (ASI). This takes care of the dynamics of changes in input as well as output mix for each of the compilation category over the years. Services related input items available from '**Block F: Other Expenses**' of the ASI have also been used. Items accounting for 80% of the total output and input (in value terms when sorted in descending order) have been considered while deriving year-wise item basket and weights using ASI. The compilation category-wise output at current prices is bifurcated using the item-wise weights derived from Block J: Products and by-products manufactured by the unit' of ASI. The item level value of output is then deflated using corresponding item-level elementary output PPI. The item-wise deflated value of output is then summed up to arrive at GVO at constant prices for the compilation category. Similarly, the value of input at constant prices has been compiled using results from ASI (Block H: Indigenous input items consumed, Block I: Imported input items consumed and F: Other Expenses) for obtaining the item basket of input items and its weights. The compilation category-wise value of the input at current prices is bifurcated using the item-wise weights and then deflated using corresponding item-level elementary output PPI. In absence of both Producer Price Index for services and business-to-business services in CPI basket, suitable indices are used for deflation for services related inputs collected in other expenses of ASI. Work done by others on materials supplied by the industrial undertaking (i.e. job work activity), CPI-General has been used since major part of the charges for 'job work' are essentially towards salary and wages. Repair and maintenance of Buildings uses implicit price deflator derived from production-side estimates of Construction activities. Operating expenses, being a heterogeneous bundle of services (including but not limited to accounting, taxation, advertising, legal, transportation, etc.), the Implicit Price Deflator of services sector (from production-side) has been used.

The item-wise deflated value of input is then summed up to arrive at Gross Value of Input at constant prices for the compilation category. The difference between the deflated GVO and Gross Value of Input gives the GVA at constant prices. The key feature of double deflation approach adopted in the new series is that the input-output structure is updated dynamically every year as and when the results of ASI are available for that financial year. The indices used as deflators are item-level elementary Producer Price Indices. Hence, the changes in the production pattern, technological changes and changes in input mix are being captured dynamically. Hence, though Output PPI is fixed base year index, since only elementary item-level indices are used in double deflation, the weights of OPPI do not play any role in constant price estimation. Thus, the adopted process for double deflation is very close to chain-linking and is the best possible way double deflation can be implemented.

For single extrapolation in case of two compilation categories namely C01 and C22, the base year GVA (2022-23) for compilation category C01 and C22 are extrapolated using growth GVO at constant prices derived as per methodology stated above.

$$\text{GVA at constant prices (t)} = \text{GVA in base year} \times \frac{\text{GVO at constant prices in year t}}{\text{GVO in base price}} \dots\dots\dots(13.2)$$

13.3 Limitations:

Double deflation has been introduced for the first time for constant price estimation of GVA of Manufacturing sector for 28 of the 30 compilation categories after in-house compilation of experimental estimates based on double deflation for several years and deliberations on the results with the experts in the ACNAS prior to launch of the new series. Efforts to carry out double deflation for remaining two compilation categories are being made.

The current prices estimates of GVA for Manufacturing Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at Table 13.2.

Table 13.1: List of Compilation Categories (CC)

CC	Activities	NIC-2008
1	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	101 to 104
2	Manufacture of dairy products	105
3	Manufacture of grain mill products, etc. and animal feeds	106+108
4	Manufacture of other food products	107
5	Manufacture of beverages	11
6	Manufacture of tobacco products	12
7	Manufacture of textiles + cotton ginning	13+01632
8	Manufacture of wearing apparel, except custom tailoring	14 excluding 14105
9	Manufacture of leather and related products	15
10	Manufacture of Basic Iron and Steel + Casting of iron and steel	241+2431
11	Manufacture of basic precious and non-ferrous metals + Casting of non-ferrous metals	242+2432

Table 13.1: List of Compilation Categories (CC)

CC	Activities	NIC-2008
12	Manufacture of fabricated metal products, except machinery and equipments	25
13	Manufacture of electronic component, consumer electronics, magnetic and optical media	261+264+268
14	Manufacture of computer and peripheral equipment	262
15	Manufacture of communication equipments	263
16	Manufacture of optical and electronics products n.e.c.	265+266+267
17	Manufacture of Electrical equipments	27
18	Manufacture of machinery and equipments n.e.c.	28
19	Manufacture of Transport Equipments	29+30
20	Manufacture of coke and refined petroleum products	19
21	Manufacture of chemical and chemical products except pharmaceuticals, medicinal and botanical products	20
22	Manufacture of pharmaceutical; medicinal chemicals and botanical products	21
23	Manufacture of rubber & plastic products	22
24	Manufacture of other non-metallic mineral products	23
25	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material	16
26	Manufacture of paper and paper products	17
27	Printing and reproduction of recorded media except publishing	18
28	Manufacture of furniture	31
29	Other Manufacturing	32
30	Repair and installation of machinery and equipment	33

Table 13.2: Estimates of GVA in respect of Manufacturing Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices*(in Rs. Crore)*

Sectors	2011-12 series	2022-23 series	% difference
Public Sector	2,16,831	2,22,630	2.7
Private Corporations [#]	28,48,638	27,43,850	-3.7
Households [*]	4,69,397	5,16,367	10.0
Total	35,34,867	34,82,848	-1.5

Note: ^{*} Private corporations including cooperatives and quasi-corporations[#] Households include household enterprises, NPISH and ownership of dwellings Industry level totals kept consistent with data provided in tables

CHAPTER 14

CONSTRUCTION

14.1 Coverage

The Construction sector comprises economic activities covered under Section F of the National Industrial Classification (NIC) 2008. It includes activities relating to the construction of buildings, civil engineering works and specialised construction activities, covering NIC Divisions 41, 42 and 43, respectively.

The Construction sector covers a wide range of activities relating to the creation, maintenance, repair and development of buildings and infrastructure. At the building level, it includes construction of residential and non-residential buildings, whether carried out on own-account or on a fee or contract basis. It also covers alteration, addition, repair and maintenance of buildings, as well as the assembly and erection of prefabricated structures at the construction site.

A major component of the sector is construction and maintenance of infrastructure and other civil engineering works. This includes motorways, streets, roads, bridges, tunnels and subways, as well as railways, rail bridges and airfield runways. It also covers construction and maintenance of power plants, power, telecommunication and transmission lines, long-distance and urban pipelines, water mains and connections, water reservoirs and irrigation systems such as canals. Construction and repair of sewerage systems, including sewage treatment plants and pumping stations, water wells and other utility projects are also included.

The sector also covers construction and maintenance of industrial and other specialised infrastructure, such as refineries, chemical plants, waterways, harbours, dams and outdoor sports facilities. Dredging of waterways and other civil engineering works are also covered under this sector.

In addition, specialised construction activities undertaken in preparation for construction or development of sites are included. These comprise demolition, site preparation, including clearing of building sites, excavation, landfill, levelling and grading, trench digging, rock removal and blasting. Activities relating to the preparation and development of mineral properties and sites, including overburden removal, as well as drilling, boring and core sampling for construction and geophysical or geological purposes, are also covered, except activities relating to oil and gas sites.

Besides the above coverage, capital expenditure on setting up plantation and expenditure towards mineral exploration are also treated as output of construction industry. The capital expenditure incurred on cultivation of plantation crops during the gestation period is treated as output of the 'Construction Industry'. The value of expenditures on mineral exploration which includes mine site preparation and related construction activities are treated as output of the 'Construction Industry'.

14.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA)

The estimates of GVO and GVA for the Construction sector are compiled using the Commodity Flow Approach, which is particularly suited to the sector given the significant construction activity undertaken on own account and the associated data limitations. Under this approach, the availability and use of construction materials are analysed to estimate the material inputs used in construction. The estimates for the organised and unincorporated sectors are then compiled using appropriate data sources and methods, and aggregated to arrive at the total GVO and GVA of the Construction sector.

14.2.1 Data Sources

(i) **Private Corporations and Non-Departmental Enterprises:** GVO, GVA and data on material inputs (not item-wise but at aggregate level used to construct the commodity flow) of Private Corporations are obtained from the MCA-21 database, while data for Non-Departmental Enterprises are obtained from analysis of their Annual Reports.

(ii) **General Government & Departmental Enterprises:** The estimates are compiled by analysis of budget documents. Material inputs consumed by General Government and Departmental Enterprises for construction activity are culled out from detailed analysis of budget documents.

(iii) **Unincorporated Sector and Own Account Construction by Households:** Data on services inputs and the GVO-to-input ratio are obtained from the 'Pilot study on construction activities in unincorporated sector establishments (household sector + quasi-corporations) and households'¹⁰ conducted by NSSO during July–December 2025, covering construction activity undertaken by the unincorporated sector and own-account construction by households.

In order to construct the commodity flow of material input, different data sources are used as detailed below:

Cement: Data on quantity and price of different types of cement produced in the economy, are obtained from DPIIT.

Other Construction Materials: For material inputs namely iron and steel, bricks and tiles, glass and glass products, bitumen and bitumen mixtures, wood products, fixtures and fittings, paints and varnishes, production in the economy is estimated using the results of Annual Survey of Industries (ASI) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE). For this purpose, the manufactured materials used as input in construction are identified using unit level data from these surveys using the product codes for output reported in these surveys (National Product Classification Data for Manufacturing Sector (NPCMS) in case of ASI and product codes in ASUSE) on the output of timber obtained taken from the output of the Forestry sector whereas

¹⁰ Report of the 'Pilot study on construction activities in unincorporated sector establishments and households' available on MoSPI's website (<https://www.mospi.gov.in/publications-reports>).

data on stone, boulders, marble, granite and similar items are taken from their output reported in industry 'Mining & Quarrying'.

Sand: Due to challenges in reporting of value of sand mined, the estimate of sand used as an input in construction is derived indirectly using the ratio of sand used in construction to total material inputs. The ratio is based on the results of study commissioned by MoSPI and undertaken by Central Building Research Institute in 2021–22.

Trade and Transport Margin (TTM): TTM rates of material inputs used in construction are obtained from the latest published Supply and Use Table (SUT).

Product Taxes: From Central Bureau of Indirect Taxation and Customs

Import and Exports: Data on imports and exports of material inputs are obtained from the Directorate General of Commercial Intelligence and Statistics (DGCI&S).

Plantation Activity: Data on the area under plantation are obtained from the respective State Directorates of Economics & Statistics and the Ministry of Agriculture and Farmers Welfare, while data on state-wise and plantation-wise average expenditure per hectare and GVA-to-GVO ratios are obtained from NABARD.

14.2.2 Methodology for Estimation at Current Prices

Construction activities undertaken on own account, irrespective of whether the assets constructed are used for economic activities, pose challenges in estimating the GVO and GVA of the Construction sector due to limitations in the availability of data. Since such activities constitute a significant share of the total output of the Construction sector, the SNA 2008 recommends the use of the Commodity Flow Method for obtaining satisfactory estimates of total construction output, particularly where such activities are difficult to identify and measure directly. The Commodity Flow Method tracks the availability and use of goods and services used in construction, thereby ensuring balance between total supply and use.

In the 2011–12 series, the Commodity Flow Approach was used to estimate the control total of GVO of the Construction sector. The approach was based on the availability and use of selected basic construction materials, namely (i) cement and cement products, (ii) iron and steel, (iii) bricks and tiles, (iv) timber and round wood, (v) fixtures and fittings, (vi) bitumen and bitumen mixtures, and (vii) glass and glass products. Ratios derived from the study conducted by the CBRI in 2012–13 were applied to account for other inputs, such as sand, services and factor payments, and to arrive at the total GVO of construction. The total value of output of pucca construction was derived by first arriving at the total of material inputs of seven basic construction materials, then applying relevant ratios of proportion of sand and other materials & service charges to the value of basic materials from the study commissioned by MoSPI and executed by CBRI in 2013 to estimate the value of sand and other materials & service charges used in construction. The total of inputs (seven basic materials estimated by commodity flow+ sand + other materials & service charges) was

multiplied by ratio of factor payments¹¹ to material inputs in order to estimate factor payments. The sum of inputs and factor payments was the GVO of construction (excluding plantation, mineral exploration and kutchha construction). From this GVO, the GVO of General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations are deducted to arrive at GVO of household sector. The GVA to GVO ratio from the study was applied on the GVO of household sector to arrive at GVA.

In the 2022–23 series, the Commodity Flow Approach has been modified. Instead of estimating the control total of GVO directly through commodity flow, the approach is used to estimate the control total of material inputs used in construction. The material inputs attributable to the unincorporated sector are then derived using a residual approach, after deducting the material inputs used by the organised sector, comprising General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations. The modification in the commodity flow has been introduced to address the issue of applying economy wide factor payments to input ratio and GVA to GVO ratio in 2011-12 series while estimating the total output. Since the GVA and GVO of General Government (GG), Departmental Enterprises (DE), Non-Departmental Enterprises (NDE) and Private Corporations (PC) are compiled from analysis of budget documents (GG&DE), annual reports (NDE) and MCA database (PC), the ratios pertaining to unincorporated sector from the Pilot study on construction activities in unincorporated sector establishments and households are applied on the total inputs of household sector to arrive at GVO and GVA of household sector.

The estimates obtained through the Commodity Flow Approach cover both new construction and repair and maintenance activities, excluding plantation and mineral exploration. In the revised series, the basket of construction materials has also been expanded to include paints and varnishes, marble, granite, fuel inputs and other construction materials.

The methodology for estimating material inputs is as follows:

Cement: Data on the quantity and price of cement production are obtained from DPIIT. Inter-industry consumption ratios are derived from ASI and ASUSE data.

Other construction materials: Production data for other construction materials are compiled using ASI and ASUSE. From ASI and ASUSE, using the product codes (namely NPCMS reported in block J of ASI and product codes reported in ASUSE), the production of material inputs used in construction are identified and the value of production of these material inputs is estimated. ASI follows establishment approach and coverage is limited to establishments registered under Factories Act. The output of manufacturing industry is compiled at the level of 30 compilation categories¹² which are combination of two or digit of National Industrial Classification (NIC). In order to account for difference in coverage of ASI, the production estimates derived from the survey are adjusted using output estimates obtained through the enterprise approach, based on MCA-21 data for Private Corporations, Annual Reports for Non-Departmental Enterprises (NDEs) and analysis of budget documents for Departmental Enterprises (DE). The share of the

¹¹ Salary and wages, interest, rent, operating surplus/mixed income

¹² for details please refer to Chapter 13

output of a particular material input (say iron and steel) is first estimated from ASI using the NPCMS codes. The proportion of the output so estimated in the total output of the compilation category from ASI wherein the production has taken place is worked out. This proportion is then applied to the output of the compilation category worked out using enterprise approach of organized manufacturing (DE, NDE, Private Corporations). This approach borrows the product-mix ratio from the data source with the right level of product detail (i.e. ASI, via NPCMS coding) and applies it to the data source with the more complete coverage (the enterprise approach, which is not compiled at the NPCMS product level).

j — the compilation category (the ASI/NIC-based product or industry grouping in which iron & steel is one of several outputs)

k — the specific material/product of interest (iron & steel), identified via its NPCMS code(s)

$V^{ASI}(k,j)$ — value of output of product k, within compilation category j, as reported in ASI

$V^{ASI}(j)$ — total value of output of compilation category j, ASI (all products within that category, not just k)

$GVO^{EA}(j)$ — Gross Value of Output of compilation category j, from the enterprise approach (organised manufacturing: DE + NDE + Private Corporations)

$VO_{k,j}^{est}$ — Estimated Value of Output of product k

$$\theta_{k,j} = \frac{V_{k,j}^{ASI}}{V_j^{ASI}} \dots \dots \dots (14.1)$$

where $\theta_{k,j}$ is the proportion of compilation category j's output attributable to product k (say iron & steel), estimated purely from ASI's product-level (NPCMS) detail.

This proportion is then applied to output for that compilation category derived using enterprise approach

$$VO_{k,j}^{est} = \frac{V_{k,j}^{ASI}}{V_j^{ASI}} \times GVO_j^{EA} \dots \dots \dots (14.2)$$

where $VO_{k,j}^{est}$ is the estimated output of iron & steel within compilation category j.

Similar estimated is also carried out for unincorporated sector using ASUSE data. Due to availability of ASI and ASUSE results on annual basis, the above methodology is implemented every year using detailed analysis of unit level data of these surveys. For non-manufactured products namely timber, stone etc, output of such products from Forestry & Logging and Mining & Quarrying are used. For timber, output from the Forestry sector (excluding firewood) reported in compilation of GVO of forestry and logging is considered. Similarly, the output of stone, gravel, boulders, marble, granite reported in Mining & Quarrying industry is also considered. Due to challenges in reporting of value of sand mined, the estimate is derived indirectly using the proportion of sand used in construction relative to total material inputs. This proportion has been worked out using the results of study on construction industry commissioned by MoSPI and carried out by CBRI in 2021–22.

Imports and exports: Data on imports and exports of construction materials are obtained from the Directorate General of Commercial Intelligence and Statistics (DGCI&S). The eight digit HSN Codes reported in the import-export data of DGCI&S are used for this purpose.

Inter-industry consumption of material input: The output estimated above in equation 14.2 may be used as input in some other industry. For example: cement may be used in manufacturing of cement products. Hence suitable adjustment for inter-industry consumption needs to be made while constructing the commodity flow. The ratios for inter-industry consumption are derived from ASI and ASUSE.

m — the compilation category (industry) that consumes commodity k as an intermediate input (e.g., the “cement products” industry), as distinct from j , the industry where k is produced

$IC_{k,m}^{ASI}$ — value of commodity k consumed as a raw material/input by compilation category m , as reported in ASI’s item-wise materials-consumed schedule (by NPCMS input code)

V_m^{ASI} — total value of output of compilation category m , from ASI

GVO_m^{EA} — Gross Value of Output of compilation category m , enterprise approach (DE + NDE + Private Corporations)

$$\phi_{k,m} = \frac{IC_{k,m}^{ASI}}{V_m^{ASI}} \dots \dots \dots (14.3)$$

$\phi_{k,m}$ is the value of commodity k consumed per unit of industry m ’s output

$$IC_{k,m}^{est} = \phi_{k,m} \times GVO_m^{EA} = \frac{IC_{k,m}^{ASI}}{V_m^{ASI}} \times GVO_m^{EA} \dots \dots \dots (14.4)$$

This is the estimated economy-wide inter-industry consumption of commodity k by industry m

If commodity k is used as an input across multiple compilation categories $m = 1, \dots, M$:

$$IC_k^{est} = \sum_{m=1}^M \phi_{k,m} \times GVO_m^{EA} = \sum_{m=1}^M \frac{IC_{k,m}^{ASI}}{V_m^{ASI}} \times GVO_m^{EA} \dots \dots \dots (14.5)$$

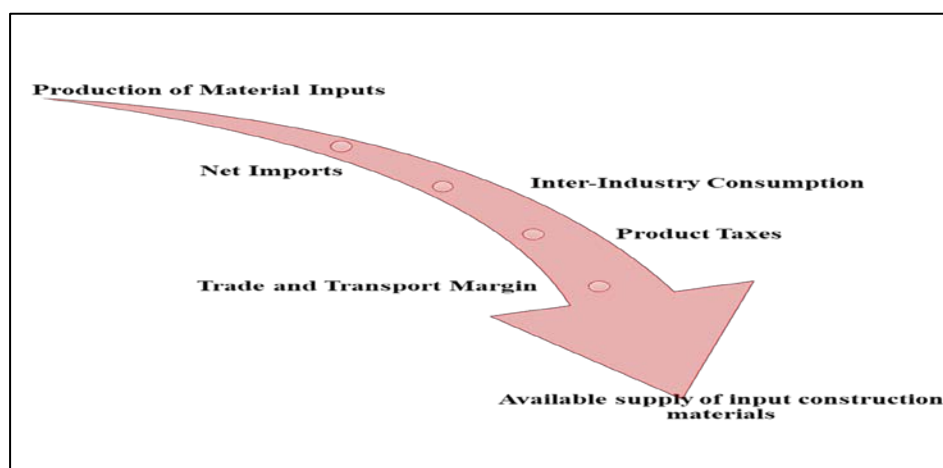
Unlike the 2011–12 series, where the ratios were fixed at the base-year level, these ratios are updated annually using the detailed analysis of unit level data of the respective year’s ASI and ASUSE in new series.

Trade and transport margins (TTM): Trade and Transport Margin (TTM) is incorporated using the rates available from the latest published Supply and Use Table (SUT).

The availability of each of the material input at market price is worked out as:

$$\text{production} + \text{import} - \text{export} - \text{inter-industry consumption} + \text{TTM adjustment} + \text{Taxes on products} \dots \dots \dots (14.6)$$

Figure 14.1: Commodity Flow Approach for Estimating Construction Material Input



Material inputs available for use by the unincorporated sector:

Due to lack of flow of regular data on construction activity in unincorporated sector and own account construction, the material inputs attributable to the unincorporated sector are derived from the total estimated in equation 14.6 using the residual approach. The value of material inputs used by the organised sector, comprising General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations, is deducted from the total material inputs computed by equation (14.6).

For the unincorporated sector, in order to arrive at total inputs, services inputs are also added to the material inputs estimated through the Commodity Flow Approach described above in **Figure 14.1**. The services inputs and the GVO-to-input ratio are obtained from the ‘Pilot study on construction activities in unincorporated sector establishments and households’ conducted by NSSO during July–December 2025, which covered construction activities undertaken by the unincorporated sector and own-account construction by households.

GVO of household sector = (GVO to input ratio derived from NSS Survey on Construction) x Total input used in construction by household sector

The GVA of the unincorporated sector = GVO of the unincorporated sector – Input of the unincorporated sector.

The total GVO construction industry (excluding plantation and mineral exploration) is then derived as the sum of the GVO of the General Government, Departmental enterprises, Non-departmental enterprises, Private Corporations and Unincorporated Sector.

The GVO and GVA of unincorporated sector is further bifurcated into quasi-corporations¹³ and household sector using the ratios derived from the results of the pilot study on construction activities in unincorporated sector establishments and households.

Plantation activity covered in construction

The capital expenditure incurred on cultivation of plantation crops during the gestation period is treated as output under kutchha construction of the ‘Construction Industry’ for that year. State-wise and plantation crop-wise area in hectares under plantation for each financial year are available from the data provided by respective State Directorates of Economics & Statistics (DES) and M/o Agriculture and Farmers Welfare. The incremental area is derived by subtracting the state-wise and plantation crop-wise area under plantation for current financial year from the previous financial year. NABARD provides data on state-wise and plantation crop-wise average expenditure per hectare for setting up the plantation. For some States, the average expenditure per hectare is not available. In such cases, the estimate of neighbouring State for that plantation crop is used. NABARD reports the break-up on expenditure in setting up plantation (development of land, fertilizer expenses, material expenses, labour, other expenses). The GVA to GVO ratio is determined state-wise and plantation-wise using cost of production approach. The GVA attributed to plantation activity is then compiled by applying the GVA to GVO ratio derived from the data provided by NABARD.

s = State

c = Plantation crop (e.g., tea, coffee, rubber)

t = Current financial year

t-1 = Previous financial year

A(s,c,t) = Area under plantation crop c in state s, in year t (hectares)

$\Delta A(s,c,t)$ = Incremental (newly planted) area in year t

E(s,c) = Average expenditure per hectare for crop c in state s (NABARD data)

E(s',c) = Average expenditure per hectare for crop c in a neighbouring state s' (used as proxy when

E(s,c) is unavailable)

GVO(s,c,t) = Gross Value of Output attributable to new plantation in state s, crop c, year t

k(s,c,t) = GVA-to-GVO ratio for crop c in State 's' in year 't' (from NABARD data)

GVA(s,c,t) = Gross Value Added attributable to plantation activity

1. Incremental Area Under Plantation

$$\Delta A(s,c,t) = A(s,c,t) - A(s,c,t-1) \dots \dots \dots (14.7)$$

2. Expenditure per Hectare (NABARD)

$$E(s,c) = \text{NABARD estimate for state s,}$$

$$\text{if not available; } E(s',c) \text{ of neighbouring state s', otherwise } \} \dots \dots \dots (14.8)$$

3. Gross Value of Output (GVO)

$$GVO(s,c,t) = \Delta A(s,c,t) \times E(s,c) \dots \dots \dots (14.9)$$

¹³ an unincorporated enterprise owned by a resident institutional unit that has sufficient information to compile a complete set of accounts and is operated as if it were a separate corporation and whose de facto relationship to its owner is that of a corporation to its shareholders

4. GVA-to-GVO Ratio

$$k(s,c,t) = GVA(s,c,t) \div GVO(s,c,t) \dots\dots\dots(14.10)$$

where GVA(s,c,t) and GVO(s,c,t) are the crop-wise and state-wise Gross Value Added and Gross Value of Output derived from data reported by NABARD;

4. Gross Value Added (GVA)

$$GVA(s,c,t) = GVO(s,c,t) \times k(s,c,t) \dots\dots\dots(14.11)$$

5. Aggregate GVA (all states and plantation crops)

$$GVA(t) = \sum_s \sum_c GVA(s,c,t) \dots\dots\dots(14.12)$$

Mineral Exploration activity covered in construction

The data on GVO of construction activity attributed to Mineral Exploration is the capital expenditure in this activity which is estimated from analysis of Annual Reports of Non-Departmental Enterprises and MCA database for Private Corporations. Mining activity is being undertaken by Non-Departmental Enterprises, Private Corporations and Household Sector (Minor Minerals). The data on value of output for Minor Minerals are provided by State DES. However, the capital expenditure on mineral exploration in respect of Minor Minerals is not provided by State DES. Hence, the construction activity attributed to Mineral Exploration is only being compiled for the two institutional sectors namely Enterprises and Private Corporations. The GVA to GVO ratio derived on the basis of companies engaged in mineral exploration activities is then applied on the estimated GVO to arrive at GVA of Mineral Exploration.

Total GVO of Construction Industry:

The total GVO and GVA of Construction industry is then compiled as:

GVO of construction = GVO of General Government(GG) + Departmental Enterprise (DE) + Non-Departmental Enterprises(NDE) + Private Corporations(PC) + Unincorporated Sector + GVO of Plantation + GVO of Mineral Exploration

Similarly, GVA of construction = GVA of GG + DE + NDE + PC + Unincorporated Sector + GVA of Plantation + GVA of Mineral Exploration.

14.2.3 Estimates at constant prices

Construction excluding plantation and mineral exploration:

In the 2011–12 series, GVO and GVA at constant prices were estimated using single deflation. A General Pucca Construction Index, which was a weighted index comprising WPI for material inputs and CPI for services inputs and factor payments was used in single deflation. In the 2011–12 base year series, GVA of Construction sector was derived using commodity flow approach. General Pucca Construction Index derived using the weighted average of prices of material inputs (cement and cement products, iron and steel, glass and glass products, bricks and tiles, timber and wood products, fixtures and fitting, bitumen and bitumen products) and factor inputs was being

used for deflating GVA for pucca construction. Current price GVA of Plantation and Mineral Exploration (which are considered as kutcha construction) were deflated using CPI-Rural.

In the new series, single extrapolation has been used instead of single deflation in 2011-12 series. The value of material inputs (cement & cement products, iron & steel etc) and services input are available from the process followed in constructing the commodity flow. These values at current prices are then deflated by respective PPI for material inputs and CPI (combined) for services input. The items in basket of Producer Price Index (PPI) pertaining to inputs used in construction have been identified in the base year. e.g.: for Cement and Cement products, items from PPI basket have been mapped along with their weights and corresponding annual indices. Then, a weighted index is calculated using weights and the indices in respect of each of the material input.

Deflated value of cement and cement products

$$= \frac{\text{Value of cement and cement products derived from commodity flow}}{\text{PPI-based weighted index for cement and cement products}}$$

Similarly, mapping of relevant items in PPI item basket corresponding to iron & steel, bricks and tiles, timber and wood products, fixtures and fittings, glass and glass products etc has been carried out and the weighted indices corresponding to each of these material inputs are compiled.

$$\text{Deflated value of services input} = \frac{\text{Value of services input}}{\text{CPI (General)}}$$

Thus, total deflated input (input at constant prices) = Total of deflated Material Inputs + Total deflated Service Input.

The GVO at constant prices has been derived using single extrapolation. In the base year, GVO to Input ratio is worked out. This ratio is held fixed throughout the series. The GVO to Input Ratio derived in the base year is applied to the total deflated input to arrive at GVO at constant prices.

GVO at constant prices = GVO to Input Ratio x Input at constant prices(14.13)

GVA at constant prices = GVO at constant prices – input at constant prices.(14.14)

The implicit assumption is that the input-output relationship of the production process doesn't change much over the short-to-medium run. Since, individual inputs are being deflated to arrive at total deflated input, this method has the advantage that fixed weights are not being used but are rather dynamically determined through the commodity flow constructed every year.

Plantation activity covered in construction

The GVO at constant prices for plantation activity is derived as the sum of State-wise and Plantation wise Incremental area x base year average expenditure per hectare. GVA at constant prices for plantation is compiled by using the State-wise and Plantation wise GVO at constant prices multiplied by the GVA to GVO ratio (from NABARD) data.

Mineral Exploration covered in construction

GVO at constant prices for mineral exploration is derived by deflating the GVO at current prices by CPI (combined) index. The GVA at current prices is then derived by using single extrapolation using the growth in deflated output.

If GVA_0 = Base-year GVA,

GVO_0 = Base-year GVO, GVO_t = GVO at current prices in year t then

$$GVO_t (\text{constant}) = GVO_t * 100 / \text{CPI(Combined)}_t \dots\dots\dots (14.15)$$

$$GVA_t (\text{constant}) = GVA_0 \times (GVO_t (\text{Constant}) / GVO_0) \dots\dots\dots (14.16)$$

The total GVO and GVA for construction is then arrived at by aggregating the GVO and GVA at constant prices of Construction (excluding plantation and mineral exploration), Plantation and Mineral Exploration.

14.3 Limitations

The current methodology for estimation of GVO and GVA of construction activity may be improved by direct estimation of GVO and GVA of unincorporated sector as done in non-financial services sector. This will require regular survey of Construction focusing on unincorporated sector.

The current prices estimates of GVA for Construction sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at Table 14.1.

Table 14.1: Estimates of GVA in respect of Construction for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

Sector	2011-12 series	2022-23 series	% difference
Public sector	1,05,642	1,30,297	23.3
Private Corporations*	3,53,377	7,45,784	111.0
Households [#]	17,12,383	12,36,730	-27.8
Total	21,71,401	21,12,811	-2.7

*Note: * Private corporations including quasi-corporations. The estimates of quasi-corporations were included in household sector in 2011-12 series.*

[#] Households include household enterprises, NPISH and ownership of dwellings Industry level totals kept consistent with data provided in tables.

CHAPTER 15

ELECTRICITY, GAS, WATER SUPPLY, REMEDIATION, SEWERAGE AND OTHER UTILITY SERVICES

15.1 Coverage

The Electricity sector is covered under Section D of NIC-2008 and comprises Groups 351 and 352, while the Gas sector is covered under Group 353. The Water Supply sector is classified under Division 36, and the Remediation sector under Divisions 38 and 39. All enterprises classified under Division 37 of the National Industrial Classification (NIC)-2008 are considered for the estimation of Gross Value of Output (GVO) and Gross Value Added (GVA) of the Sewerage industry. These activities are essentially different types of utilities in nature and these activities are abbreviated as EGWR in this document.

15.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

The estimates of GVO and GVA for the Electricity, Gas, Water Supply, Remediation and Sewerage sectors are prepared by classifying the activities according to the type of institution or enterprise involved. For the organised sector, the estimates are compiled separately for General Government, Departmental Enterprises, Non-Departmental Enterprises and Non-Financial Private Corporations. On the other hand, for the household sector and quasi-corporations, GVO and GVA are estimated using the Labour Input Method. The detailed data sources and methodology followed for each sector are presented below.

15.2.1 Data Sources

- (i) **General Government & Departmental Enterprises:** The estimates are compiled by analysis of budget documents.
- (ii) **Non-Departmental Enterprises:** The estimates of the Non-Departmental Enterprises (NDEs), both Central and State, are compiled by detailed analysis of their Annual Report.
- (iii) **Non-Financial Private Corporations:** Estimates of GVA and related aggregates are compiled using MCA-21¹⁴ database.
- (iv) **Annual Survey of Industries (Non-Corporate):** These are establishments covered under the Annual Survey of Industries (ASI) that are neither classified as Non-Departmental Enterprises nor as Private Corporations.
- (v) **Unincorporated Sector:** As stated in paragraph 15.2, the GVA of the unincorporated sector (household sector and quasi-corporations) is estimated using the results of the Annual Survey of Unincorporated Sector Enterprises (ASUSE) and the Periodic Labour Force Survey

¹⁴ Official digital repository of Ministry of Corporate Affairs.

(PLFS), following the Labour Input Method. Estimates of own-account electricity production by households are obtained from Household Consumption Expenditure Survey (HCES). GVO and GVA estimates for biogas production is obtained using data shared by Khadi and Village Industries Commission (KVIC), Ministry of New & Renewable Energy (M/o NRE), M/o Rural Development, and Department of Drinking Water and Sanitation.

15.2.2 Methodology for Estimation at Current Prices

Electricity: The estimates of GVO, GVA and other related aggregates for Departmental Enterprises are compiled through an analysis of budget documents, following the cost of production approach¹⁵. The estimates for NDE and Non-Financial Private Corporations are compiled using production approach (output- intermediate consumption). The GVA in respect of ASI (Non-Corporate) are also compiled using production approach compiled from unit level data of ASI pertaining to respective financial year. The estimates for the Non-Corporate sector are using the following ‘type of organisation code’ captured in Block B of ASI survey schedule: Code 1: Individual Proprietorship, Code 2: Partnership, Code 8: Co-operative Society and Code 9: Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)

GVA for the unincorporated sector has been derived using Labour Input Method as in the case of Manufacturing sector. Under this method, the number of workers engaged in these activities, as estimated from the Periodic Labour Force Survey (PLFS), is multiplied by the GVA per worker, derived from the Annual Survey of Unincorporated Sector Enterprises (ASUSE).

The estimates of electricity produced by households for their own use from renewable energy sources are derived from the Household Consumption Expenditure Survey (HCES). For 2022–23 and 2023–24, the estimates are based on per capita electricity consumption derived from HCES, along with population projections released by the Ministry of Health and Family Welfare (MoHFW). For subsequent years, the estimates are extrapolated forward using the growth in installed capacity from the Ministry of New and Renewable Energy (MNRE) under household-oriented schemes, such as PM Surya Ghar and Off-grid Solar/KUSUM. The estimates are further adjusted with the applicable per-unit price of electricity to arrive at current price estimate.

Gas: The estimates of GVO for the Gas sector are obtained by aggregating the estimates for Non-Departmental Enterprises (NDEs), Non-Financial Private Corporations (PCs), ASI non-corporate enterprises, and household production of biogas (Gobar Gas).

For household production of biogas, the GVA is estimated using data on the number of biogas plants and the average production per plant. Data on the total number of biogas plants are obtained from four source agencies, namely KVIC, Ministry of New and Renewable Energy, Department of Drinking Water and Sanitation, and Ministry of Rural Development. The average production per biogas plant is derived using the total value of biogas production and the number of biogas

¹⁵ In Cost of Production (Sum-of-Costs) approach, GVA is sum of intermediate consumption, compensation of employees, consumption of fixed capital, other taxes (less subsidies) on production and operating surplus.

plants reported by KVIC. This average production per plant is then multiplied by the number of biogas plants in operation to estimate the GVO of household biogas production.

The input rate, i.e. the value of inputs required to produce one unit of output, is obtained from KVIC. GVA is estimated by applying the input rate to the estimated GVO, as follows:

$$\text{GVA} = \text{GVO} \times (1 - \text{Input Rate}) \quad \dots\dots\dots (15.1)$$

Water Supply: The estimates of GVO and GVA for the Water Supply sector are obtained by aggregating the estimates of General Government, Non-Departmental Enterprises (NDE), Non-Financial Private Corporations (PC), ASI Non-Corporate enterprises and unincorporated enterprises (household sector and quasi- corporations which are obtained using Labour Input Method).

Remediation: The estimates of GVO and GVA for the organised sector are obtained by aggregating the estimates for Non-Financial Private Corporations (PC) and ASI Non-Corporate enterprises. As in the case of Electricity and Water Supply, the estimates of household sector and quasi- corporations are obtained using Labour Input Method using ASUSE and PLFS data.

Sewerage: The estimates of GVO and GVA for the organised sector are obtained by aggregating the estimates for General Government, Non-Financial Private Corporations (PC) and ASI Non-Corporate enterprises. In this sector also, the estimates of household sector and quasi- corporations are derived using the Labour Input Method, using ASUSE and PLFS data.

15.2.3 Methodology for Estimation at Constant Prices

Electricity: In the 2011–12 base year series, GVA of Electricity at constant prices was estimated using volume extrapolation method¹⁶ wherein the base year estimates were moved with the index of quantum (units sold) of generated electricity.

In the new series, the volume extrapolation method has been used. However, volume extrapolation is applied separately for Renewable and Non-Renewable electricity generation, recognizing that the input–output ratios differ significantly between conventional and renewable modes of electricity production.

The base year GVO or GVA for both renewable and non-renewable electricity is extrapolated separately using the growth in the Index of Industrial Production (IIP), as follow:

$$\text{Real GVO}_t = \text{GVO}_0 \times (I_t / I_0) \quad \dots\dots\dots (15.2)$$

$$\text{Real GVA}_t = \text{GVA}_0 \times (I_t / I_0) \quad \dots\dots\dots (15.3)$$

where: - I_t : Index of Industrial Production in financial year t.

¹⁶ Volume extrapolation is the method of estimating current-year output by applying the growth in the physical volume of output to the corresponding base-year value.

- I_0 : Index of Industrial Production in base year

Gas: In the 2011–12 base year series, real GVO and GVA of Gas was estimated using volume extrapolation method. The base year estimates of GVO and GVA for organised part (NDE and PC) were moved with the index of quantum sales of gas sourced from Gas Authority of India Limited (GAIL). The corresponding estimates for the household sector were estimated using the index based on cumulative number of bio gas plants.

The volume extrapolation method has been used for estimating the GVA of the Gas sector at constant prices in the revised base year series. However, for the volume extrapolation in the new series is carried out using index based on consumption of Natural Gas sourced from Petroleum Planning and Analysis Cell (PPAC), Ministry of Petroleum & Natural Gas. The GVA of the household sector uses the growth in the cumulative number of biogas plants for volume extrapolation.

Water Supply: In 2011-12 series, constant price GVA of Water Supply was estimated using the single deflation¹⁷ method wherein current price estimates of GVA were deflated with the Consumer Price Index (CPI)-General.

In the new series, single extrapolation¹⁸ method is used separately for Public (General Government, NDE) and Private sector (Private Corporate, ASI Non-Corporate, Quasi-corporates and Household).

In this method, firstly the GVO is deflated using relevant deflator and then the base year GVA is extrapolated using the ratio of the deflated GVO in the current year to the GVO in the base year. If $t=0$ is the base year (2022-23) and t is current Financial Years then

$$\text{Real GVO}_t = \text{GVO}_t / \text{deflator} \quad \dots\dots\dots (15.3)$$

$$\text{Real GVA}_t = \text{GVA}_0 \times (\text{Real GVO}_t / \text{GVO}_0) \quad \dots\dots\dots (15.4)$$

For the Public Sector, the Consumer Price Index for Industrial Workers [CPI(IW)] has been used as the deflator, while for the Private Sector, the Consumer Price Index (Water Charges) has been used.

Remediation: In 2011-12 series, the current price estimates of GVA of Remediation (recycling) were deflated with the relevant WPI (of Basic Iron, Steel and casting of iron and steel) to arrive at constant price estimates of this sector.

In the new series, the single extrapolation method is used to derive constant price estimates. Under this method, GVO is first deflated using the relevant Producer Price Indices (PPIs) for basic iron and steel and casting of iron and steel, fabricated metal products, paper products and plastic

¹⁷ In single deflation, current price GVA is divided by a relevant price index to obtain the constant price GVA for the current year.

¹⁸ In single extrapolation, the base-year GVA is extrapolated by applying the growth in constant price GVO of the current year over GVO of base year. GVO at current prices is divided by a relevant price index to obtain the constant price GVO for the current year .

products. The growth in the resulting volume of output is then used to extrapolate the base year estimates.

Sewerage: In the 2011–12 base year series, the GVA of Sewerage at constant prices was estimated using the single deflation method, wherein current price GVA was deflated using the CPI (General).

In the new 2022-23 series, single extrapolation method is used to arrive at constant price. The GVO is deflated using CPI(General) and then the growth in the deflated GVO relative to the base year GVO is applied to base year GVA to arrive at real GVA.

15.3 Limitations

Volume extrapolation is considered more appropriate for the sectors covered in this chapter, as it provides a suitable basis for estimating real GVO and GVA by capturing changes in the volume of output. Accordingly, the use of single deflation method has been discontinued in the revised series (2022–23). However, volume extrapolation could not be adopted for the Water Supply, Sewerage, and Remediation sectors due to limitations in the availability of suitable volume indicators. Efforts will be made in the next series to identify and incorporate appropriate volume indicators for these sectors.

The current prices estimates of GVA for the sector comprising Electricity, Gas, Water Supply, Remediation and Sewerage, for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at Table 15.1.

Table 15.1: Estimates of GVA for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>			
Sector	2011-12 series	2022-23 series	% difference
Public Sector	3,81,651	3,89,131	2.0
Private Corporations*	1,80,767	1,81,925	0.6
Households [#]	46,650	19,900	-57.3
Total	6,09,068	5,90,956	-3.0

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises, NPISH and ownership of dwellings Industry level totals kept consistent with data provided in tables

CHAPTER 16

TRADE & REPAIR SERVICES AND HOTEL & RESTAURANT

16.1 Coverage

The trade sector encompasses wholesale and retail trade in all commodities, whether produced domestically, imported, or exported. It also includes the activities of agents, brokers, and auctioneers involved in purchase and sale transactions. Wholesale trade refers to units engaged in reselling, without any transformation, new or used goods to retailers, industries, commercial establishments, institutional and professional users, or other wholesalers. Retail trade relates to units primarily engaged in reselling, without transformation, new or used goods for personal or household consumption. In the context of SNA, trade is treated as a distributive service activity rather than as the production of goods. The output of wholesalers and retailers is not measured by the total value of goods they sell. Instead, their output is measured by the trade margin *i.e.* the difference between the sale value of goods purchased for resale and the cost of acquiring those goods. The SNA views traders as providing services such as storing, displaying, assembling assortments of goods, and making them conveniently available to customers. Consequently, purchases of goods for resale are not recorded as intermediate consumption of the trade industry; only the margins earned on these transactions constitute the industry's output. Gross Value Added is estimated by deducting intermediate consumption from gross output. Coverage of trade as per NIC 2008 is as follows:

CC	Compilation Category	NIC 2008 codes
C32	Sale of motor vehicles and motor cycles	45 (excluding 45403, 452), 473
C33	Whole sale trade except of motor vehicles and motor cycles	46, 92001
C34	Retail sale trade except of motor vehicles and motor cycles	47 (excluding 473), 92002

Trade and repair services further covers the maintenance and repair of motor vehicles (commercial and personal) as well as the repair of personal and household goods. Compilation category along with NIC 2008 relevant to repair services is given below.

CC	Compilation Category	NIC 2008 codes
C31	Maintenance and Repair of motor vehicles and motor cycles	452, 45403
C35	Repair of computers and personal and household goods	95

The Hotels and Restaurants sector (abbreviated as HR) covers a wide range of services related to accommodation and food services. It includes provision of short-term accommodation for visitors, tourists, and other travellers (hotels, motels, guest houses, resorts, camping grounds, and other lodging places). In addition, the sector also includes the provision of meals and beverages for immediate consumption, including restaurants, cafés, canteens, catering services, bars, and similar

food-service establishments, which cater to household as well as institutional demand for food and beverages. Coverage of hotels and restaurants with reference to NIC 2008 is as follow:

CC	Compilation Category	NIC 2008 codes
C36	Hotels & Restaurants	55, 56

16.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA)

16.2.1 Data Sources

- (i) Accounts of the public sector enterprises and budget documents for General Government and Departmental Enterprises;
- (ii) Ministry of Corporate Affairs (MCA-21) database for Private Corporations
- (iii) Annual Periodic Labour Force Survey for Unincorporated Sector
- (iv) Annual Survey of Unincorporated Sector Enterprises for Unincorporated Sector
- (v) Output Producer Price Index (OPPI) from the Office of Economic Adviser, Ministry of Commerce and Industry.
- (vi) Trade and Transport Margin (TTM) from Supply Use Table (SUT) 2022-23 published by Ministry of Statistics and Programme Implementation
- (vii) Consumer Price Index (CPI) published by Ministry of Statistics and Programme Implementation (MoSPI)

16.2.2 Methodology of Estimation at Current Prices

GVA estimates of Trade & repair services and hotels & restaurants sectors are prepared separately for each of the institutional sectors and then aggregated to arrive at corresponding industry estimates. Presence of individual industries across institutional sectors is given as follows:

Industries	Public			Private	
	GG	DE	NDE	PC	HH
Trade and repair services		✓	✓	✓	✓
Hotels & restaurants			✓	✓	✓

Public Sector:

GVA estimates of units engaged in trade and hotels & restaurants are compiled using income approach in case of departmental enterprises and production approach for non-departmental enterprises. The estimates related to public sector are based on the analysis of accounts of the public sector enterprises and budget documents. A complete analysis of the reports including the profit-loss account and balance-sheet are undertaken for preparing the components of value added and other aggregates. The details are discussed in the Chapter-4 which covers Departmental Enterprises and Chapter-5 on Non-Departmental Enterprises.

Private Corporate Sector:

MCA21 database from Ministry of Corporate Affairs is used for compiling the industry wise GVA estimates. The information on balance sheet and profit & loss accounts are extensively utilized for the preparation of estimates following production approach. The balance sheet provides information on assets, liabilities, borrowings, and capital structure, while the profit & loss account gives details of income, expenditure, and operating surplus. Detailed methodology is discussed in Chapter-6 on Non-Financial Private Corporations.

Household Sector:

GVA of the household sector is compiled Compilation Category (CC) wise following the labour input method using projected population adjusted workforce estimates from PLFS and value added per worker from ASUSE. Coverage and detailed methodology is discussed in Chapter-8 on Household sector.

16.2.3 Methodology of Estimation at Constant prices

For subsequent years, constant price estimates for all institutional sectors are compiled using the single extrapolation method. In this approach, current price Gross Value of Output (GVO) is deflated using appropriate price indices to obtain value of output at constant prices. The growth rate of this deflated output is then applied to extrapolate Gross Value Added (GVA) in the base year for subsequent years.

(a) Trade & repair services

The deflator for single extrapolation is constructed using weighted Output Producer Price Index (OPPI) where weights are based on Trade and Transport Margin (TTM) for 126 commodities pertaining to agriculture, livestock, fishing, forestry, mining and manufacturing sectors, derived from the Supply and Use Table (SUT) 2022-23. This approach ensures that variations in trade and transport margins are appropriately reflected while deriving the constant price estimates. The list of commodities considered in compilation of TTM weighted Output PPI are given at Table 16.2.

(b) Hotel & Restaurants:

For compiling the constant price GVA estimates of Hotels and Restaurants, the deflator used for extrapolation is constructed using re-based Consumer Price Index (CPI 2024) of relevant items which closely reflect changes in prices of services provided by hotels and restaurant industry. To align with base year 2022-23, relevant item specific CPI has been re-based using a linking factor between CPI series 2012 and 2024 at national level.

16.3 Limitations

In the absence of any direct price deflator or volume indicator, the constant price estimates for trade & repair services and hotels & restaurants are compiled using

- (i) An index based on item level OPPI with TTM from SUT 2022-23 as weights for trade and repair services

(ii) A proxy price deflator is prepared using relevant items from Consumer Price Index (CPI) 2024 basket for hotel & restaurant.

The current prices estimates of GVA for Trade and repair services and Hotel & Restaurant for the year 2022-23 as per 2011-12 series and 2022-23 series are presented at Table 16.1.

Table 16.1: Estimates of GVA in respect of Trade and repair services and Hotel & Restaurant for the year 2022-23 as per 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>			
Item	2011-12 series	2022-23 series	% difference
Trade and repair services			
Public sector	40,431	32,454	-19.7
Private corporations*	11,47,933	6,57,562	-42.7
Households [#]	14,16,588	9,77,084	-31.0
Total	26,04,952	16,67,100	-36.0
Hotel and restaurant			
Public sector	1,286	1,059	-17.7
Private corporations*	1,18,789	1,09,213	-8.1
Households [#]	1,44,519	1,69,327	17.2
Total	2,64,594	2,79,599	5.7

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises and NPISH

Table 16.2: List of commodities considered in compilation of TTM weighted Output PPI

S. No.	Commodities	S. No.	Commodities
1	Paddy	64	Miscellaneous food products
2	Wheat	65	Alcoholic beverages
3	Coarse cereals	66	Non-alcoholic beverages
4	Gram	67	Tea processed
5	Arhar	68	Coffee processed
6	Other pulses	69	Tobacco Products
7	Groundnut	70	Cotton Yarn and Cotton Textiles
8	Rapeseed and mustard	71	Synthetic yarn and synthetic textiles
9	Other oil seeds	72	Wool yarn and woolen textiles
10	Fibre Crop	73	Silk yarn and silk textiles
11	Sugar crop	74	Carpet weaving
12	Coconut	75	Ready-made garments
13	Tobacco	76	Misc. textile products
14	Tea	77	Leather footwear
15	Coffee	78	Leather and leather products except footwear
16	Rubber	79	Wood and wood products except furniture
17	Mango	80	Paper, Paper products and newsprint
18	Banana	81	Publishing, printing and allied activities
19	Citrus & grape fruit	82	Furniture & Fixtures
20	Other Fruit	83	Rubber products
21	Potato	84	Plastic products
22	Onions	85	Petroleum products
23	Tomato	86	Coal tar products
24	Cabbage and cauliflower	87	Inorganic chemicals
25	Other Vegetable	88	Organic chemicals
26	Spices and Condiments	89	Fertilizers
27	Other food crops	90	Pesticides
28	Milk	91	Paints, varnishes and lacquers
29	Wool	92	Drugs and medicine
30	Egg	93	Soaps, cosmetics and glycerin
31	Poultry Meat	94	Synthetic fibres, resin
32	Beef	95	Other chemicals and chemical products
33	Mutton	96	Cement
34	Other Meat	97	Non-metallic mineral products
35	Other livestock products	98	Iron and steel Ferro alloys
36	Industry Wood	99	Iron and steel casting and forging
37	Firewood	100	Iron and steel foundries
38	Other forestry products	101	Non-ferrous basic metals (including alloys)
39	Inland Fish	102	Hand tools, hardware
40	Marine Fish	103	Miscellaneous metal products
41	Prawn	104	Tractors and other agricultural implements

S. No.	Commodities	S. No.	Commodities
42	Coal and Lignite	105	Industrial machinery for food and textile industry
43	Crude petroleum	106	Industrial machinery (except food and textile)
44	Natural Gas	107	Machine tools
45	Iron ore	108	Other non-electrical machinery
46	Manganese ore	109	Electrical industrial machinery
47	Bauxite	110	Electrical cables, wires
48	Copper ore	111	Batteries
49	Other Metallic minerals	112	Electrical appliances
50	Limestone	113	Communication equipment
51	Other non-metallic minerals	114	Other electrical machinery
52	Processed poultry meat & poultry meat products	115	Electronic equipment including T.V
53	Processed other meat & meat products	116	Medical precision, optical instrument
54	Processed fish & fish products	117	Watches and clocks
55	Processed fruits & Processed Vegetables	118	Ships and boats
56	Dairy products	119	Rail equipment
57	Edible Oils and Fats	120	Motor vehicles
58	wheat (Grain Mill Products)	121	Motor cycles and scooters
59	Pulse (Grain Mill Products)	122	Bicycles, cycle-rickshaw
60	Rice (Grain Mill Products)	123	Aircrafts & Spacecrafts
61	Others (Grain Mill Products)	124	Other transport equipment
62	Sugar, Starch and Gur	125	Gems & jewellery
63	Bread & Bakery products	126	Miscellaneous manufacturing

CHAPTER 17

TRANSPORT, STORAGE AND COMMUNICATION

17.1 Coverage

The transport, storage and communication industry cover economic activities related to the movement of passengers and goods, storage and logistics, and communication services.

The ‘Transport’ industry includes activities related to the movement of passengers and goods by various modes of transport, such as road, rail, water, air, and pipelines. It also covers supporting and auxiliary transport services, including cargo handling, terminal operations, freight forwarding, travel agency services, and transport-related infrastructure management. These activities facilitate the movement of people and commodities within and across national boundaries and are essential for trade and economic integration.

The ‘Storage and Warehousing’ industry includes economic activities carried out by warehousing corporations, cold storage facilities, and other storage and warehousing services n.e.c. This category covers general merchandise warehouses as well as the storage of furniture, automobiles, gas and oil, chemicals, textiles, and other goods.

The ‘Communication’ industry includes postal services, courier activities, telecommunications services, recording, publishing and broadcasting services, internet and data transmission services, satellite communication, and other network-based communication services. These activities facilitate the transmission of information, voice, text, images, and data between users through physical and electronic communication networks. However, activities such as Post Office Savings Bank, Postal Life Insurance, and telecommunication workshops are excluded from this sector and classified under banking, insurance and manufacturing, respectively, based on their principal economic activity and nature of output. Coverage of storage and communication sector as per NIC 2008 classification is given below.

The coverage of ‘Transport, Storage and Communication’ industry in terms of NIC 2008 is as follows:

CC	Compilation Categories	NIC 2008 codes
Road Transport		
C38	Scheduled passenger land transport	4921
C39	Non-scheduled passenger land transport	4922
C40	Motorised freight transport	49231
C41	Non-motorised freight transport	49232
C42	Transport via pipelines	493
C43	Water Transport	50
C44	Air Transport	51

CC	Compilation Categories	NIC 2008 codes
C46	Services incidental to transport	522
Storage & Warehousing		
C45	Storage & Warehousing	521
Communication		
C47	Postal activities	531
C48	Courier activities	532
C49	Activities of cable operators	61103
C50	Telecommunication	61 (excluding 61103)
C51	Recording, Publishing and Broadcasting services	58, 59, 60

17.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA)

17.2.1 Data Sources

- (i) Accounts of the public sector enterprises and budget documents for Departmental Enterprises;
- (ii) Ministry of Corporate Affairs (MCA-21) database for Private Corporations
- (iii) Annual Periodic Labour Force Survey (PLFS) for Household Sector
- (iv) Annual Survey on Unincorporated Sector Enterprise (ASUSE) for Household Sector
- (v) Automobile Domestic Sales Trend available from Society of Indian Automobile Manufacturer (SIAM) used in compilation of volume indicator for constant price estimates of GVA for Road Transport.
- (vi) Cargo Handled at Major and Minor Ports published by Ministry of Ports, Shipping and Waterways (M/o PSW) used in compilation of volume indicator for constant price estimates of GVA for Water Transport.
- (vii) Cargo and Passenger Traffic provided by Directorate General of Civil Aviation (DGCA) used in compilation of volume indicator for constant price estimates of GVA for Air Transport.
- (viii) Warehousing average capacity utilized and charges received from public sector enterprises used in compilation of constant price estimates of GVA for Storage.
- (ix) Minutes of usage and data usage available from Department of Telecommunication used in compilation of constant price estimates of GVA for Communications.
- (x) Consumer Price Index published by Ministry of Statistics and Programme Implementation

17.2.2 Methodology for Estimation at Current Prices

The estimates of transport, storage and communication are prepared separately for institutional sectors and then aggregated to arrive at corresponding industry estimates. Presence of individual industries across institutional sectors is given in the following table:

Industries	Public			Private	
	GG	DE	NDE	PC	HH
Road transport		✓	✓	✓	✓
Water transport		✓	✓	✓	✓
Air transport			✓	✓	
Services incidental to transport		✓	✓	✓	✓
Storage			✓	✓	✓
Communication & services related to broadcasting		✓	✓	✓	✓

Public sector:

GVA estimates of units engaged in transport, storage and communication are compiled using income approach in case of departmental enterprises and production approach for non-departmental enterprises. Estimates of GVA relating to public sector units are based on the analysis of accounts of the public sector enterprises and budget documents for Departmental Enterprises. A complete analysis of the reports including the profit & loss account and balance sheet are undertaken for preparing the components of value added and other aggregates. The details are discussed in Chapter-4 which covers Departmental Enterprises and Chapter-5 on Non-Departmental Enterprises.

Private Corporate Sector:

MCA-21 database from Ministry of Corporate Affairs (MCA) is used for compiling the industry-wise GVA estimates. The information on balance sheet and profit & loss accounts are extensively utilized for the preparation of estimates following production approach. The balance sheet provides information on assets, liabilities, borrowings, and capital structure, while the profit & loss account gives details of income, expenditure, and operating surplus. Detailed methodology is discussed in Chapter-6 on Non-Financial Private Corporations.

Household Sector:

Estimates of GVA of the household sector is compiled Compilation Category (CC) wise following the labour input method using projected population adjusted workforce estimates from PLFS and value added per worker from ASUSE. Coverage and detailed methodology is discussed in Chapter-8 on Household sector.

17.2.3 Methodology for Estimation at Constant prices**Transport**

GVA estimate for transport industry at constant price for the subsequent years across all institutional sectors is compiled adopting volume extrapolation method. In this approach, the base year GVA estimates are extrapolated using relevant volume indicators.

The industry-wise volume indicators used in extrapolation are constructed using activity-specific data sources and are as follows:

Road transport: The constant price GVA estimate is extrapolated using a volume indicator derived from domestic automobile sales data (commercial vehicles and three wheelers), sourced from the Society of Indian Automobile Manufacturers (SIAM). This indicator is compiled by factoring in total stock of commercial vehicles of 15 years.

Water transport: For both major and minor ports, information on cargo handled is obtained from the Ministry of Ports, Shipping and Waterways. The volume of cargo handled serves as a direct measure of activity in the shipping and water transport sector.

Air transport: The volume extrapolation is based on composite indicator of passenger kilometers and net ton kilometers of freight handled (both domestic and international). Together, these indicators capture the volume of services provided by the aviation sector.

Services incidental to transport: For activities such as operation of transport terminals, cargo handling services, freight forwarding and logistic services and other allied activities related to transport industry, a composite volume indicator is used. The indicator is constructed using combined GVA growth rates of road and water transport in household sector and combined GVA growth rates of road, water, and air transport for other institutional sectors (Departmental Enterprises, Non-Departmental Enterprises and Private Corporations).

Storage and Communication

GVA estimates at constant prices for all institutional sectors related to storage and communication (except telecommunication) industry are compiled using single extrapolation method. In this approach, current price Gross Value of Output (GVO) is deflated using appropriate price indicators. The growth rate of this deflated output is then applied to extrapolate Gross Value Added (GVA) of base year in order to derive constant price estimates for subsequent years. In case of telecommunication, volume extrapolation is adopted while compiling the constant price estimate of GVA.

Storage: For single extrapolation method, a storage and warehousing index is constructed using two key parameters – average capacity utilized and warehousing charges of enterprises engaged in storage operations. This information is available from Central and State Warehousing Corporations of India. The average capacity utilized captures the extent to which the available storage infrastructure is effectively being used, thereby serving as a measure of physical volume of services rendered. On the other hand, warehousing charges represent the revenue component, reflecting changes in service rates and income generation from storage activity. Current price GVO is then deflated by using the index. Growth in the deflated output is used to extrapolate constant price GVA of base year for subsequent years.

Postal, courier activity and cable operator, broadcasting and publishing: For compiling the constant price GVA estimates of postal and courier activity, cable operator, broadcasting and publishing, price indicators used for deflating the GVO of respective industries have been constructed using relevant items of CPI (base year 2024) which closely reflect changes in prices of services provided by aforementioned industry. To align with base year 2022-23, a linking factor

is created between CPI series 2012 and 2024. The growth of deflated output is then used to extrapolate base year GVA estimates for aforementioned industries, for subsequent years.

Telecommunication: GVA estimates at constant prices are compiled using the volume extrapolation method. The volume indicator used for extrapolation is based on the data usage and minutes of usage available from the Department of Telecommunication. These two parameters effectively capture the actual volume of activity in this industry.

17.3 Limitations

For storage and communication (except telecommunication) services, the constant price estimates are compiled using the single extrapolation method. In the absence of any relevant direct price deflator or volume indicator, indicator based on capacity utilization and charges for storage and warehouse corporations is being used for storage activity whereas for communication relevant CPI items, are being used.

The current prices estimates of GVA for Transport (other than railways), Storage and Communication for the year 2022-23 as per 2011-12 series and 2022-23 series are given at **Table 17.1**.

Table 17.1 Estimates of GVA in respect of Transport (other than railways), Storage and Communication for the year 2022-23 as per 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

Item	2011-12 series	2022-23 series	% difference
Road transport			
Public sector	35,813	35,111	-2.0
Private corporations*	1,24,909	54,788	-56.1
Households [#]	5,66,916	5,14,955	-9.2
Total	7,27,638	6,04,854	-16.9
Water transport			
Public sector	3,032	3,001	-1.0
Private corporations*	16,642	15,514	-6.8
Households [#]	2,470	571	-76.9
Total	22,143	19,086	-13.8
Air transport			
Public sector	969	215	-77.8
Private corporations	17,171	20,471	19.2
Total	18,140	20,686	14.0

Item	2011-12 series	2022-23 series	% difference
Services incidental to transport			
Public sector	25,008	25,608	2.4
Private corporations*	1,18,303	90,557	-23.5
Household sector [#]	8,616	12,150	41.0
Total	1,51,928	1,28,315	-15.5
Transport	9,19,849	7,72,941	-16.0
Storage			
Public sector	3,531	3,448	-2.4
Private corporations*	18,559	21,329	14.9
Households [#]	2,134	3,367	57.8
Total	24,223	28,144	16.2
Communication			
Public sector	41,311	37,718	-8.7
Private corporations*	3,60,648	3,22,147	-10.7
Households [#]	33,951	12,482	-63.2
Total	4,35,910	3,72,347	-14.6
Transport, Storage and Communication	13,79,982	11,73,432	-15.0

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises and NPISH

CHAPTER 18

REAL ESTATE, PROFESSIONAL SERVICES AND OWNERSHIP OF DWELLINGS

18.1 Coverage

As per the framework of the United Nations System of National Accounts (SNA 2025), this sector covers activities relating to real estate, rental and leasing, and a wide range of professional, scientific, and technical services. The sector includes the following broad categories of economic activities:

(i) Real estate activities – These comprise the buying, selling, leasing, renting, and management of land, buildings, and other real estate assets, carried out on own account or on a fee or contract basis. It also includes activities of real estate developers, brokers, and agents involved in facilitating property transactions.

CC	Compilation Category	NIC 2008 codes
C52	Real Estate activities	68

(ii) Rental and leasing activities – This includes the renting and leasing of machinery, equipment, and personal and household goods without operators, where the ownership of the asset remains with the lessor while the right to use is transferred temporarily to the lessee.

Coverage of rental and leasing activities as per NIC 2008 classification is given below.

CC	Compilation Category	NIC 2008 codes
C57	Rental and leasing services	77

(iii) Computer and information technology services – These consist of computer programming, software development, systems design, IT consultancy, data processing, hosting, and other related digital and information services supporting technological and business operations. As per NIC 2008 classification, coverage of this activity is as follows:

CC	Compilation Category	NIC 2008 codes
C53	Computer and information related services	62, 63

(iv) Accounting and financial consultancy services – This covers accounting, bookkeeping, auditing, and tax consultancy activities undertaken for enterprises, institutions, and individuals to support financial reporting, compliance, and business decision-making.

CC	Compilation Category	NIC 2008 codes
C55	Accounting & book keeping activities	692

(v) Legal services – These include legal advisory, representation, documentation, arbitration, and notarial services provided to households, enterprises, and Government institutions. Coverage of this industry in terms of NIC 2008 is as follows:

CC	Compilation Category	NIC 2008 codes
C54	Legal activities	691

(vi) Professional, scientific, and technical services – This is a broad category covering specialized knowledge-based services such as research and experimental development, market research, business and management consultancy, architectural and engineering activities, technical testing and analysis, advertising, and other scientific or technical support services. It also includes administrative and support service activities, which provide essential operational support to businesses through services such as rental and leasing, employment services, travel arrangements, security, cleaning, and office administration, thereby facilitating the efficient functioning of enterprises. Coverage of this activity as per NIC 2008 classification is given below.

CC	Compilation Category	NIC 2008 codes
C56	Research and development and other professional, scientific and technical services	70 to 75
C58	Administrative and support services excluding rental and leasing services	78 to 82

(vii) Ownership of dwelling – The production of housing services by owner-occupied dwellings, measured through imputed rentals in line with the SNA principle of own-account production, wherein owner-occupiers are treated as producing housing services for their own consumption. However, services associated with non-residential buildings are not separately recorded under this sector, as these are generally treated as ancillary or secondary activities and are allocated to the principal economic activity of the institutional unit using or operating the building.

18.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

18.2.1 Data Sources

- (i) Accounts of the public sector enterprises and budget documents for General Government and Departmental Enterprises;
- (ii) Ministry of Corporate Affairs (MCA-21) database for Private Corporations
- (iii) Annual Periodic Labour Force Survey (PLFS) for Unincorporated Sector of Real Estate and Professional Services.
- (iv) Annual Survey on Unincorporated Sector Enterprise (ASUSE) for Unincorporated Sector of Real Estate and Professional Services.
- (v) Household Consumption Expenditure Survey (HCES) 2022-23 and 2023-24
- (vi) All India Debt and Investment Survey (AIDIS), 2019 for estimation of average household size used in estimation of GVO and GVA of Ownership of Dwellings (Rural)
- (vii) Drinking Water and Sanitation, Hygiene and Housing Condition Survey, July to December 2018
- (viii) Population Projection Report Published by Ministry of Health & Family Welfare

- (ix) Consumer Price Index published by Ministry of Statistics and Programme Implementation

18.2.2 Methodology for Estimation at Current Prices

The GVA estimates of real estate, ownership of dwelling and professional services are prepared separately using institutional sector approach and then aggregated to arrive at corresponding industry estimates. Presence of individual industries across institutional sectors is given in the following table:

Industries	Public			Private	
	GG	DE	NDE	PC	HH
Real Estate Activities				✓	✓
Computer and Related activities			✓	✓	✓
Legal activities					✓
Accounting, book-keeping					✓
Research and development & Other Professional Services +veterinary activities			✓	✓	✓
Administrative and support services excluding Renting of machinery & equipment without operator, personal / household goods				✓	✓
Ownership of Dwellings					✓

Public Sector:

Estimates of GVA relating to public sector units engaged in real estate & professional services are based on the analysis of annual accounts of the public sector enterprises using production approach. A complete analysis of the reports including the profit-loss account and balance-sheet are undertaken for preparing the components of value added and other aggregates. The details are discussed in Chapter-5 on Non-Departmental Enterprises.

Private Corporate Sector:

MCA21 database from Ministry of Corporate Affairs is used for compiling the industry wise GVA estimates. The information on balance sheet and profit & loss accounts are extensively utilized for the preparation of estimates following production approach. The balance sheet provides information on assets, liabilities, borrowings, and capital structure, while the profit & loss statements give details of income, expenditure, and operating surplus. These details are crucial for deriving key aggregates such as output, intermediate consumption, and hence GVA at the industry level. Detailed methodology is discussed in Chapter-6 on Non-Financial Private Corporations.

Household Sector:

The estimation of Gross Value Added (GVA) in the household sector is carried out Compilation Category (CC) wise using the labour input method using annual survey data from PLFS and ASUSE. Coverage and detailed methodology is discussed in Chapter-8 on Household sector.

18.2.3 Methodology for Estimation at Constant prices

The GVA estimates for real estate and professional services industry at constant price for the subsequent years across all institutional sectors are compiled using the single extrapolation method. In this approach, current price Gross Value of Output (GVO) is deflated using appropriate price indices to obtain output at constant prices. The growth rate of this deflated output is then applied to extrapolate base year Gross Value Added (GVA) for subsequent years.

For compiling the constant price GVA estimates of real estate & professional services, the deflator used for extrapolation is constructed using re-based Consumer Price Index (CPI 2024) of relevant items which closely reflect changes in prices of services provided by this industry. To align with base year 2022-23, relevant item specific CPI has been re-based using a linking factor between CPI series 2012 and 2024 at national level.

18.2.4 Method of estimation of GVA ownership of dwellings

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

In 2022-23 series, GVA estimates for the ownership of dwellings in case of urban has been estimated as the gross rental (actual rent paid and imputed rent for owned dwellings) of the residential houses less the cost of repairs and maintenance; whereas for rural sector, since renting activity is not widespread, GVA estimates are compiled using user cost approach following recommendations in System of National Accounts.

For rural areas, the methodology for estimating value added from rural dwellings has been updated to user cost approach, while that for urban areas has been kept same as 2011-12 series.

(i) Ownership of Urban dwellings:

The number of dwellings in urban areas has been estimated using projected population figures published by the Ministry of Health & Family Welfare, along with the average household size derived from latest Household Consumption Expenditure Surveys (HCES).

For FY 2022–23 and FY 2023–24, the number of dwellings has been estimated using projected population data (M/o Health and Family Welfare) for the respective years and average household

size compiled from HCES 2022–23 and 2023–24. Additionally, adjustments have been made to account for employer-provided housing services in the General Government and Private & Public Corporations sectors using information available in Drinking Water, Sanitation, Hygiene and Housing Condition Survey of NSS conducted in 2018.

For base year 2022–23, the estimated number of dwellings has been multiplied by the average rent per household, derived from HCES 2022–23, to estimate gross rental value (which is essentially the GVO). For subsequent years, estimates of urban residential dwellings have been projected based on the growth observed between FY 2022–23 and FY 2023–24 in the estimated number of dwellings. Rent per household has been extrapolated to subsequent years using the house rent index from the Consumer Price Index (CPI 2024), rebased to 2022–23.

Gross Value Added (GVA) estimates for Ownership of Dwellings (urban) have been derived by deducting repair and maintenance costs, estimated from the results of All India Debt and Investment Survey (AIDIS) and Net Stock of Urban Dwellings (compiled using Perpetual Inventory Method) from the estimated gross rental value (GVO).

The constant price estimates of gross rental for urban areas are compiled by multiplying the base year rent per dwelling, as available from HCES 2022–23, with the estimated number of dwellings for the reference year. The GVA estimates at constant prices are then derived by deducting repair and maintenance expenses at constant prices from the corresponding gross rental estimates.

(ii) Ownership of rural dwellings

As most of households in the rural areas owned their dwelling units, the estimates of rural dwellings have been prepared using the user cost approach. In the user cost measure, the net operating surplus is imputed using the opportunity cost principle; *i.e.*, the net operating surplus is imputed on the basis of what owner occupiers could have earned on alternative investments. Then, the dwelling costs are added to the imputed net operating surplus to obtain the imputed rent. These costs include: consumption of fixed capital (CFC) for dwellings, expenditures on ordinary maintenance and repair of dwellings. Thus, the user cost approach consists of estimating each of the expenditure that owners of dwellings would need to consider in fixing a market rent if they decided to rent their dwellings to other people rather than to live in them themselves. These expenditures for estimation at factor cost are: Intermediate consumption, Consumption of fixed capital and Net operating surplus.

For estimating net operating surplus, if ‘*r*’ is the chosen reference rate of return and NFCS represents Net Fixed Capital Stock of dwellings, then Net Operating Surplus (Imputed) = $r \times \text{NFCS}$. It is recommended to use a real, risk-free rate of return for imputed the Net Operating Surplus component of the User Cost Method, rather than using the actual market mortgage/borrowing rate directly. Hence, the rate of interest on Public Provident Fund is being used as rate of return. The estimates of repair and maintenance are derived using results of AIDIS and NFCS of rural dwellings compiled using Perpetual Inventory Method (PIM). For this purpose, the ratio of repair and maintenance to value of stock of rural dwellings has been compiled from AIDIS and this ratio is then applied to Net Fixed Capital Stock which is estimated using Perpetual

Inventory Method (PIM). The estimation of consumption of fixed capital stock using PIM has been discussed in detail in the Chapter-25 on estimation of Net Fixed Capital Stock and Consumption of Fixed Capital. Thus, GVA is the sum of Net Operating Surplus (Imputed) and CFC. In order to compile GVO, intermediate consumption (in the form of actual running costs of maintaining the dwelling and minor repairs) are added to GVA. Since, PIM also provides constant price values for CFC and NFCS, the constant price estimates are derived by using above method applied to constant value of NFCS.

18.3 Limitations

In the absence of any direct price deflator or volume indicator, the constant price estimates for real estate & professional services are compiled using single extrapolation method, with proxy indices based on relevant CPI items from 2024 series.

The current prices estimates of GVA for Real estate, ownership of dwellings and professional services for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at **Table 18.1**.

Table 18.1: Estimates of GVA in respect of Real estate, ownership of dwellings and professional services for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

(in Rs. Crore)

Item	2011-12 series	2022-23 series	% difference
Real estate, ownership of dwellings and professional services			
Public sector	9,145	9,163	0.2
Private corporations*	24,85,924	25,53,207	2.7
Households [#]	16,52,691	20,05,112	21.3
Total	41,47,761	45,67,483	10.1

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises, NPISH and ownership of dwellings

CHAPTER 19

PUBLIC ADMINISTRATION AND DEFENCE

19.1 Coverage

Public administration and defence covers services rendered by the administrative departments of the general Government i.e. central and state Governments, union territories, local bodies. Public services provided by autonomous institutions (quasi-Government bodies) are also included under the industry. These services relate to the organs of state dealing with collection of taxes, other fiscal services, interest payments and servicing of debt, defence services, administrative services (such as external affairs, police, jails, supplies and disposal, pensions), social and community services (viz., social security, welfare and relief on account of natural calamities) and economic services (e.g. agriculture, animal husbandry, industries and community development).

19.2 Data Sources

The sources of data for estimating the value of output and value added in respect of these services are the budget documents of Central Government, State Governments, Union Territories. Besides, annual accounts of local bodies and autonomous bodies containing the item wise receipt and expenditure are used to compile the estimates in respect of these subsectors.

19.3 Methodology for Estimation at Current Prices

Normally, goods and services produced for own final consumption or own capital formation are valued on the basis of prices of similar goods and services produced by market producers. However, in the case of general Government, which is engaged in non-market production, its output cannot be valued with these imputation procedures, as suitable prices for similar services produced by market producers are not available. For these reasons, and also to ensure that the various non-market services produced by Government units are valued consistently with each other, the SNA recommends that they are all valued by the sum of the costs incurred in their production, namely, as the sum of:

- i. Intermediate Consumption;
- ii. Compensation of Employees;
- iii. Consumption of Fixed Capital; and,
- iv. Other taxes, less subsidies, on production

Therefore, the net operating surplus on the production of non-market goods or services produced by Government units is assumed always to be zero. In most cases, the general Government may also have some receipts (such as receipts from sale of publications or receipts from entry tickets to monuments, etc.), which however, are not based on market prices. Even in such cases, the total value of its output is measured on cost basis. The value of its receipts from the sale of non-market goods or services at prices that are not economically significant remain as part of the value of its nonmarket output.

The expenditure on services produced by the administrative departments are mainly financed by the Governments themselves and they are consequently considered to be the final consumer of these services except for a minor part sold to other sectors. The cost of inputs, comprising purchase of commodities and services, compensation of employees and CFC which is also equal to the value of output produced for own use and a minor part sold to household sector thus does not include the element of operating surplus. GDP from the activities of public administration and defence, therefore, comprises compensation of employees and CFC only.

Two detailed exercises, namely, the economic and purpose classifications of all the budgetary transactions of the public authorities are undertaken annually. The detailed methodology and the concepts and definitions adopted have been discussed in detail in the chapter on 'General Government'. The estimates of compensation of employees for all administrative departments include that for education, medical & health services, water supply, sanitary services and construction in addition to public administration & defence. For instance, education, medical & health services form part of 'other services', construction of 'construction' and water supply and sanitation of 'electricity gas and water supply' industry groups. The estimates of compensation of employees for these activities are obtained from this purpose classification and are subtracted from the total compensation of employees to arrive at the estimates for public administration and defence.

In the case of local authorities, estimates are provided by the concerned DESs. In the new series, 20 states have provided the estimates, for rest of the states, imputations are done based on the grants provided to them. Similarly, for autonomous institution, central autonomous institutes covering the majority of grants are analysed centrally. To take into account the rest, multiplier based on the grants provided to all autonomous institutes and the grants provided to institutes in respect of which annual accounts are available (analysed institutes), is applied on the aggregates of analysed institutes. For State autonomous institutes, information is provided by the respective DESs. In the new series, 16 states have provided the estimates; for rest of the states, imputations are done based on the grants provides to them.

The CFC for administrative departments is not available in Budget documents. Hence, the CFC is estimated for the Government sector (Administrative Departments & Departmental Enterprises) separately and is used in deriving the estimates of GVA.

19.4 Methodology for Estimation at Constant Prices

The estimates of NVA from public administration and defence at constant prices are compiled by deflating the current price estimates by the CPI for Industrial Workers (CPI-IW). The GVA is estimated by adding the estimates of CFC at constant prices compiled independently, to the NVA at constant prices. Details concerning constant price estimates of CFC are given in Chapter 25.

19.5 Limitations

The annual budget documents are the main source of information on the activities of Government administrative departments. These details generally give the necessary information for the

preparation of estimates of value added. Although the overall structure of the budget, as prescribed, is uniformly followed by the Central and State Governments, there are certain variations in the presentation of details from state to state. There are some important items of expenditure about which no details are given.

In the case of local bodies, there is a considerable time lag in the availability of state-wise consolidated accounts for most of the states. While there is not much difficulty in the case of bigger local bodies like the Municipal Corporations, its relatively more challenging to get hold of annual accounts for municipalities and village panchayats due to their large numbers. As such the macroeconomic estimates of local bodies are compiled by most of states by considering the accounts of all urban local bodies on census basis and using the accounts of rural local bodies on sample basis.

The current prices estimates of GVA for Public Administration & Defence for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at **Table 19.1**.

Table 19.1: Estimates of GVA for Public Administration & Defence for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. crore)</i>			
Activity	2011-12 series	2022-23 series	% difference
Public Administration & Defence	14,43,484	14,30,119	-0.9

CHAPTER 20

EDUCATION, HEALTH, OTHER SERVICES, AND ACTIVITIES OF PRIVATE HOUSEHOLDS AS EMPLOYERS

20.1 Coverage

The ‘Other Services’ sector comprises a diverse range of service-producing activities that primarily cater to households and communities and are classified under various divisions of the International Standard Industrial Classification (ISIC) as adopted in the System of National Accounts (SNA 2008). In accordance with SNA 2008, this sector covers the production of services by market producers, non-market producers, and households acting as employers of domestic personnel.

The activities covered under this sector include:

Education services, encompassing pre-primary, primary, secondary, higher, technical, vocational, and adult education, as well as educational support services. These activities include both public and private institutions engaged in the provision of formal and non-formal education and training and coverage of this industry in terms of NIC 2008 is as follows:

CC	Compilation Category	NIC 2008 codes
C59	Coaching/Academic tutoring services	85491
C60	Education other than coaching	85 (excluding 85491)

Human health and social work activities, comprising hospitals, clinics, nursing homes, diagnostic centres, medical and dental practices, allied healthcare services, residential care activities, and social work services with or without accommodation. The coverage extends to preventive, curative, rehabilitative, and long-term care services.

CC	Compilation Category	NIC 2008 codes
C61	Human health activities and care services with/without accommodation	86,87,88

Arts, entertainment, recreation, cultural and sporting activities, including creative, artistic and performing arts activities, operation of museums, libraries and cultural institutions, gambling and betting activities where applicable, amusement and recreation services, and sports clubs, facilities and events.

Activities of membership organisations, covering the activities of business and employers’ organisations, professional associations, labour organisations, religious organisations, political organisations, and other membership-based organisations that provide services to their members or the community.

Other personal service activities, including services such as laundry and dry-cleaning, hairdressing and beauty treatment, custom tailoring, repair of personal and household goods, funeral and related activities, and various other personal services provided directly to households.

Coverage of other services as per NIC 2008 classification is given below, which is aggregated to prepare compilation categories used for GVA compilation purpose.

CC	Compilation Category	NIC 2008 codes
C62	Recreational, cultural and sporting activities	90, 91, 92(excluding 92001, 92002), 93
C63	Activities of membership organisations	94
C64	Washing & cleaning of textiles and fur products	9601
C65	Hair dressing and other beauty treatment	9602
C66	Custom tailoring	14105
C67	Other personal service activities	9609, 9603

Activities of private households as employers of domestic personnel, which include households employing domestic workers such as maids, cooks, gardeners, drivers, caretakers, watchmen, tutors, and other household staff. In line with the SNA framework, the output of these activities is measured by the compensation paid to domestic employees and the associated value added generated through such employment.

CC	Compilation Category	NIC 2008 codes
C68	Private households with employed persons	97

20.2 Compilation of Gross Value of Output (GVO) and Gross Value Added (GVA):

20.2.1 Data Sources

- (i) Accounts of the public sector enterprises and budget documents for General Government and Departmental Enterprises;
- (ii) Ministry of Corporate Affairs (MCA-21) database for Private Corporations
- (iii) Annual Periodic Labour Force Survey (PLFS) for Unincorporated Sector
- (iv) Annual Survey on Unincorporated Sector Enterprise (ASUSE) for Unincorporated Sector
- (v) Population Projection Report Published by Ministry of Health & Family Welfare used in estimation of workforce for the Unincorporated Sector
- (vi) Consumer Price Index published by Ministry of Statistics and Programme Implementation

20.2.2 Methodology for Estimation at Current Prices

The GVA estimates of other services is prepared separately for institutional sectors and then aggregated to arrive at corresponding industry estimates. Presence of individual industries across institutional sectors is given in the following table.

Industries	Public			Private	
	GG	DE	NDE	PC	HH
Education	✓		✓	✓	✓
Health	✓			✓	✓
Activities of membership organisations				✓	✓
Recreational, cultural and sporting activities			✓	✓	✓
Personnel services				✓	✓
Private households as employers					✓

(a) Public Sector

Estimates of GVA relating to public sector units engaged in other services are based on the analysis of accounts of the public sector enterprises and budget documents for the General Government following cost of production approach and for Departmental Enterprises following income approach. A complete analysis of the reports including the profit-loss account and balance-sheet are undertaken for preparing the components of value added and other aggregates. The details are discussed in Chapter-4 which covers General Government and Departmental Enterprises, and Chapter-5 on Non-Departmental Enterprises.

(b) Private Corporate Sector

MCA21 database from Ministry of Corporate Affairs is used for compiling the industry wise GVA estimates. The information on balance sheet and profit & loss statements are extensively utilized for the preparation of estimates using production approach. The balance sheet provides information on assets, liabilities, borrowings, and capital structure, while the profit & loss statements gives details of income, expenditure, and operating surplus. These details are crucial for deriving key aggregates such as output, intermediate consumption, and hence GVA at the industry level. Detailed methodology is discussed in Chapter-6 on Non-Financial Private Corporations.

(c) Household Sector

The estimation of Gross Value Added (GVA) in the household sector is carried out Compilation Category (CC) wise using the labour input method using annual survey data from PLFS and ASUSE. Coverage and detailed methodology is discussed in Chapter-8 on Household sector.

(d) Grant-in-aid

Government provides significant grants to non-Government educational institutes. While analysing State budget documents, these are treated as current transfers from the Government. It was assumed that the educational institutions utilizing these grants would be captured through Annual Survey of Unincorporated Sector Enterprises (ASUSE). However, the non-Government educational institutions where the salaries of teachers and staff are fully funded by the Government are currently excluded from the coverage of ASUSE. In order to ensure comprehensive coverage

of the education sector, the grant provided for salary purpose have been included in the GVA of household sector after duly adjusting the grant in aid reported by educational institutes covered under ASUSE.

(e) Private households with employed persons (NIC 97)

The activities covered under this category comprise private households employing domestic personnel such as maids, cooks, gardeners, gatekeepers, secretaries, governesses, babysitters and other household employees.

Since private households employing persons cannot feasibly be treated as enterprises, information for this activity is generally not collected through the Annual Survey of Unincorporated Sector Enterprises (ASUSE), instead the estimates of Gross Value Added (GVA) for this activity have been compiled using information available from the Periodic Labour Force Survey (PLFS).

For the base year 2022–23, wage and salary estimate of workers with 2-digit NIC-2008 code 97 have been derived separately for rural and urban areas using PLFS data. The total earnings of workers engaged in this activity are aggregated and annual wages are estimated (using salary and wages reported in Block 6 of PLFS) separately for rural and urban areas. Average annual wages/salaries per worker (GVAPW) is then been estimated by dividing annual wage by total number of workers engaged in NIC 97 activities.

The labour input for NIC 97 is measured using workforce estimates derived from PLFS. To account for population changes over time, the labour input was adjusted using projected population estimates. The adjusted labour input (Adj LI) is computed separately for rural and urban areas as:

$$Adj LI = \frac{Total\ workforce\ in\ NIC\ code\ 97}{Total\ estimated\ population\ from\ PLFS} \times projected\ population \dots (20.1)$$

The GVA estimates for private households with employed persons were then compiled as the product of average annual earning and adjusted Labour Input (Adj LI), as shown below:

$$GVA = GVAPW \times Adj LI \dots (20.2)$$

where,

$$GVAPW = \frac{Annual\ wage}{Total\ number\ of\ workers} \dots (20.3)$$

The estimates were prepared separately for rural and urban areas and subsequently aggregated to obtain the overall GVA for NIC code 97.

20.2.3 Methodology for Estimation at Constant Prices

The GVA estimate for other services industry at constant prices for the subsequent years across all institutional sectors is compiled using the single extrapolation method. In this approach, current

price Gross Value of Output (GVO) is deflated using appropriate price indices to obtain output at constant prices. The growth rate of this deflated output is then applied to extrapolate base year Gross Value Added (GVA) which provides the GVA at constant prices for subsequent years.

The deflator used for extrapolation is constructed using re-based Consumer Price Index (CPI 2024) of relevant items which closely reflect changes in prices of services provided by 'other services' industry. To align with base year 2022-23, relevant item specific CPI has been re-based using a linking factor between CPI series 2012 and 2024 at national level. Composite indices are created for different industries covered under 'other services'.

20.3 Limitations

In the absence of any direct price deflator or volume indicator, relevant items from CPI 2024 series have been used to create proxy price indices for miscellaneous services. The same proxy deflator has been used to compile the constant price estimates of other services using the single extrapolation method.

The current prices estimates of GVA for Other services for the year 2022-23 as per 2011-12 series and 2022-23 series are given at **Table 20.1**.

Table 20.1: Estimates of GVA in respect of Other services for the year 2022-23 as per 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>			
Item	2011-12 series	2022-23 series	% difference
Other services			
Public sector	7,53,807	7,79,627	3.4
Private corporations*	7,19,546	4,41,816	-38.6
Households [#]	4,42,064	4,24,730	-3.9
Total	19,15,417	16,46,173	-14.1

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises and NPISH

Expenditure and External Sector

CHAPTER 21

PRIVATE FINAL CONSUMPTION EXPENDITURE

21.1 Coverage

The Private Final Consumption Expenditure (PFCE) compiled as part of National Accounts Statistics (NAS) consists of final consumption expenditure by households as well as Non-Profit Institutions Serving Households (NPISH). In the 2011-12 series, the PFCE estimates were published for 46 item-categories under 12 Broad Groups in the publication National Accounts Statistics. In the new series, the PFCE estimates are compiled for 128 items and are published for 49 item-categories under 13 Broad Groups in the publication National Accounts Statistics.

21.2 Background

Household Final Consumption Expenditure (HFCE) comprises expenditure incurred by resident households on the individual consumption of goods and services, including those for which the value has to be estimated indirectly. It also includes goods and services provided at prices that are not economically significant, as well as consumption goods and services acquired by resident households from abroad. This inter-alia includes the estimated value of goods and services produced and consumed by the same household. However, the production of services for own consumption within the same household falls outside the production boundary of the SNA, except for housing services produced by owner-occupiers and services produced by employing paid domestic staff.

Final consumption expenditure excludes expenditure on fixed assets, such as dwellings, as well as expenditure on valuables. In the case of rented dwellings, the rentals paid by tenants are recorded as final consumption expenditure, while the corresponding housing services are recorded as output of the owners. For owner-occupied dwellings, the imputed value of housing services is recorded both as output and as final consumption expenditure of the owner-occupiers.

Final consumption expenditure of NPISHs consists of the expenditure, including expenditure whose value must be estimated indirectly, incurred by resident NPISHs on individual consumption goods and services and possibly on collective consumption services.

Household final consumption expenditure is typically a large aggregate covering a wide range of goods and services. It is thus usually desirable to break down the figure. The SNA 2008 uses four classifications of expenditure according to purpose which are Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI), the Classification of the Functions of Government (COFOG), the Classification of the Outlays of Producers According to Purpose (COPP) and Classification of Individual Consumption by Purpose (COICOP). These four classifications are used to analyse consumption by different institutional sectors according to the purpose for which the expenditure is undertaken. Among these four classifications COICOP is used to classify individual consumption expenditures of households and NPISH.

At its forty-ninth session, the UN Statistical Commission endorsed the revised Classification of Individual Consumption According to Purpose (COICOP), 2018 and recommended its use by countries as a statistical standard. Accordingly, COICOP 2018 is adopted to the feasible extent in PFCE compilation in the 2022-23 series. The COICOP 2018 has a hierarchical structure consisting of four (4) levels viz. Division, Group, Class and Subclass.

In COICOP 2018, most classes and subclasses comprise either goods or services. Classes and subclasses containing goods are denoted by “ND”, “SD” or “D” indicating non-durable, semi-durable or durable respectively. “S” denotes classes or subclasses consisting of services. The distinction between non-durable and durable goods is based on whether the goods can be used only once, or repeatedly or continuously over a period of considerably more than one year. Moreover, durables, such as motor cars, refrigerators, washing machines and television sets, have relatively high purchasers’ price. Semi-durable goods have an expected useful life of more than one year but generally have a shorter lifespan than durable goods. They are also typically less expensive than durable goods.

Some of the key changes due to adoption of COICOP 2018 are given below:

(i) Tailoring is now included in the class “Cleaning, repair, tailoring and hire of clothing” which comes under the Division 3: Clothing and footwear. In the old series of NAS, tailoring was considered as part of “Other Services n.e.c.”

(ii) Power sockets, wiring flex etc. which were earlier covered under the Division 05 (Furnishings, household equipment and routine household maintenance) now shifted to Division 04 (Housing, water, electricity, gas and other fuels)

(iii) In division 07 (Transport), a new group, 07.4 (Transportation services for goods) has been introduced, which had previously been included in the expenditure on the goods itself and in group 08.1 (Postal services).

(iv) Division 08 (earlier Communication) got renamed as “Information and communication” to better reflect its content. COICOP 1999 classes 09.1.1 (Equipment for the reception, recording and reproduction of sound and pictures), 09.1.3 (Information processing equipment) etc. have been moved to division 08.

(v) Division 09 (previously named Recreation and Culture) is renamed as “Recreation, sport and culture” to better reflect its content. Equipment, which are used mainly for information and communication, has been shifted from earlier division 09 to new Division 08 as indicated above.

(vi) Division 11 (Restaurants and Hotels) is renamed “Restaurants and accommodation services” to better reflect the content of the Division.

(vii) Former division 12 (Miscellaneous goods and services) has been split into two: Division 12 (Insurance and financial services) and Division 13 (Personal care, social protection and miscellaneous goods and services).

Some of the other changes incorporated in the 2022-23 series are listed below:

(i) Butter & Ghee and Ice Cream are classified under Oil & Fats and Sugar, confectionery and desserts respectively, whereas they were covered under Milk & Milk Products in 2011-12 series.

(ii) Social Protection is included in the compilation of PFCE though it will not be published separately.

21.3 Data Sources

In the current revision, the approach adopted for estimating Private Final Consumption Expenditure (PFCE) varies according to the nature of available production/consumption data, particularly whether such data are available in quantity terms or in value terms. Quantity estimates are available for most basic food items while value estimates are available for manufacturing/service items. Moreover, efforts have been made to develop alternative methods to the Commodity Flow approach for deriving independent estimates of PFCE items, to the extent feasible and subject to the availability of reliable data.

Several data sets including administrative, survey, study etc. have been used to derive the PFCE estimates for the 2022-23 series. The key data sources used in compilation of PFCE are listed below:

- i. Household Consumption Expenditure Survey (HCES)
- ii. Annual Survey of Industries (ASI)
- iii. Annual Survey of Unincorporated Sector Enterprises (ASUSE)
- iv. Periodic Labour Force Survey (PLFS)
- v. Reserve Bank of India
- vi. Ministry of Road Transport and Highways (E-Vahan Data, Road Transport Year Book)
- vii. Central Electricity Authority
- viii. M/o Petroleum & Natural Gas
- ix. M/o Food & Public Distribution
- x. M/o Commerce and Industry
- xi. Directorate General of Civil Aviation
- xii. M/o Railways
- xiii. Population Projection estimates of MoH&FW

In addition to the above, a number of rates and ratios from various studies/surveys are updated in Commodity Flow to capture the changes over the years. Most of these rates and ratios are derived dynamically from ASI, ASUSE and SUT. Some of the studies are listed below:

- i. Cost of cultivation Study of M/o Agriculture & Farmers Welfare
- ii. Study to determine Post-harvest losses of Agri produces in India of M/o Food Processing Industries undertaken through NABCONS
- iii. Estimation of production and utilisation pattern of Milk and Milk products in India conducted by ICAR- National Dairy Research Institute (NDRI) for MoSPI

- iv. Study on 'Public Road Transport Services and Repair & Maintenance of Household vehicles' conducted by Centre for Study of Regional Development, JNU for MoSPI

Further, following changes are incorporated in the 2022-23 series wherever applicable:

- i. Production as compiled as part of production side estimates / as derived from SUT/ASI/ASUSE is considered.
- ii. Wastage ratios/% loss are used from the Report of the study titled "Study to determine post-harvest losses of Agri. produces in India 2022" of M/o Food Processing Industries undertaken through NABCONS.
- iii. Seed estimates as computed from Cost of Cultivation Study and used for production side, are considered.
- iv. HCES 2022-23 data is used for compiling quantity retained for own consumption and retail prices.
- v. Ex-farm price as compiled for production side, is used.
- vi. Inter Industry Consumption, Trade and Transport Margin, Commodity/Item wise Output, Change in Stock, GFCF etc. are used as compiled for Supply Use Table (SUT); otherwise Annual Survey of Industries (ASI)/ Annual Survey of Unincorporated Enterprises (ASUSE) data are used.
- vii. GFCE is considered from Budget documents and other sources like M/o Food and Public Distribution.

21.4 Methodology for Estimation

In general, Commodity Flow method was followed in the 2011-12 series for estimating the PFCE for most of the items i.e. Production was adjusted for (i) Intermediate Consumption in agriculture, manufacturing and other industries; (ii) Net Imports; (iii) Change in Stock; (iv) Consumption on Government account and (v) Gross Fixed Capital Formation. The 2022-23 series has tried to make a comprehensive change in compilation framework of PFCE using various data sources to make it robust and independent to the extent possible to reflect the dynamic consumption pattern. The approach varies according to the nature of available production/consumption data, particularly whether such data are available in quantity terms or in value terms. The compilation of PFCE items follows multi-pronged approach. The approaches are based on utilizing the strength of different data sets. The approaches can be broadly grouped into three categories as (i) Enhanced use of HCES Data (ii) Direct estimates using production and other datasets (iii) Commodity Flow.

(i) Enhanced Use of Household Consumption Expenditure Survey (HCES)

For the 2022-23 series, benchmark estimates for about half of the items are derived using per capita consumption expenditure based on HCES 2022-23, along with the population projections of the Ministry of Health and Family Welfare. This method is also used to estimate consumption out of own-produced goods. The selection of items for this approach is based on several

considerations. In general, it is adopted for items that are expected to have low income elasticity of demand or are widely consumed across different income groups, as HCES provides a robust basis for deriving per capita consumption estimates for such items. The resulting per capita estimates are then applied to the projected population to obtain the benchmark estimates for the base year. In addition, this method is adopted for certain items where the estimates so derived are found to be broadly consistent with the corresponding level of PFCE in the 2011-12 series, thereby ensuring continuity and comparability with the earlier series.

The base year estimates are moved using the growth derived from the Commodity Flow of the respective items. Thereby, the estimates have the robustness of benchmark and capture the temporal variation in consumption using the dynamic rates and ratios based on annual data sources and SUT. Items in this category are mainly food items like cereals, pulses, meat etc. For these items the Method of estimation is indicated as “Direct” in the Annexure-II presenting the summary of estimation procedure.

For a few items, the benchmark estimates for the base year are derived using the above-mentioned method, while the subsequent years are estimated by applying the inter-survey growth in per capita consumption observed between successive rounds of HCES to the projected population of the Ministry of Health and Family Welfare. This approach assumes that, over a relatively short period, the observed growth in per capita consumption between two successive HCES rounds provides a reasonable basis for extrapolating consumption estimates for the intervening years. The next HCES round, conducted periodically, will provide updated benchmark estimates as well as revised estimates of inter-survey growth in per capita consumption.

This updation is carried out only for those years in the 2022–23 series for which the National Accounts Statistics (NAS) estimates remain open to revision. It is not applicable to years for which the NAS estimates have already been finalised. The items in this category are mainly recreational & cultural services, water supply, spices, salt, solid fuels etc. For these items the method of estimation is indicated as “Direct-ISG” in Annexure-II presenting the summary of estimation procedure.

In case of Restaurants and Accommodation Services, growth in GVO is used for extrapolating the benchmark estimates of base year derived using HCES data and population projections.

(ii) Direct estimates using production and other datasets

Due to availability of additional administrative data, study results and annual survey data, estimates of about a quarter of items are compiled directly using combination of data sets. For some of these items, the administrative data provides direct estimates of private final consumption which include rail & air transport services, LPG, Kerosene, Purchase of personal vehicles etc. PFCE of some items are estimated using administrative data with study results. For example, combination of E-*Vahan* data with results of study on “Public Road Transport Services and Repair & Maintenance of Household vehicles” is used to generate estimates for road transport services; operation of personal vehicles. Similarly, combination of Milk production data with results of

study on “Production and Utilisation pattern of Milk and Milk products in India” is used to generate estimates for Milk & other dairy products, Butter & Ghee and Ice cream.

Moreover, for a number of activities that are predominantly undertaken to meet household consumption requirements, the corresponding items under the COICOP classification can be directly mapped to the relevant compilation categories or their components on the production side. For such items, the component-wise distribution of output derived from ASUSE data is applied to the corresponding production estimates to estimate the output attributable to each component. These component-level estimates are then used to derive the corresponding estimates of household consumption.

(iii) Commodity Flow

PFCE in respect of about a quarter of the items are compiled using the Commodity Flow approach. The theoretical framework of Commodity Flow remains the same as used in 2011-12 series. However, unlike the 2011-12 series, the 2022-23 series applies dynamic rates and ratios in Commodity Flow. The availability of ASUSE in addition to ASI is instrumental in this regard. The items in this category include Clothing materials, Sugar confectionary, Footwear, recreational goods and durables etc.

Wherever applicable, the quantity retained by the producers for their own consumption is evaluated at ex-farm prices which is the same as used for the production side and secondly, marketed part is evaluated at retail prices. In case of food items supplied under PDS, PFCE of PDS items are compiled separately using the PDS quantity data from Ministry of Consumer Affairs, Food and Public Distribution and PDS prices as derived from HCES-2022-23. In case of Sugar, PDS price from Directorate of Sugar, Department of Food & Public Distribution is used. Further for PDS items, separate price relatives are considered.

The detailed item-wise compilation methodology adopted in the 2022-23 series is described below:

(i) Food and non-alcoholic beverages

This broad group covers final consumption expenditure on food and non-alcoholic beverages mainly for consumption or preparation at home. The Benchmark estimates of PFCE in respect of cereals and cereal products, meat, eggs, mustard oil, other edible oils, coconut, copra, vegetables, tubers, plantains, cooking bananas and pulses (except Potatoes and vegetable products), *gur*, other food and non-alcoholic beverages are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For subsequent years, the estimates are moved using the growth derived from the Commodity Flow of the respective items. In case of salt and spices, benchmark estimates are derived using the above cited method and for extrapolation the inter survey growth in per capita consumption observed between successive rounds of HCES, along with population projections of MoHFW, is used.

For fish and seafood, groundnut oil, coconut oil, fruits and nuts (except coconut and copra), potatoes, vegetable products, refined sugar, sugar confectionery and oilseeds Commodity Flow is used for deriving the estimates.

For the estimation of PFCE on milk and milk products, the various rates and ratios used in the compilation have been updated based on a study conducted by the ICAR National Dairy Research Institute (NDRI), Karnal, which was commissioned by MoSPI. The study, with fieldwork carried out mainly during 2021–22, provided updated information on the utilization of milk production, including the proportion consumed by producer households, losses, the quantity available for sale (marketable surplus), and the distribution of the marketable surplus between liquid milk and different dairy products such as butter, ghee and ice cream. It also provided updated retail prices for these products. These updated rates, ratios and prices have been used for estimating household consumption expenditure on milk, other dairy products, butter and ghee, and ice cream. Since the study collected price information only for 2021–22, the retail prices for subsequent years have been updated using the Consumer Price Index (CPI) for the respective products. However, the farm gate price of milk is taken from the annual production side estimates to ensure consistency between the production and expenditure estimates in the National Accounts.

In case of Sugar cane for chewing, the estimates are taken directly from production side.

Benchmark estimates of PFCE for Non-alcoholic beverages are derived using per capita consumption estimates from HCES 2022–23 and population projections of Ministry of Health and Family Welfare (MoHFW). For subsequent years, the estimates are extrapolated using growth rates derived from the Commodity Flow of the respective items.

(ii) Alcoholic beverages, tobacco and narcotics

This broad group covers final consumption expenditure on alcoholic beverages, tobacco products and narcotics regardless of where these are consumed but not provided as part of a food and beverage serving service. Benchmark estimates of PFCE for Alcoholic beverages and tobacco are derived using per capita consumption estimates from HCES 2022–23 and population projections of the Ministry of Health and Family Welfare (MoHFW). For subsequent years, the estimates are extrapolated using growth rates derived from the Commodity Flow of the respective items.

Benchmark estimates of Pan & its ingredients are derived using the same methodology as above and for extrapolation the inter-survey growth in per capita consumption observed between successive rounds of HCES, along with population projections of MoHFW, is used. In case of opium, Commodity Flow approach is used for deriving the estimates.

(iii) Clothing and footwear

This broad group covers final consumption expenditure on all clothing materials, garments, articles and accessories, footwear, and related services including cleaning, repair and hire of clothing and tailoring. The Benchmark estimates of PFCE in respect of Clothing materials, Garments, Other articles of clothing and clothing accessories and Footwear are derived using Commodity Flow approach.

PFCE for cleaning, repair, and hire of clothing is estimated as 100% of the Gross Value Output (GVO) of NIC 95292 (Repair and alteration of clothing) and 96010 (Washing and dry cleaning of textile and fur products). The GVO of NIC 95292 is derived as a specific proportion of the GVO of Repair of Computers and Personal and Household Goods, while the GVO of NIC 96010 is derived as a specific proportion of the GVO of Personal Services, including washing, hairdressing, custom tailoring, and funeral-related services. These proportions are estimated annually using ASUSE data. PFCE for tailoring is estimated as 100% of the GVO of NIC 14105 (custom tailoring). The GVO of NIC 14105 is derived as a specific proportion of the GVO of Personal Services, including washing, hairdressing, custom tailoring, and funeral-related services. This proportion is estimated annually using ASUSE data.

(iv) Housing, water, electricity, gas and other fuels

This broad group covers final consumption expenditure on goods and services for the use of the house or dwelling, its maintenance and repair, the supply of water, energy used for heating or cooling etc. This also include actual rentals and imputed rentals for housing. PFCE for actual and imputed rental payments made for housing is estimated as the sum of GVO from 'Ownership of Dwellings', and housing services provided by Government. For services of the Maintenance, Repair and Security of the Dwelling, PFCE is estimated as the sum of (i) expenditure on the repair and maintenance of dwellings as compiled from the production approach and (ii) PFCE on security services. PFCE on security services for the base year, is estimated as 50% of the annual consumption expenditure in respect of item: "Security & Driver" using data from HCES 2022–23 and population projections of the Ministry of Health and Family Welfare (MoHFW), and for subsequent years, the estimates are extrapolated using the growth in output of NIC 801 (Private security activities) from ASUSE.

In case of Security equipment and materials for dwelling maintenance and repair, PFCE estimates are derived using the Commodity Flow approach. For Water supply and Solid fuels, benchmark estimates of PFCE are derived from HCES 2022-23 and population projections of MoHFW, and for extrapolation, inter survey growth in per capita consumption observed between successive rounds of HCES, along with population projections of MoHFW, is used. PFCE on Refuse collection, Sewage collection, Other services related to the dwelling is computed as 50% of Output of Remediation and Other Utility service.

As regards Electricity, for state-wise quantity, CEA data on electricity sold (Domestic) is used and state-wise prices as derived from HCES 2022-23 is used. The price is moved forward using CPI (electricity).

For PFCE on LPG, domestic consumption from "Indian Petroleum & Natural Gas Statistics" and retail price as obtained from HCES 2022-23 are used. Base year retail prices are moved forward using CPI(LPG). For Other Gas, PFCE is estimated as 100% GVO.

In case of Liquid fuels, domestic consumption of kerosene separately for PDS and non-PDS sources are taken from Indian Petroleum & Natural Gas Statistics. Corresponding PDS and retail

prices as derived from HCES are used. Base-year PDS and retail prices are moved forward using CPI indices for Kerosene PDS and Kerosene (Other Sources) respectively.

(v) Furnishings, household equipment and routine household maintenance

This broad group covers final consumption expenditure on a wide range of products for the equipment of the house or dwelling and the household goods as well as some kind of household services. The Benchmark estimates of PFCE in respect of Furniture and furnishings, Carpets and other floor coverings, Clock and watches are derived using Commodity Flow approach. PFCE on Domestic services and household services is estimated as 100% GVO of Private households with employed persons.

PFCE for Repair of computer, personal & HHs goods, furniture, furnishings etc. is calculated as 100% of GVO of NIC 95- 95292 (Repair of computers, household goods and other personal goods-other than clothes). GVO of NIC 95-95292 is derived as a specified proportion of GVO of Repair of computers and personal and household good etc (NIC 95). This share is derived annually using ASUSE data.

PFCE of Household textiles, Household appliances, Glassware, tableware and household utensils, tools and equipment for house and garden and non-durable household goods are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For subsequent years, the estimates are extrapolated using growth rates derived from the Commodity Flow of the respective items.

(vi) Health

This broad group covers final consumption expenditure on medicine and health products, and health services. Benchmark estimates of PFCE for medicines and health products are derived using the Commodity Flow approach and for health services, PFCE is estimated as output less GFCE, adjusted for exports and imports.

(vii) Transport

This broad group covers final consumption expenditure on four main categories of goods and services for the purpose of transportation: purchase of vehicles, goods and services for the operation of the personal transport equipment, passenger transport services, and transport services for goods. PFCE for motor cars and motorcycles is estimated using sale-price data from *Vahan*/ MoRTH. PFCE for bicycles and animal-drawn vehicles is estimated using data sourced from the All-India Cycle Manufacturers' Association/ Commodity Flow.

To improve the estimation of PFCE on road transport services and personal transport equipment, MoSPI commissioned a study to the Centre for the Study of Regional Development, Jawaharlal Nehru University (JNU). The study, conducted in Uttar Pradesh, Maharashtra, Tamil Nadu, Gujarat, Karnataka and the NCT of Delhi, collected updated information on the earnings of different types of commercial vehicles, the share of these earnings attributable to household use, and household expenditure on fuels, lubricants, repairs, maintenance and other vehicle-related

expenses. These findings, together with vehicle registration data from the *Vahan* Portal, are used to estimate household expenditure on passenger road transport, transport services for goods, fuels and lubricants, parts and accessories, repair and maintenance, and other services related to personal transport equipment. For mechanized passenger transport, the estimates are based on the JNU study and *Vahan* data, while expenditure on non-mechanized passenger transport is estimated using the ratio of non-mechanized to mechanized transport expenditure derived from HCES 2022–23.

For estimating the active stock of vehicles using *Vahan* data, an average vehicle lifespan of 15 years is assumed. Accordingly, only vehicles registered during the preceding 15 years are considered to be in use for compiling PFCE estimates related to personal transport and road transport services.

PFCE for passenger transport by rail is estimated as 90% of passenger earnings using data from Ministry of Railways/ Budget.

PFCE for passenger transport by air is estimated using data from the Directorate General of Civil Aviation (DGCA) and BPM6. Passenger revenue, after adjusting for exports, imports, travel expenditure of corporates, and Government expenditure under the object heads Foreign Travel Expenses (FTE) and Domestic Travel Expenses (DTE), is treated as PFCE for air transport.

PFCE for passenger transport by sea and inland waterways is estimated as 100% of the GVO of the household sector of Water transport service. PFCE for other passenger transport services is derived using the Commodity Flow approach in respect of services incidental to transport using the Supply and Use Tables (SUT).

(viii) Information and communication

This broad group covers final consumption expenditure on information & communication equipment, and information & communication services. The Benchmark estimates of PFCE in respect of fixed telephone equipment, mobile telephone equipment, information processing equipment and software excluding games and equipment for the reception, recording and reproduction of sound and vision, are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For subsequent years, the estimates are extrapolated using growth rates derived from the Commodity Flow of the respective items. In case of television and radio licenses and fees, subscriptions to audiovisual streaming services and rental of audiovisual content, PFCE estimates for 2022-23 are derived using the above cited method and for extrapolation, inter survey growth in per capita consumption observed between successive rounds of HCES, along with population projections of MoHFW, is used. PFCE estimates for Communication Services are derived using Commodity Flow approach.

(ix) Recreation, sport and culture

This broad group covers final consumption expenditure on a wide range of goods and services for recreation, sport and culture. PFCE estimates for Recreational durables & Other recreational goods are derived using Commodity Flow approach.

The Benchmark estimates of PFCE in respect of pets and pet products, cultural goods, newspapers, books and stationery are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For subsequent years, the estimates are extrapolated using the growth rates derived from the commodity flow of the respective items. However, for garden products, plants and flowers, and recreational and cultural services, the benchmark estimates are derived using the above method, while the estimates for subsequent years are extrapolated using the inter survey growth in per capita consumption observed between successive rounds of HCES, along with the population projections of MoHFW.

(x) Education

This broad group covers educational services only and does not include expenditures on other education related goods like school uniforms, text books etc. PFCE for education is estimated as output less GFCE, adjusted for exports and imports.

(xi) Restaurants and accommodation services

This broad group covers food and beverage serving services provided by restaurants, cafés and similar facilities and the accommodation services for visitors and other travellers away from their residence. The Benchmark estimates of PFCE in respect of Restaurants and accommodation services are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For extrapolating the benchmark estimates, growth in GVO of respective service sector is used.

(xii) Insurance and financial services

This broad group covers PFCE on insurance and financial services provided by financial corporations which may be paid for explicitly or implicitly. PFCE of life insurance services is estimated as 100% of the life insurance output. PFCE of non-life insurance services is estimated using the Commodity Flow approach.

PFCE in respect of FISIM is considered as FISIM allocated to the Household (personal) sector. PFCE of explicit charges by deposit-taking corporations and other financial services is estimated as specific proportion of actual receipts (charges). This proportion is derived annually using data from the Reserve Bank of India (RBI) i.e. the share of household loans and household deposits in total loans and deposits in respect of Scheduled Commercial Banks (SCBs).

(xiii) Personal care, social protection and miscellaneous goods and services

This broad group covers PFCE on goods and services for personal care, other personal effects and miscellaneous goods and services. The Benchmark estimates of PFCE in respect of Electric, other appliances, articles and products for personal care are derived using per capita consumption estimates from HCES 2022-23 and population projections of MoHFW. For subsequent years, the estimates are extrapolated using growth rates derived from the Commodity Flow of the respective items. In case of Hairdressing salons and personal grooming establishments, PFCE estimates are derived using the above cited method and for extrapolation, inter survey growth in per capita

consumption observed between successive rounds of HCES, along with population projections of MoHFW, is used. PFCE for Other personal effects is derived using Commodity Flow approach.

PFCE for religious services is estimated as 100% of the GVO of NIC 9491 (activities of religious organisations). The GVO of NIC 9491 is derived as a specific proportion of the GVO of activities of membership organisations. This proportion is estimated annually using ASUSE data. PFCE for legal services is estimated as 50% of the output of legal services. PFCE for funeral services is estimated as 100% of the GVO of NIC 96030 (Funeral and related activities). The GVO of NIC 96030 is derived as a specific proportion of the GVO of personal services including washing, hairdressing, custom tailoring, and funeral-related services. This proportion is estimated annually using ASUSE data. PFCE for business services is estimated as 100% of the respective GVO of the household sector.

PFCE on social protection is considered as 100% of the estimated output of NIC 87 (Residential Care Activities) and NIC 88 (Social Work Activities without Accommodation).

21.5 Use of price index as deflator/inflator

Price indices are used to deflate/inflate the current/constant price estimates depending on data source. If data sources are for compilation of an item estimate is in value terms, then index will be used to deflate whereas if it is available in volume terms, it will be used to inflate to estimate.

In the 2011-12 series, in general PFCE items were derived by deflating/inflating estimates by relevant CPI at Group/ Sub Group level or by using Implicit Price Deflator (IPD) of GVO barring few exceptions where volume extrapolation was used. SNA recommends deflation of Household consumption expenditure at as detailed level as possible. Accordingly, in the 2022-23 series, CPIs at disaggregated item level, to the extent feasible, is used. Also, for some items, IPD of GVO is considered due to non-availability of relevant CPI. Volume extrapolation is used for passenger transport by railway using growth of passenger kilometer. Also Banking Services Price Index (BkSPI) (Direct) is used in case of Explicit charges by deposit taking corporations, Other financial services. The item-wise details of price indices/ volume indicator considered are given in the Annexure-II indicating the summary of estimation procedure.

21.6 Limitations

The basic data on output are mostly the same as those utilized for the preparation of production side estimates and as such assumptions and limitations in the production side estimates would be inherent in the measurement of Private Final Consumption Expenditure as well. Further as mentioned earlier, for derivation of vehicle stock used in the compilation of PFCE of items related to road transport using *Vahan* data, 15 years is assumed as the average lifespan of vehicles.

The estimates of Private Final Consumption Expenditure (in domestic market) according to purpose for the year 2022-23 as per 2011-12 series at current prices (following COICOP 1999) are given at **Table 21.1**. As per 2022-23 series, the estimates of Private Final Consumption Expenditure (in domestic market) according to purpose for the year 2022-23 as per at current prices (following COICOP 2018) is given at **Table 21.2**.

Table 21.1: Estimates of Private Final Consumption Expenditure (in domestic market) according to purpose for 2022-23 as per 2011-12 series at current prices (following COICOP 1999)

(in Rs. Crore)

S. No.	Item	2022-23
1	Food and non-alcoholic beverages	48,13,077
2	Alcoholic beverages, tobacco and narcotics	3,18,962
3	Clothing and footwear	9,53,652
4	Housing, water, electricity, gas and other fuels	21,77,642
5	Furnishings, household equipment and routine household maintenance	5,22,463
6	Health	8,47,957
7	Transport	28,10,941
8	Communication	4,36,841
9	Recreation and culture	1,45,356
10	Education	7,26,137
11	Restaurants and hotels	3,49,172
12	Miscellaneous goods and services	24,20,882
Private Final Consumption expenditure in domestic market		165,23,082

Table 21.2: Estimates of Private Final Consumption Expenditure (in domestic market) according to purpose for 2022-23 as per 2022-23 series at current prices (following COICOP 2018)

(in Rs. Crore)

S. No.	Item	2022-23
1	Food and non-alcoholic beverages	42,40,678
2	Alcoholic beverages, tobacco and narcotics	2,44,062
3	Clothing and footwear	9,38,550
4	Housing, water, electricity, gas and other fuels	26,89,802
5	Furnishings, household equipment and routine household maintenance	6,03,450
6	Health	8,09,438
7	Transport	26,12,733
8	Information and communication	2,87,060
9	Recreation, sport and culture	1,46,167
10	Education	5,19,706
11	Restaurants and accommodation services	3,44,136
12	Insurance and financial services	10,15,913
13	Personal care, social protection and miscellaneous goods and services	5,25,541
Private Final Consumption expenditure in domestic market		149,77,238

Note: - The 2022-23 series adopts COICOP 2018; hence, the corresponding categories are not strictly comparable with those under COICOP 1999 which was adopted in 2011-12 series

CHAPTER 22

GOVERNMENT FINAL CONSUMPTION EXPENDITURE

22.1 Coverage

Government Final Consumption Expenditure (GFCE) comprises expenditure incurred by the General Government in production of non-market final goods and services as well as market goods and services provided as social transfers in kind. It consists of expenditure incurred by the General Government on both individual consumption of goods and services, and collective consumption of services.

Individual Consumption: Consumption of goods and services provided by the Government for satisfying the needs or wants of households and their members is referred to as individual consumption. Provision of goods and services like health, education, recreation, etc. are some of the examples of individual consumption. The important characteristic of an individual good or service is that its acquisition by one household, person or group of persons brings no (or very little) benefit to the rest of the community. While the provision of certain individual health or education services (for example, vaccination or immunization) may bring some external benefits to the rest of the community, in general the individuals concerned derive the main benefit.

Collective Consumption: Consumption of services provided by Government simultaneously to benefit all the members of the community or a part of it, is referred to as collective consumption. The collective services provided by Government mainly consist of the provision of security and defence, the maintenance of law and order, legislation and regulation, the maintenance of public health, the protection of the environment, etc. All members of the community can benefit from such services. As the individual usage of collective services cannot be recorded, individuals cannot be charged according to their usage.

Producers of Government services, i.e., the administrative departments of the Government, include ministries and departments of Central, State and Union Territory Governments, as well as urban and rural local authorities engaged in administration, defence and regulation of public order; health, educational, cultural, recreational and other social and welfare services; promotion of economic growth and technological development. The legislature, executive, judiciary and other bodies like public services commission, general research and survey organisations, and autonomous bodies engaged in administration and regulation, are also included under administrative departments.

22.2 Data Sources

The main source of data for compilation of GFCE is the budget document of Central and State Governments. Besides, annual accounts of local authorities and autonomous institutes are also used to compile the estimates.

22.3 Methodology for Estimation at Current Prices

The activities of producers of Government services are largely financed by the Government itself and consequently they are considered to be the final consumers of most of the services and goods, which they produce. Their cost structure does not contain an element of operating surplus and is made up, to a substantial extent, of compensation of employees and purchase of goods and services. A very minor part of the gross input of the producers of Government services, sometimes referred to a “Public Goods” is sold in the market as sale of commodities and services (for example the sale of entry tickets to monuments). The receipts are adjusted against the expenditure on purchase of goods and services and only the net purchase of commodities and services is considered for estimating the final consumption expenditure.

Final consumption expenditure of Government can be derived as the value of all types of output of general Government, less the value of output for own account capital formation, less the proceeds from the sales of goods and services at both economically insignificant prices and at economically significant prices, plus the value of goods and services purchased from market producers for delivery to households free or at economically insignificant prices.

Government output produced for own capital formation (e.g. in-house production of a database or software) is an asset; it is capitalized and not included in GFCE. Incidental sales by Government units (e.g. passport fees, statistical publications sold by the statistical office, or sales of souvenirs by the shop at a museum included in the General Government sector) are either included in intermediate consumption if used during a production process, or in Household Final Consumption Expenditure (HFCE), if consumed by households; these are also excluded from GFCE.

The Government often purchases goods and services from market producers for the benefit of households. Where such goods and services are not transformed during the Government’s production process, but are supplied to households, they are not included in Government output. However, the expenditure incurred on such goods and services forms part of GFCE and is treated as social transfers in kind. For instance, Government purchases bicycles, televisions and other articles and provides to individuals. Similarly, Government provides food, shelter, blankets, medicines and other items to victims of war, flood, famine, earthquakes and natural calamities. All such expenditure constitutes transfers in kind.

Following the reclassification of FCI from a market producer to a non-market producer, food subsidy is recorded as a social transfer in kind and included in GFCE, rather than being treated as a product subsidy.

GFCE is estimated using the following formula:

$$\text{GFCE} = \text{Total Government output} + \text{goods \& services purchased to be provided free to the households (Transfers in kind)} - \text{receipts from sale of goods \& services} \dots\dots\dots(22.1)$$

$$\text{GFCE} = \text{CE} + \text{Net purchase of G \& S} + \text{Transfers in kind} + \text{CFC} \dots\dots\dots(22.2)$$

Detailed information regarding the variables used in compilation of GFCE is available in Chapter 4 on General Government.

22.4 Methodology for Estimation at Constant Prices

Estimates of Government Final Consumption Expenditure at constant prices are compiled separately for compensation of employees, net purchase of commodities and services, social transfers in kind relating to food subsidy and Consumption of Fixed Capital (CFC). The constant price estimates of compensation of employees are prepared by deflating the estimates of compensation of employees at current prices by CPI (IW). Estimates of purchase of commodities and services net of sales, at constant prices, are obtained by deflating current price estimates by the composite index prepared for deflating IC of General Government Sector. For the constant price estimates of social transfers in kind relating to food subsidy, the base year estimates have been moved based on the growth observed in food grain offtake under the National Food Security Act (NFSA). The constant price estimates of CFC are obtained by following the procedure of Perpetual Inventory Model (PIM), details of which are given in the Chapter 25 on Consumption of Fixed Capital.

22.5 Classification of Government Final Consumption Expenditure

Government Final Consumption Expenditure (GFCE) are classified in two ways: (1) according to an economic classification and (2) according to a functional classification. The economic presentation decomposes GFCE into three categories:

- a. Compensation of Employees
- b. Purchase of goods and services
- c. Consumption of fixed capital

The functional presentation decomposes GFCE into 10 broad divisions (categories) with a significant number of detailed classes associated with each division. The functional classification examines Government expenditure according to the purpose or need being addressed. Economic-cum-purpose classification, therefore, serves as a very good guide to the policy makers for planning expenditure in the best possible manner to attain social and economic objectives of development. The list of economic codes and purpose codes are already given in the Chapter 4 on General Government.

The current prices estimates of GFCE for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 22.1**.

Table 22.1: Estimates of GFCE for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. crore)</i>			
Component	2011-12 series	2022-23 series	% difference
GFCE	27,57,628	29,34,060	6.4

CHAPTER 23

GROSS CAPITAL FORMATION

23.1 Coverage

Gross capital formation is measured by the total value of the Gross Fixed Capital Formation, Changes in Inventories (also referred as Change in Stock) and acquisitions less disposals of valuables.

23.1.1 Gross Fixed Capital Formation (GFCF)

GFCF is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets (example: land improvement). Gross fixed capital formation comprises four main asset categories namely,

- (a) Dwellings, Other Buildings & Structures (DOBS)
- (b) Machinery & Equipments (M&E)
- (c) Cultivated Biological Resources (CBR)
- (d) Intellectual Property Products (IPP)

These four asset categories are further split into sub-assets.

(a) Dwellings, Other Buildings & Structures (DOBS) covers construction related assets viz. (a) Dwellings which are buildings, or designated parts of buildings, that are used entirely or primarily as residences, including any associated structures, such as garages, and all permanent fixtures customarily installed in residences (b) Non-Residential Buildings such as warehouses and industrial buildings, commercial buildings, buildings for public entertainment, hotels, restaurants, schools, hospitals, prisons etc. (c) Other Structures include structures other than buildings like tunnels and subways; waterways, harbours, dams and other waterworks; long-distance pipelines, power lines; local pipelines and cables, ancillary works; constructions for mining and manufacture; and constructions for sport and recreation. (d) Roads & Bridges include highways, streets, roads, airfield runways; bridges, elevated highways. (e) Land Improvement include activities like land clearance, land contouring, creation of wells and watering holes that are integral to the land. Only new construction forms part of GFCF in DOBS assets. Normal repair and maintenance does not form part of GFCF in DOBS asset.

(b) Machinery & Equipments comprise of the assets viz. (a) Transport Equipments such as motor vehicles, trailers and semi-trailers; ships; railway and tramway locomotives and rolling stock; aircraft and spacecraft; and motorcycles. (b) Information, computer and telecommunications (ICT) Equipments which includes computer hardware and telecommunications equipment. (c) Other machinery and equipment such as general-purpose machinery, special purpose machinery; office, accounting and computing equipment; electrical machinery and apparatus; medical appliances, precision and optical instruments, steam generators etc. (d) Weapons systems include

vehicles and other equipment such as warships, submarines, military aircraft, tanks, missile carriers and launchers, etc.

(c) Cultivated Biological Resources comprises of two assets namely, (a) Animal resources yielding repeat products includes breeding stocks, dairy cattle, draft animals, sheep or other animals used for wool production and animals used for transportation, racing etc. (b) Tree, crop and plant resources yielding repeat product which covers gross fixed capital formation in plantations, orchards.

(d) Intellectual Property Products (IPP) comprises of five sub-assets viz., (a) Research and Development (R&D) which is the value of expenditures on creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and use of this stock of knowledge to devise new applications. (b) Mineral exploration and evaluation which comprises of the value of expenditures on exploration for coal, petroleum, natural gas and other mineral deposits and subsequent evaluation of the discoveries made. (c) Computer software and databases consist of computer programs, program descriptions and supporting materials for both systems and applications software as well as databases. (d) Entertainment, literary and artistic originals like original films, sound recordings, manuscripts, tapes. (e) Other intellectual property products include any such products that constitute fixed assets but are not captured in one of the specific items above. Examples are license to reproduce an IPP original.

23.1.2 Change in Stock (Change in Inventories)

As per SNA, Changes in Inventories are measured by the value of the entries into inventories less the value of withdrawals and less the value of any recurrent losses of goods held in inventories during the accounting period. They consist of materials and supplies, work-in-progress and finished products and goods in the possession of producers and dealers. Work-in-progress is also recorded as inventory for any output which is not complete at the end of the accounting. Exceptions to recording incomplete work as work-in-progress are partially completed projects for which the ultimate owner is deemed to have taken ownership, either because the production is for own use or because a contract of sale or purchase already exists. For repeat yield resources, being cultivated on own account, or under an agreed contract with another unit, the growth is counted as fixed capital formation and so excluded from inventories.

23.1.3 Valuables

Valuables include precious metals and stones, antiques and other art objects and other valuables. The SNA defines them as assets that are not used primarily for production or consumption but are held as stores of value over time expected to appreciate, or at least not decline, in real value, and not to deteriorate over time under normal conditions. This distinguishes valuables from every other category of produced asset in the accounts.

Valuables include: (a) Precious metals and stones - gold, silver, platinum, diamonds, and similar items, held for their store-of-value function rather than as industrial inputs. (b) Antiques and other art objects - paintings, sculptures, and other works recognized as art, plus antiques. (c) Other valuables - items such as jewellery made of precious metals/stones, and other collectibles held

mainly for value retention. As in the case of GFCF and inventories, what enters as GCF in respect of valuables in each period is the *net* transaction — new purchases of valuables minus sales/disposals during the period — not the total stock of valuables an economy holds.

23.2 Methodology for Estimation at current prices

Gross Fixed Capital Formation (GFCF) is estimated by two approaches: (i) Asset-wise (i.e. DOBS, Machinery & Equipments, Cultivated Biological Resources and IPP) and (ii) by industry of use. The compilation is done following an institutional sector approach wherein GFCF is estimated asset-wise and industry-wise for each of the six institutional sectors namely: Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations, General Government, Household sector (including Non-Profit Institutions serving households). Change in stock is also compiled using institutional sector approach as well as industry-wise. The estimation of valuables is not done using institutional sector approach. However, the investment of the households in the form of valuables are estimated and form part of household savings.

23.2.1 Data Sources

- (i) General Government and Departmental Enterprises: Estimates are compiled using analysis of budget documents.
- (ii) Non-Departmental Enterprises: Estimates for Non-Departmental Enterprises (NDEs) are compiled through a detailed analysis of their Annual Reports.
- (iii) Non-Financial Private Corporations: Estimates are compiled using MCA database.
- (iv) Financial corporations: Estimates are compiled using data from RBI and analysis of annual reports of the companies.
- (v) Cooperatives: Estimates are compiled using data from RBI and NABARD.
- (vi) Annual Survey of Industries (ASI) Non-Corporate: These are establishments which fall under manufacturing industry which are covered in Annual Survey of Industries (ASI) but are neither non-departmental enterprises nor private corporations. These are identified using the following ‘type of organisation code’ captured in Block B of ASI survey schedule: Code 1: Individual Proprietorship, Code 2: Partnership, Code 8: Co-operative Society and Code 9: Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)
- (vii) Results of Annual Survey of Industries(ASI), Annual Survey of Unincorporated Sector Enterprises (ASUSE) and All India Debt and Investment Survey.

23.2.2 Methodology for Estimation of Gross Fixed Capital Formation at Current Prices

The estimates of gross capital formation for the public sector & private corporate sector are prepared based on the expenditure reported in acquisition / own account capital formation on the basis of analysis of budget documents for General Government and Departmental Enterprises, analysis of annual reports for non-departmental enterprises, MCA database for private corporations, data from RBI and analysis of annual reports for financial corporations & data from RBI and NABARD on cooperatives. The estimates of public sector plus private corporate sector

including co-operatives by type of assets (DOBS, M&E, CBR) are subtracted from the corresponding estimates of commodity flow to arrive at the estimates of unincorporated sector. Asset-wise estimation methodology is given below:

23.2.2.1 GFCF in Dwellings, Other Buildings and Structures (DOBS) asset:

The GFCF in DOBS asset comprises of new construction and major repair and alterations which enhance life of the existing DOBS asset. Normal repair and maintenance do not form part of GFCF in DOBS asset. The total of GFCF in DOBS asset is estimated using commodity flow approach (please refer para 14.2.2 of chapter 14: Construction for more details). The estimates of GFCF in DOBS asset are compiled for all institutional sectors, except unincorporated sector, using the relevant data sources as mentioned in 23.2.1. For unincorporated sector, following procedure is followed:

GVO of unincorporated sector (household sector and quasi-corporations) in construction industry:

- (i) In the commodity flow approach used in base year 2022-23, the availability/use of basic construction materials is first derived by estimating the production of inputs used in construction and subsequent adjustments for the net exports of these inputs and inter-industry consumption. Trade and Transport margins (*from latest available Supply Use Table*) and product taxes are also added in order to estimate the inputs at purchaser's price. This provides the value of construction material available for use in the economy.
- (ii) The estimates of material inputs consumed by Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations and General Government are subtracted from the total material inputs estimated by commodity flow in order to arrive at material inputs available for use by the unincorporated sector.
- (iii) The services inputs used by unincorporated sector are then added to the material inputs available for use to the unincorporated sector (derived from commodity flow). The ratios used for estimating services inputs are derived from the results of the 'Pilot study on construction activities in unincorporated sector establishments and households'¹⁹ conducted by NSSO in July-December, 2025.
- (iv) Further, the GVO to Input ratio (also derived from this survey) are applied on the total input of the unincorporated sector to arrive at GVO of the unincorporated sector.
- (v) The total GVO of the construction industry is the total of GVO of Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations, General Government and unincorporated sector.
- (vi) This GVO which represents the total value of construction undertaken during the year is inclusive of new construction including major repairs and replacements and normal repairs and maintenance. Hence, the normal repairs & maintenance component (which

¹⁹ Report of the 'Pilot study on construction activities in unincorporated sector establishments and households' available on MoSPI's website (<https://www.mospi.gov.in/publications-reports>).

forms the part as intermediate consumption) have to be subtracted from the value of output of construction in order to arrive at GFCF in DOBS asset.

Estimation of expenditure on normal repairs and maintenance:

The estimation of repair and maintenance is derived on the basis of expenditure reported by institutional sectors. In case of General Government and Departmental Enterprises, the estimates of expenditure on new construction and repairs and maintenance are obtained by analysing the budget documents. For Non-Departmental Enterprises, these are estimated from the analysis of annual accounts of public sector enterprises/companies. For private corporations, the estimates for GFCF in DOBS asset and repair and maintenance are derived using MCA database. The estimates of GFCF by co-operative credit societies are based on the data obtained from the NABARD. The estimates of expenditure on new pucca construction and repairs & maintenance in case of household sector are derived using results of All India Debt and Investment Survey-AIDIS and Annual Survey of Unincorporated Sector Enterprises (ASUSE). The expenditure attributed to normal repair and maintenance is then subtracted from GVO of construction industry derived above. This is the estimate of GFCF in DOBS asset. The above can be summarized as follows:

$$\text{Total GFCF in DOBS asset} = \text{Total GVO of construction industry} - \text{estimate of expenditure on normal repair \& maintenance} \dots\dots\dots(23.1)$$

Where, Total GVO of construction industry is the sum of GVO for all institutional sectors in construction ((i)Public Non-Financial Corporations, (ii) Private Non-Financial Corporations, (iii) Public Financial Corporations, (iv) Private Financial Corporations (v) General Government and (vi) unincorporated)

For Unincorporated sector:

$$\text{GVO of construction industry} = \text{total inputs (material inputs + services inputs) for Unincorporated sector} \times \text{GVO to input ratio for Unincorporated sector} \dots\dots\dots(23.2)$$

A) GFCF in DOBS asset for unincorporated sector

The GFCF reported by the institutional sectors namely Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations and General Government in DOBS assets are subtracted from the estimate of GFCF in DOBS asset **(as above estimated in formula 23.1)** to arrive at the GFCF of unincorporated sector in DOBS asset.

The GFCF compilation for Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations and General Government is done at detailed asset level i.e. (Dwellings, Non-Residential Buildings, Other Structures, Roads and Bridges and Land Improvement).

The GFCF of the unincorporated sector is then allocated among industries as well as by asset-type using results of AIDIS and ASUSE. The total GFCF of the unincorporated sector comprises the

GFCF for industry ‘Ownership of Dwellings’ and GFCF for non-residential buildings and other structures.

(I) GFCF of the unincorporated sector in residential buildings (Ownership of Dwellings):

AIDIS reports the expenditure by households on the acquisition of residential buildings. Capital Expenditure per household has been worked out from analysis of All India Debt and Investment Survey (2019). The Capital Expenditure per household is multiplied by estimated number of households to arrive at the total capital expenditure on residential buildings.

Estimated number of households: Estimated number of households are derived using projected population from M/o Health and Family Welfare Population Projections as on 1st October of the FY and average household size derived from AIDIS. The GFCF in residential buildings (i.e. dwellings) is obtained using the Capital expenditure derived from AIDIS multiplied by estimated number of households. This estimate is at current prices and is extrapolated to FY 2022-23 and subsequent financial years using growth in number of dwellings and price effect (composite index of materials, service input and labour cost on constructing dwellings weights for which have been derived from Pilot Study on Construction conducted by MoSPI in 2025). The relevant item level Producer Price Indices (for material inputs) and Consumer Price Index (for factor inputs and service inputs) have been used for constructing the composite index.

The first step is to estimate number of dwellings in the economy for the benchmark year (when AIDIS was conducted). In absence of Census data, the number of dwellings has been estimated using projected population from M/o Health and Family Welfare as on 1st October of the FY and average household size from NSS survey. Since not all households have dwellings, the proportion of households having dwellings have been worked out from Multiple Indicator Survey (NSS-78th round) and applied on the estimated number of households to arrive at estimated number of households with dwellings. In order to account for locked and vacant houses, the number of estimated households are adjusted using proportion of locked and vacant census houses from Census-2011 in absence of any other estimate for number of locked and vacant dwellings in the economy. Thus, the estimated dwellings are the sum of estimated households with dwellings and estimated locked and vacant dwellings.

For FY 2022-23, the average household size has been estimated using results of Household Consumption Expenditure Survey (HCES) conducted in 2022-23. Applying the average household size to the projected population from M/o Health and Family Welfare Population Projections as on 1st October, 2022, estimated households are derived. The estimated number of households are then adjusted with proportion of households with dwellings (from HCES 2022-23) and applying proportion of locked and vacant census houses from Census-2011. This gives estimate of dwellings in the economy for FY 2022-23. Same estimation methodology has been followed in subsequent years for estimation of number of dwellings.

(II) GFCF of the unincorporated sector in non-residential buildings and other structures:

The GFCF in dwellings (which pertains to industry ‘Ownership of Dwellings’) is subtracted from the GFCF of unincorporated sector to arrive at GFCF of unincorporated sector in non-residential buildings and other structures.

Industry-wise GFCF is worked out from results of ASUSE of relevant year for industries covered in ASUSE. Since, ASUSE does not cover Agriculture and Allied sectors, Mining & Quarrying and Construction, the GFCF is estimated using following approach: -

(i) The capital expenditure on farm business is worked out for DOBS assets from AIDIS-2019 for Agriculture and allied sector. The survey year estimate is then extrapolated using growth in value of output of Agriculture and allied sectors to arrive at GFCF for FY 2022-23 and subsequent years.

(ii) For Mining & Quarrying and Construction, the capital stock to output ratios for private corporations engaged in each of these activities and with turnover of less than Rs. 2 Crores have been applied to GVO of Mining and Quarrying and Construction respectively of unincorporated sector to arrive at capital stock for the respective Financial Year. Difference in the capital stock of the financial year and the previous one gives the estimate of GFCF of current financial year.

Since, the total of industry-wise GFCF of unincorporated sector in DOBS asset so derived does not match with the GFCF of unincorporated sector in residential, non-residential buildings and other structures (derived using commodity flow approach), the difference is proportionately allocated across all industries so that the sum total of GFCF of all industries match with the GFCF of unincorporated sector in DOBS asset.

The industry-wise GFCF of unincorporated sector for industries covered under ASUSE is split into Quasi-Corporations and Household Sector using industry-wise shares in GFCF derived using results of respective year ASUSE.

Since, ASUSE does not cover the enterprises covered in ASI, the GFCF by establishments covered in ASI with type of organisation codes 1: Individual Proprietorship 2: Partnership 8: Cooperatives and 9: Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.) are estimated separately from ASI data and are added to estimate of Quasi-Corporations. The sum of GFCF of Quasi-Corporations and Private Corporations is disseminated in National Accounts Statistics as that of Private Corporations.

23.2.2.2 GFCF in Machinery & Equipments (M&E) asset**(i) Total GFCF in M&E using commodity flow approach:**

The GFCF in **Machinery and Equipment (M&E)** is compiled using commodity flow approach. It includes the ex-factory value of capital goods produced in the manufacturing sector, the product taxes paid on them, net imports of capital goods, import duties and Trade & Transport Margins (TTMs). The item basket of capital goods is identified using the detailed results of the **ASI** and

ASUSE. Unlike in 2011-12 series, the capital goods item basket is now dynamically updated using the detailed results of ASI and ASUSE for each of the financial year.

Total GFCF in M&E asset = Total value of domestically produced M&E + Net imports of M&E + product taxes (GST and Import Duty) + TTM (from latest Supply Use Table)(23.3)

From the total value so obtained, adjustments are made for **capital goods held as inventories** and for **dual-use machinery and equipment**. The inventory component is estimated using inventory-to-output ratios derived from ASI and ASUSE. Dual-use machinery and equipment, i.e. durable goods that are used for both capital formation and household consumption and are treated as part of **Private Final Consumption Expenditure (PFCE)**, are excluded from GFCF. After making these adjustments, the estimate of GFCF in M&E is obtained.

(ii) The GFCF in M&E are estimated for institutional sectors namely Public Non-Financial Corporations, Private Non-Financial Corporations, Public Financial Corporations, Private Financial Corporations and General Government from their respective data sources as mentioned in para 23.2.1. The GFCF in M&E is compiled at further disaggregated broad groups namely Transport Equipments, ICT Equipments and Other Machinery & Equipments.

(iii) GFCF in M&E asset for Unincorporated Sector

The total GFCF in M&E for institutional sectors is deducted from the estimate of total GFCF in M&E, as derived in formula (21.2) to arrive at GFCF in M&E of unincorporated sector. For the unincorporated sector, industry-wise GFCF in this asset is worked out from results of ASUSE of relevant year for industries covered in ASUSE. Since, ASUSE does not cover Agriculture and Allied sectors, Mining & Quarrying, Construction, electricity and gas, the GFCF is estimated using approach elaborated below:

(a) Agriculture (Crop and Livestock Sector): Ex-factory value of agriculture machinery & implements for the base year is taken from ASI unit level data for NPCMS codes for this category and then adjusting it for estimates of GVO of respective compilation category (Manufacture of machinery and equipments n.e.c. and Manufacture of Transport Equipments) from manufacturing sector using enterprise approach for ensuring complete coverage. Estimate for household sector is then be obtained by deducting the estimate of GFCF for agricultural machinery (crops) from public & private corporations. Same approach is followed for livestock sector.

(b) Forestry and Logging, Mining & Quarrying and Construction: The capital stock to output ratios for private corporations engaged in each of these activities with turnover less than Rs. 2 Crores have been applied to GVO of Forestry and Logging, Mining and Quarrying and Construction of the unincorporated sector to arrive at capital stock for the respective financial

year. Difference in the capital stock of the financial year and the previous one gives the estimate of GFCF of current financial year.

(c) Fisheries: The intercensal growth in the stock of machinery and implements between two consecutive rounds of the Fisheries Census is used to estimate the growth in the stock of fishery implements, with appropriate price adjustment based on the Producer Price Index (PPI) for fishery implements. The difference in estimated stock between two consecutive years provides the estimate of GFCF.

(d) Own account electricity generation by households: GFCF is estimated from the increment in installed capacity (off-grid electricity generation) multiplied by average cost per installed capacity. Data on installed capacity reported by M/o New and Renewable Energy under off grid electricity generation is used for the estimation of GFCF.

(e) Biogas production by households: Capacity-wise increment in number of biogas plants installed multiplied by average cost per biogas plant. The number of biogas plants installed are reported by four source agencies namely M/o New and Renewable Energy, KVIC, D/o Drinking Water and Sanitation and M/o Rural Development.

Since, the industry-wise total GFCF of unincorporated sector in Machinery & Equipment asset so derived does not match with the GFCF of unincorporated sector in Machinery & Equipments (derived using commodity flow approach), the difference is proportionately allocated among the industries so that sum total of GFCF of all industries match with the GFCF of unincorporated sector in this asset.

For industries covered under ASUSE, the industry-wise GFCF of the unincorporated sector is allocated between the Quasi-Corporations and Household Sector using the industry-wise shares of GFCF obtained from ASUSE. Since ASUSE does not cover establishments covered under the Annual Survey of Industries (ASI), the GFCF of ASI establishments having organisation type codes 1, 2, 8 and 9 is estimated separately using ASI data. These estimates are then added to the GFCF of Quasi-Corporations estimated from ASUSE. The sum of GFCF of Quasi-Corporations and Private Corporations is disseminated in National Accounts Statistics as that of Private Corporations.

23.2.2.3 GFCF in Cultivated Biological Resources

(i) Animal resources yielding repeat products:

Animal resources yielding repeat products, such as breeding livestock and other animals used repeatedly in the production process, are treated as fixed assets and their acquisition is recorded as Gross Fixed Capital Formation (GFCF). The estimates of increment in livestock are compiled using results of latest available Livestock Census. Livestock Census also provides the proportions of animal resources which are available for repeat use and hence treated as capital formation and that of young stock which are treated as inventory. The livestock population for the years between two successive Livestock Censuses is estimated by extrapolation using the geometric growth rate

derived from the available Census data, as annual estimates of livestock population are not available. The estimated livestock population for each year is used to derive the annual increment in the number of animals in each relevant category. The increment is then valued using the corresponding average price for each category of animal resource. The value of the incremental livestock, after taking into account the classification of animals as fixed assets or inventories (using the ratios from Livestock Census), is taken as the estimate of GFCF in animal resources yielding repeat products.

Institutional sector-wise data on GFCF in ‘Animal resources yielding repeat products’ are compiled from analysis of budget documents in respect of General Government and Departmental Enterprises, by analysis of Annual Reports for Autonomous Bodies and Non-Departmental Enterprises and using MCA database in respect of Private Corporations. The GFCF of Household sector in this asset is then estimated using the residual method, where the GFCF in this asset reported by General Government, Departmental Enterprises, Autonomous Bodies, Non-Departmental Enterprises and Private Corporations are deducted from the total GFCF in this asset.

(ii) Tree, crop and plant resources yielding repeat product:

GFCF in tree crops and plantations yielding repeat products is estimated by multiplying the incremental area brought under plantation by the average expenditure incurred per hectare for establishing the plantation. State-wise and plantation crop-wise data on the area under plantations, in hectares, for each year are obtained from the State Directorates of Economics and Statistics (State DES) and the Ministry of Agriculture and Farmers Welfare. The incremental area under each plantation crop is derived as the difference between the area under plantation in the current year and that in the preceding year. State-wise and plantation crop-wise estimates of average expenditure per hectare incurred for establishing plantations are obtained from NABARD. The incremental area is multiplied by the corresponding average expenditure per hectare to arrive at the total GFCF in tree crops and plantations yielding repeat products.

Institutional sector-wise data on GFCF in tree, crops and plantations yielding repeat products are compiled from analysis of budget documents in respect of General Government and Departmental Enterprises, by analysis of Annual Reports for Autonomous Bodies and Non-Departmental Enterprises and using MCA database in respect of Private Corporations. The GFCF of Household sector in this asset is then estimated using the residual method, where the combined GFCF reported by General Government, Departmental Enterprises, Autonomous Bodies, Non-Departmental Enterprises and Private Corporations are deducted from the total GFCF in this asset.

23.2.2.4 GFCF in Intellectual Property Products (IPP)

(i) Research and Development:

Estimates of GFCF in Research and Development (R&D) at current prices are compiled separately for the institutional sectors based on the available data sources. For General Government and Departmental Enterprises, estimates are derived through analysis of budget documents. For

Autonomous Bodies and Non-Departmental Enterprises, estimates are compiled through analysis of their Annual Reports. For Private Corporations, estimates are derived using the MCA database, while estimates for Quasi-Corporations are compiled from the Annual Survey of Industries (ASI).

Since, ASUSE survey does not provide separate estimates of capital formation in R&D, GFCF in this asset is not estimated separately for the unincorporated sector.

(ii) Mineral Exploration and Evaluation:

The capital expenditure reported by Non-Departmental Enterprises in their annual reports and MCA database in respect of Private Corporations are considered as GFCF in this asset.

For the unincorporated sector, estimates of capital formation in this asset are not currently compiled, as the State Directorates of Economics and Statistics (State DES), which are the source agencies for estimates of the value of output of minor minerals, do not presently provide data on capital formation in this asset.

(iii) Computer Software and Databases:

The estimates of production of computer software and databases from production side are adjusted for exports and imports of computer software and databases (from the Balance of Payment Statistics compiled by RBI) to arrive at software and databases available in the economy for capital formation. Adjustment for software and related services which does not form part of capital formation but are rather expenses attributed to intermediate consumption are made using data from NASSCOM. The resulting estimate forms the control total of GFCF in this asset.

Industry-wise GFCF in this asset are compiled separately for the institutional sectors. For General Government and Departmental Enterprises, estimates are compiled through analysis of budget documents; for Autonomous Bodies and Non-Departmental Enterprises, through analysis of Annual Reports; for Private Corporations, using the MCA database; and for the unincorporated sector, using net additions to this asset reported in ASUSE.

Since the sum of GFCF estimates at the institutional sector by industry level does not match the control total estimated, the difference is proportionately allocated across institutional sector by industry in proportion of respective intensity of GFCF in computer software and databases.

(iv) Entertainment, Literary and Artistic Originals and Other IPP assets:

Estimates of GFCF in this asset are derived using the capital expenditure on these assets reported by institutional sectors i.e. analysis of budget documents in respect of General Government and Departmental Enterprises, by analysis of Annual Reports for Autonomous Bodies and Non-Departmental Enterprises and using MCA database in respect of Private Corporations, reporting in ASI in respect of Quasi-Corporations. Since, ASUSE survey does not provide capital formation in this asset separately, estimates for unincorporated sector are not derived for this asset.

23.2.3 Methodology for Estimation of Gross Fixed Capital Formation at constant prices

(i) Constant prices estimates of GFCF in DOBS assets:

For constant prices estimation of GFCF in DOBS asset except for land improvement, General *Pucca* Construction Index is used. This composite index is derived by taking implicit price deflator from GVO of Construction (excluding plantation and mineral exploration) at Current and Constant Prices, which is essentially ratio of sum of current price value of material inputs, services inputs and factor costs used in construction and the sum of constant prices values of these components. Producer Price Index of relevant items are used for deflating the input wise estimate at current prices (estimated as a part of commodity flow method) and service inputs are deflated by Consumer Price Index. Details are mentioned in para 14.2.3 of Chapter-14. The index so derived has the advantage that the weights of different input components are dynamically updated and hence reflect the changing intensity of consumption of different inputs.

For constant price estimate of GFCF in land improvement, the current price GFCF is deflated by Consumer Price Index-Rural.

The GFCF of household sector in 'Dwellings' asset is prepared as the weighted index of material inputs, services inputs and factor costs used in construction of dwellings with weights derived from the 'Pilot study on construction activities in unincorporated sector establishments and households' conducted by NSSO in 2025.

(ii) Constant price estimates of GFCF in machinery and equipment (M&E) assets: For constant price estimation of GFCF in M&E assets, industry specific basket of suitable items in Producer Price Index (PPI) are prepared. Since the GFCF in machinery and equipments are industry specific, the weighted index of items from PPI for industry-specific machinery and equipments are used as deflators. For example: Weighted index based on PPI for Agricultural Machinery & Implements is used for deflating GFCF estimated in the category 'other machinery and equipments' for agriculture industry, weighted index based on PPI for machinery used mining, quarrying, etc. Similarly, the GFCF at current prices in transport equipments and ICT equipments are deflated by the weighted price indices constructed from the relevant PPI item baskets.

(iii) Constant price estimates of GFCF in cultivated biological resources: For animal resources yielding repeat products, an implicit price index using the current year estimate divided by increment in livestock in current year multiplied by base year prices is compiled as is used for deflating the current price estimate of GFCF in this asset. Composite price index of PPI of relevant items used in setting up the plantation and Consumer Price Index (Rural) is used for deflating the GFCF in tree, crops and plantation yielding repeat products.

(iv) Constant price estimates of IPP assets:

(a) Research & Development: CPI (Industrial Workers) is used as deflator for deflating GFCF in this asset for public sector and CPI (Urban) is used as deflator for GFCF in this asset by private sector.

(b) Mineral Exploration and Evaluation: CPI (General) is used as deflator.

- (c) **Computer Software and databases:** CPI(Urban) is used as deflator.
- (d) **Entertainment, literary and other artistic originals:** CPI (Recreation) is used as deflator.
- (e) **Other IPP products:** For other IPP products CPI-Urban is used as deflator.

23.2.4 Methodology for Estimation of Change in Stock at current and constant prices

The estimates of Change in Stock (CIS) at Current Price (CP) and Constant Price (KP) and estimates of inventory at CP and KP are compiled for all institutional sectors namely Public sector comprising of General Government, Departmental Enterprises, Non-Departmental Enterprises, Private corporations (including quasi-corporations, and cooperatives) and Household sector and for each industry category. The general methodology followed is as follows:

(a) Estimates at current prices

Estimates of opening stock and closing stock are available for public and private corporations from books of accounts and MCA database respectively. The CIS in respective of General Government and Departmental Enterprises are compiled from the reporting in budget documents.

For the **unincorporated sector**, data on inventories at the end of the reference period are collected in the **Annual Survey of Unincorporated Sector Enterprises (ASUSE)**. For industries covered under ASUSE, the **inventory-to-output ratio** is worked out separately for **Quasi-Corporations** and the **Household Sector**. The inventory position at the end of the financial year is then estimated by applying the corresponding inventory-to-output ratio to the Gross Value of Output (GVO) of the respective industry for that year. The estimated inventory position at the end of the financial year represents the **closing stock** for the year under consideration, while the estimated closing stock of the preceding financial year is taken as the **opening stock** for the current financial year. The difference between the closing and opening stocks is used to derive the Change in Stocks (CIS). The change in the value of inventories during an accounting period comprises both **physical changes in the volume of inventories** and **changes in the prices of the items held in inventories**. Only the change attributable to additions to and withdrawals from inventories, i.e. the physical change in inventories valued at appropriate prices, is included in the measurement of GDP. Changes in the value of inventories arising solely from changes in prices represent **holding gains or losses** and are not included in GDP.

Since the items treated as inventories are acquired/ produced at different point in time and may be recorded at different prices, the change in the book value of inventories does not necessarily represent the change in the physical level of inventories. Hence, it is necessary to revalue the inventory position for holding gains in order to eliminate the change in value of stocks purely due to the effect of price changes. Therefore, an **Inventory Valuation Adjustment (IVA)** is made to remove the effect of holding gains or losses arising from price changes from the change in the book value of inventories.

For this purpose, appropriate **weighted composite price indices**, constructed using a basket of **Producer Price Indices (PPI)** for items relevant to the respective industries, are used to revalue inventories. The IVA derived using these price indices is applied to the book-value change in inventories to obtain the change in inventories attributable to actual additions to and withdrawals from stocks, excluding the effect of price changes.

(b) Estimates at Constant prices

The opening and closing stock are deflated by the price index relevant to their own point in time (last quarter of the previous FY for opening, last quarter of the current FY for closing) in order to arrive at opening and closing stocks at common real/constant-price basis. Since both closing and opening stock are expressed in the same base-year prices, any pure price-level difference between the two periods is removed and only the change in physical quantity (valued consistently) remains.

The difference between the deflated closing stock and the deflated opening stock represents the **Change in Stocks (CIS) in volume terms at constant prices**, excludes the effect of price changes and it is free from holding-gain, since both ends of the comparison are stripped to a single price level.

The constant-price estimates of Change in Stocks (CIS) are subsequently **re-inflated using the annual average price index** to express the volume change at current-price-equivalent value. Ideally, additions to and withdrawals from inventories should be valued at the prices prevailing at the time of the respective transactions. Since inventory flows occur continuously throughout the financial year and transaction-level price information is generally not available, the **annual average price index** is used as a practical proxy for "price at time of transaction". This provides the current-price equivalent of the constant-price change in inventories.

In case of General Government and Departmental Enterprises, the change in stock at current prices are estimated directly from budget documents and hence, no Inventory Valuation Adjustment is required. The constant price estimates are derived using appropriate PPI based industry specific deflator.

Change in Stock for unincorporated sector in respect of industries not covered in ASUSE:

- (i) In case of crops and livestock sector, the incremental value of livestock which are not considered as GFCF in CBR asset 'Animal Resources yielding repeat product' are considered as change in stock. The categories of animals which form part of CIS are increase in livestock in respect of bulls and bullocks over three years not in use for breeding or work, cows over three years not in use for breeding, young male and female cattle stock, goats, sheep, camel and horses, ponies, donkey, mules, yak, maithun under one year, and goats, sheep, camel and other animals of one year and above and not in milk, or not reared for wool clipping or not used as draught animals etc. In case of the

pigs and poultry, the entire incremental livestock is taken into compilation of change in stock estimate.

- (ii) For estimating stock of minor minerals (household sector), inventory (mine head stock) to production ratio is worked out using Indian Minerals Year Book published by Indian Bureau of Mines. This ratio (closing inventory to Output for a particular year) multiplied by GVO gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years is used to arrive at the estimate of change in stock.
- (iii) For estimating change in stock of the unincorporated sector in construction industry, Inventory to Output ratio worked out from Pilot Survey on Construction being conducted by NSS in 2025 has been used. This ratio i.e. closing inventory to Output, is multiplied by GVO estimated gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years provides the estimate of change in stock.

23.2.5 Methodology for Estimation of Valuables at current and constant prices

In accordance with the recommendations of SNA, 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 “valuables” (separately from the GFCF and Change in Stocks). Valuables are classified as precious metals and stones that are not held for use as inputs into production processes; other valuables such as collections of jewellery of significant value fashioned out of precious stones and metals; and antiques and other art objects such as paintings and sculptures. Unlike GFCF and CIS, valuables are not estimated separately by institutional sector.

(a) Estimates at Current Prices

Gold and Silver: The production data of gold and silver in the economy is sourced from Indian Bureau of Mines (IBM). The production data is then adjusted for imports and exports of gold and silver and for inter-industry consumption (gold and silver used as input in manufacturing) to derive the net availability of gold and silver at basic prices. Trade and Transport Margins and Product Taxes are then added to arrive at estimates at market prices.

Manufactured valuables: The production of manufactured valuables (jewellery and ornaments of gold, silver, platinum embedded with diamonds, precious stones etc) are compiled using results of ASI and ASUSE. The specific product codes pertaining to items classified as valuables have been identified and the ex-factory value of these items are estimated from the two surveys, i.e. ASI and ASUSE. The estimated ex-factory value is further adjusted with reference to the **GVO** of the relevant compilation category, i.e., NIC-2008 two-digit code 32, of the manufacturing sector estimated using the enterprise approach, to ensure comprehensive coverage. The resulting estimated ex-factory value is then adjusted for imports, exports and inter-industry consumption of these items to derive the net availability of these manufactured valuables in the economy at basic prices. Trade and Transport Margins and Product Taxes are then added to arrive at estimates at market prices.

(b) Estimates at Constant Prices : For estimating the constant prices estimate of valuables, a composite price index based on Consumer Price Index of relevant items from CPI basket is used as deflator.

23.3 Limitations

The estimates of Gross Capital Formation (GCF) by the industry of use are obtained by aggregating the corresponding estimates of gross fixed capital formation and change in stocks prepared industry wise and valuables (which is not compiled institutional sector-wise). Another approach to arrive at finances for capital formation is by aggregating institutional sector-wise estimates of gross domestic saving added with the net capital inflow from abroad (Current Account's deficit). This approach is called flow of funds method for estimation of Finances for Gross Capital Formation.

The independent estimates of Gross capital formation thus obtained by two approaches differ and do not tally due to different data sources used and methodology followed for estimation. The difference is treated as 'errors and omissions'.

23.4 Changes in reporting of headline GCF

The statistical discrepancy between production side and expenditure side estimates of GDP is calculated using GCF calculated as sum of GFCF, CIS and Valuables. In the new series, with the integration of National Accounts Statistics compilation with Supply Use Tables, the statistical discrepancy between production side and expenditure side estimates of GDP has been made '0' at current prices. SUT compilation also uses GCF which is the sum of GFCF, CIS and Valuables and not the GCF derived using 'Finances for Gross Capital Formation'. Further, GCF by flow of funds approach does not give asset-wise and industry-wise GFCF and CIS. In order to maintain consistency in the macro-economic aggregates, the headline GCF is now taken as sum of GFCF, CIS and Valuables as against GCF estimated using Flow of Funds approach.

The current prices estimates of asset-wise and institutional sector-wise GFCF for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at **Table 23.1.** and **Table 23.2,** respectively. Further, the current prices estimates of GCF for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at **Table 23.3.**

Table 23.1 Estimates of asset-wise GFCF for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>				
S. No.	Item / Sector	2011-12 series	2022-23 series	% difference
1	Dwellings, Other buildings & Structures	49,09,146	49,09,728	0.0
2	Machinery & equipment	26,44,501	26,42,974	-0.1
3	Cultivated biological resources	13,832	20,534	48.5
4	Intellectual property products	8,28,559	8,79,719	6.2
Total Gross Fixed Capital Formation		83,96,038	84,52,955	0.7

Table 23.2 Estimates of Institutional Sector-wise GFCF for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices*(in Rs Crore)*

S. No.	Item / Sector	2011-12 series	2022-23 series	% difference
1	Public Non-Financial Corporations	8,00,611	8,52,061	6.4
2	Private Non-Financial Corporations [^]	29,73,132	27,60,398	-7.2
3	Public Financial Corporations	14,801	22,572	52.5
4	Private Financial Corporations [^]	51,739	92,716	79.2
5	General Government	9,57,507	10,31,641	7.7
6	Household including NPISH	35,98,247	36,93,567	2.6
Total Gross Fixed Capital Formation		83,96,038	84,52,955	0.7

Note: [^]Private financial and non-financial corporations including quasi-corporations**Table 23.3 Estimates of GCF for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices***(in Rs. Crore)*

S. No	Institutional Sectors	2011-12 series	2022-23 series	% difference
1	Public Non-Financial Corporations	7,94,613	8,60,570	8.3
2	Private Non-Financial Corporations [^]	32,60,798	29,05,508	-10.9
3	Public Financial Corporations	14,787	22,572	52.7
4	Private Financial Corporations [^]	53,224	94,640	77.8
5	General Government	9,57,615	10,32,117	7.8
6	Household including NPISH	36,14,851	37,11,669	2.7
	Total GFCF +CIS (1 to 6)	86,95,888	86,27,076	-0.8
	Valuables	3,44,489	3,60,668	4.7
	Total GCF	90,40,377	89,87,744	-0.6

Note: [^]Private financial and non-financial corporations including quasi-corporations

CHAPTER 24

IMPORT AND EXPORT

24.1 Coverage

In the expenditure approach for compilation of GDP,

$$\text{GDP} = C + I + G + (X - M) \dots\dots\dots(24.1)$$

where C represents Private Final Consumption Expenditure, I is Investment, G is Government Final Consumption, X are Exports and M represents Imports.

Exports (X) are added because they represent domestically produced output sold to non-residents which is the production that occurred domestically and must be counted, even though not consumed or invested domestically.

Imports (M) are subtracted because C, I, and G already include spending on goods and services that were not domestically produced, so imports must be netted out to avoid overstating domestic output.

Valuation Principle: FOB (Free on Board)

Both the SNA and the IMF's Balance of Payments and International Investment Position Manual (BPM6) recommend recording imports and exports of goods at Free-on-Board (FOB) values - the value of goods at the point they cross the customs frontier of the exporting country, before international freight and insurance costs are added. In India, Directorate General of Commercial Intelligence & Statistics (DGCI&S), M/o Commerce & Industry report the exports of goods on FOB basis.

Import data are however reported by DGCI&S are on a CIF basis (Cost, Insurance, Freight - including shipping cost to the importing country), whereas the accounts require FOB values for consistency between exports and imports. Hence, an adjustment for CIF-to-FOB for imports is required by deducting estimated freight and insurance costs incurred between the exporting and importing customs frontiers.

Consistent with the SNA's general transaction-recording rule, exports and imports of goods are recorded when economic ownership changes hands between resident and non-resident — not necessarily when goods physically cross the border, and not when payment is made. There are two special cases namely:

- i. **Merchanting:** where a resident trader buys goods from a non-resident and resells them to another non-resident without the goods entering the trader's home economy. Balance of Payment Statistics (BPM table) compiled by Reserve Bank of India provides for a separate item 'Net exports of goods under merchanting'.

- ii. **Goods sent abroad for processing:** where a good is shipped abroad for processing / assembly and returned, but ownership never actually transfers to the processing unit. Only the processing fee is recorded as a service transaction, which is reported in BPM table as 'Manufacturing services on physical inputs owned by others'.

India's National Accounts Division compiles goods trade primarily from DGCI&S (Directorate General of Commercial Intelligence and Statistics), adjusted to the FOB/BPM6 framework by including Net exports of goods under merchanting and reconciled with RBI's Balance of Payments compilation for the 'goods and services' account used in GDP.

24.2 Data Sources

Data on trade in services is compiled by Reserve Bank of India and is used in compilation of National Accounts Statistics. The services reported in BPM by RBI are:

- i. Transport (Sea, Air, Postal and courier services and Other modes of transport)
- ii. Travel (Business, Health-related, Education-related and Other)
- iii. Construction
- iv. Insurance and pension services
- v. Financial services
- vi. Charges for the use of intellectual property n.i.e.
- vii. Telecommunications, computer, and information services
- viii. Other business services (which includes Research and development services, Professional and management consulting services, Technical, trade-related, and other business services).
- ix. Personal, cultural, and recreational services
- x. Government goods and services n.i.e.
- xi. Others n.i.e.

In the new series of GDP, the compilation of National Accounts Statistics has been integrated with Supply Use Table framework. As per SNA recommendations, the exports and imports in National Accounts Statistics have to be recorded in FoB values. But imports of goods are reported at CIF which includes cost , insurance and freight. Hence, the adjustment for CIF has been made in order to ensure consistency in the valuation of net exports. The adjustment is made in the value of import of services namely, Insurance, Air Transport and Water transport. Value of imported services excluding those due to passengers as reported in Balance of Payment Statistics by RBI are subtracted from the total import of services in order to avoid double counting.

24.3 Methodology for Estimation at Constant Prices

24.3.1 Export and Import of Goods

For constant price estimation of export and import of goods, the principal commodity level Unit Value Index (UVI) with base year 2022-23 has been used. Principal Commodity level UVI is available for 169 commodities for both exports and imports. The Principal Commodity wise exports and imports at current prices are deflated by corresponding principal commodity level export and import UVI. The sum total of principal commodity-wise export (import) at current prices divided by the sum total of principal commodity-wise deflated export (import) to arrive at implicit price deflator for export of goods (import of goods). This implicit price deflator is then applied on total export of goods (import of goods) reported in Standard Presentation of India's Balance of Payments as per BPM6 by RBI to arrive at constant price estimates of exports (imports) of goods.

24.3.2 Export of Services from India

For constant price estimates of export of services from India, implicit price deflator (IPD) of production side estimate of GVA of relevant services in domestic market have been used as deflator in the new series. Service-wise IPD used are presented in the following **Table 24.1**.

Table 24.1: Service-wise IPD used for deflation of Export of Services

Services	Deflator for constant price estimate for export of services from India
Transport	Combined IPD of Transport Sector (Air, Water and Services Incidental to transport)
Travel (Business, education, health, personal, others)	Combined IPD of Trade, HR, Transport, Other Services
Financial & insurance	IPD of Financial Services
Telecommunications, computer, and information services	IPD of Telecommunications & ICT
Other business services	IPD of Other business services
Government goods and services n.i.e.	IPD of Public Admin and Defence
Manufacturing Services, Maintenance and repair services n.i.e.	IPD of Manufacturing industry
Construction Services	IPD of Construction Activities
Charges for the Use of IPP	CPI-Urban
Personal, Cultural & Recreation	CPI Recreation

24.3.3 Import of Services by India

In respect of import of services, under the assumption that price indices compiled for services by major trading partner countries are reflective of prices of their exports to other countries, the relevant Service Producer Price Index of major trading partner countries have been used for deflating import of these services. In some of the trading partner countries where Service PPIs were not available or published, related IPD has been used. Thus, the service-wise imports from trading partner countries are first deflated by corresponding service PPI/IPD and then aggregated

to arrive at constant price estimate. Since the import of services are sensitive to exchange rate fluctuations, adjustment for exchange rate fluctuations have been made to PPI/IPD.

Let,

P_t^{dom} : Price index in domestic currency

E_t : Exchange rate, defined as units of domestic currency per unit of US \$

E_{it} : Exchange rate, defined as units of Indian Rupee per unit of US \$

P_t^{adj} : Price index adjusted for exchange rate fluctuations (in foreign-currency terms)

0 : Base period

$$P_t^{\text{adj}} = P_t^{\text{dom}} \times (E_0 / E_t) \times (E_{it} / E_{i0}) \dots\dots\dots(24.2)$$

$$I_t^{\text{adj}} = (P_t^{\text{adj}} / P_0^{\text{adj}}) \times 100 \dots\dots\dots(24.3)$$

Service-wise deflator used for deflation of Import of Services are presented in the following **Table 24.2**.

Table 24.2: Service-wise deflator used for deflation of Import of Services

Services	Deflator for constant price estimate for import of services by India
Transport	PPI Transport and Warehousing Services / IPD for Transport and Warehousing Services
Travel (Business, education, health, personal, others)	PPI for travel related services (accommodation, hotel, transport, trade, other services). In absence of PPI, IPD of these industries has been used.
Financial & insurance	PPI for financial services /IPD for financial services
Telecommunications, computer, and information services	PPI for information and communications services/IPD of information and communications services
Other business services	PPI for Research and development services, Professional and management consulting services and Technical, trade-related, and other business services/IPD of these services
Government goods and services n.i.e.	IPD of Public Administration/ overall CPI (as PPI is not separately compiled for these services)
Manufacturing Services, Maintenance and repair services n.i.e.	Manufacturing PPI /IPD of Manufacturing Industry
Construction Services	PPI /IPD of Construction Services
Charges for the Use of IPP	Service PPI / Overall CPI
Personal, Cultural & Recreation	Relevant PPI / IPD of these services

24.4 Sequence of Accounts for the External Sector

In the System of National Accounts (SNA), every institutional sector of the economy — households, corporations, government, and financial institutions — is described through a sequence of accounts. This sequence records economic transactions in a logical order: production → generation of income → distribution of income → use of income → accumulation of assets and liabilities → the resulting balance sheet. The Rest of the World (RoW) account, also called the External Sector Account, applies the same logic to a country's economic transactions with the rest of the world. The external sector account is closely linked to, and largely mirrors, the Balance

of Payments (BoP) framework and is compiled using the ‘Standard Presentation of India's Balance of Payments as per BPM6’ compiled by Reserve Bank of India (RBI).

The sequence of account for external sector involves compilation of following accounts in the chronological order:

(a) External Account of Goods and Services which records exports and imports of goods and services between residents and non-residents. Balancing item is the External balance of goods and services (equivalent to the trade balance).

(b) External Account of Primary Income which records cross-border flows of compensation of employees, taxes less subsidies on production and imports, and property income (interest, dividends, reinvested earnings). Balancing item is the External balance of Primary Income.

(c) External Account of Secondary Income which records current transfers with non-residents like current taxes on income and wealth, social contributions and benefits, and other current transfers such as remittances and grants. Balancing item is the External balance of secondary income.

(d) External Account of Disposable Income which adjusts for merchandise trade valuation differences (change-of-ownership adjustments) to arrive at the key balancing item of the current account:

$$\text{Current External Balance} = \text{Balance on goods \& services} + \text{Net primary income} + \text{Net secondary income (current transfers)} \dots\dots\dots(24.4)$$

In 2011-12 series, the adjustment in (d) above arose due to use of data from DGCI&S for import and export of goods. With the use of import and export of goods value reported by RBI in ‘Standard Presentation of India's Balance of Payments as per BPM6’, the need for this adjustment is not required as the same is included while compiling BPM.

(e) Capital Account which uses the Current external balance and net capital transfers (receivable – payable) to arrive at changes in net worth due to saving and capital transfers and after accounting for acquisition/disposal of non-produced non-financial assets, arrives at the balancing item i.e. the Net lending (+) / Net borrowing (–) of the Rest of the World.

(f) Finance Account which compiles the net acquisition of financial assets and net incurrence of liabilities between residents and non-residents, classified by instrument - direct investment, portfolio investment, financial derivatives and other investment.

Capital, Saving and Integrated Accounts

CHAPTER 25

NET FIXED CAPITAL STOCK AND CONSUMPTION OF FIXED CAPITAL

25.1 Coverage

Gross capital stock represents the value of all fixed assets still in use at the end of an accounting period, at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets. In the gross stock, assets are treated as new until they are retired, they are assumed to retain their full productive capacity until removed from the stock.

Consumption of Fixed Capital (CFC) is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by producers as a result of physical deterioration, normal obsolescence, or normal accidental damage. CFC is not valued at historic cost but at current market value. In commercial accounting the term depreciation is often used in the context of writing off historic costs whereas in the SNA consumption of fixed capital is dependent on the current value of the asset. This current-value basis is precisely why National Accounts Statistics cannot simply borrow the depreciation figure from book of accounts and instead reconstruct CFC independently using the Perpetual Inventory Method (PIM).

Consumption of fixed capital (CFC) does not cover the depletion or degradation of natural assets such as land, mineral or other deposits, coal, oil, or natural gas, or contracts, leases and licences. It is compiled for fixed assets which have been produced as outputs from processes of production as defined in the SNA. Also, valuables that are acquired precisely because their value, in real terms, is not expected to decline over time; hence CFC is not calculated for valuables. Other exceptions wherein CFC is not compiled are livestock, work in progress and value of fixed assets destroyed by acts of war or major natural disasters, which occur very infrequently.

Net domestic product (NDP) or net value added (NVA) takes CFC into account. Other than arriving at net figures for key macro-economic aggregates, CFC is also used for estimation of GVA of non-market producers (General Government and Departmental Enterprises institutional sectors) wherein NVA is estimated by analysing the Budget Documents and GVA is derived as sum of NVA and CFC.

Net capital stock is the gross capital stock reduced by the accumulated consumption of fixed capital (CFC).

$$\text{Net Capital Stock} = \text{Gross Capital Stock} - \text{Accumulated Consumption of Fixed Capital} \dots (25.1)$$

The compilation of Net Capital Stock and Consumption of Fixed Capital are carried out using Perpetual Inventory Method.

25.2 Perpetual Inventory Method (PIM)

Book of accounts do not give a usable, economy-wide measure of either the stock of fixed capital or its consumption, since accounting depreciation reflects tax rules rather than economic asset lives. PIM is a method to reconstruct the capital stock purely from historical investment flows, combined with an assumption about how the value of fixed assets declines over their useful lives.

25.2.1 Data Requirements for constructing Net Fixed Capital Stock and CFC

- (i) A long time series of gross fixed capital formation (GFCF), by asset type, for 'L' years prior to the reference year 'Y', where 'L' is the average service life of the asset class
- (ii) Appropriate price indices to convert nominal GFCF into constant-price ('real') flows, and to inflate constant-price CFC/stock estimates back to current prices
- (iii) Assumption about average useful lives for each asset type
- (iv) An assumption about depreciation of asset which reflects the rate at which asset value declines each year.

For example: In straight line depreciation, the asset value declines by an equal amount each year, from full value (when it is new) to zero at the end of its useful life L, at which point the asset retires. SNA 2008 recognizes more than one possible profile for measuring the decline in an asset's efficiency or value over its life: a constant decline in efficiency until the asset disintegrates; a linear decline in efficiency, where the service life ends when efficiency declines to zero (the straight-line variant used in this note); and a constant geometric, or exponential, decline in efficiency (the declining-balance method).

25.2.2 Compilation of Net Fixed Capital Stock (NFCS) and CFC

Assumptions are made about the average useful life ('L') of each class of assets, separately distinguished. The average life of assets is revisited periodically to account for technological changes and obsolescence, changes in operating environment, maintenance practices, regulations in force etc. After extensive discussions/consultations with stakeholders (Ministries/Departments, PSUs, Industry Associations, Research Institutions, Maintenance manuals, General Financial Rules, guidelines by Government Accounting Standards Advisory Board Office of the Comptroller & Auditor General of India, Indian Railway Finance Code, Annual Reports of the companies, guidelines by Regulators, etc.), the average useful life of assets have been revised for use in the new series. **Table 25.1** shows a comparative summary of useful life of assets, used in compilation of NFCS and CFC.

Table 25.1: Average Useful Life of Assets used in compilation of NFCS and CFC

S. No.	Asset	2011-12 series	2022-23 series
1	Dwellings, Other Buildings and Structures		
1.1	Dwellings	70 to 80	60 to 75
1.2	Non-Residential Buildings	47 to 70	45 to 75
1.3	Other Structures	25 to 50	30 to 55
1.4	Land Improvements	20 to 30	20 to 30
1.5	Roads & bridges	60 to 100	60 to 75
2	Machinery and Equipments		
2.1	Transport Equipment	8 to 15	8 to 15
2.2	ICT Equipments	5	5
2.3	Other Machinery & Equipments	11 to 30	11 to 25
3	Cultivated Biological Resources		
3.1	Tree Crop and plant resources	20	20
4	Intellectual Property products (IPP)		
4.1	Research & Development	10	10
4.2	Mineral Exploration	14	30
4.3	Computer Software	7	5
4.4	Entertainment, literary or artistic originals	7	7
4.5	Other IPP	7	7

India is among the few countries which has time series of institutional sector $\times$ industry $\times$ asset-wise GFCF since 1951. The GFCF is estimated every year at the level of institutional sector $\times$ industry $\times$ asset and it serves as the key input for PIM.

Appropriate price indices are applied to the GFCF estimates at current prices to convert them to constant prices. The deflators have been elaborated in Chapter 23 on Gross Capital Formation.

$$\text{GFCF}_{\text{constant}}^t = \text{GFCF}_{\text{current}}^t / P^t \dots \dots \dots (25.2)$$

The Gross Capital Stock (GCS) at constant prices for year 't' is obtained by summing the constant-price GFCF of the trailing 'L' years (each vintage is assumed to survive fully in the gross stock until it reaches age L, at which point it retires).

Straight line depreciation is assumed in PIM. Since straight-line depreciation charges a constant $1/L$ of each vintage's original value every year for L years, the CFC estimate at constant prices for year 't' is obtained directly as GCS(t) divided by 'L'. Under straight-line depreciation, each vintage of investment loses an equal share ($1/L$) of its original value every year until it is fully written down and retired at age L. This is simpler to implement and explain than declining balance, since it does not require an additional assumption about the pace at which value loss front-loads early in an asset's life.

The Net Fixed Capital Stock (NFCS) at constant prices is rolled forward year-on-year and is calculated as :

$$\text{NFCS}_t = \text{NFCS}_{t-1} + \text{GFCF}_t - \text{CFC}_t \dots \dots \dots (25.3)$$

Same price deflators that are used for deflating current price GFCF are used to convert the CFC and NFCS estimates from constant to current prices.

$$CFC_t^{\text{current}} = CFC_t^{\text{real}} \times P_t \dots\dots\dots(25.4)$$

$$NFCS_t^{\text{current}} = NFCS_t^{\text{real}} \times P_t \dots\dots\dots(25.5)$$

The steps in compilation of Net Fixed Capital Stock (NFCS) and CFC are given in Figure 25.1.

Figure 25.1 Steps in compilation of Net Fixed Capital Stock (NFCS) and CFC



25.3 Compilation of NFCS and CFC at disaggregated level:

In the new series, GFCF is estimated for four broad categories of assets namely, Dwellings, Other buildings & Structures; Machinery & equipment; Cultivated biological resources; and Intellectual property products. These are further disaggregated into classified into 14 asset types for use in estimation of stocks and CFC as shown in Table 25.1. The compilation is carried out institutional sector-wise and industry-wise. Since the PIM was implemented in old series as well, the first step is to update the deflators using Producer Price Index and reconstruct the deflators with base year 2022-23 by splicing the deflator series (WPI based in 2011-12 series). Revised average life of assets have been incorporated in the compilation of NFCS and CFC. Backcasting of the Gross Fixed Capital Formation has been carried out at the most disaggregated level (institutional sector x industry x asset). The GFCS series have been reconstructed using backcasted GFCF series and subsequently using the updated GFCS series, the NFCS and CFC has been estimated using the PIM.

Table 25.2 shows the estimates of Consumption of Fixed Capital (CFC) for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices.

Table 25.2 Estimates of Consumption of Fixed Capital (CFC) for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>			
Sector	2011-12 series	2022-23 series	% difference
Public Sector	5,67,099	7,87,739	38.9
Private corporations*	13,79,423	17,02,077	23.4
Households [#]	11,82,718	10,94,564	-7.5
Total	31,29,241	35,84,380	14.5

Note: * Private corporations including cooperatives and quasi-corporations

[#] Households include household enterprises and NPISH

CHAPTER 26

SAVING

26.1 Introduction

Saving represents that part of disposable income (adjusted for the change in pension entitlements) that is not spent on final consumption goods and services. It may be positive or negative depending on whether disposable income exceeds final consumption expenditure, or vice versa. Saving denotes the excess of current income over current expenditure of various sectors of the economy. For the closed economy savings equals capital formation during the year whereas for the open economy savings equals capital formation plus net capital inflow from abroad during the year. The estimates of domestic saving are presently prepared only at current prices.

Saving is the balancing item in the use of income account. Assuming that saving is positive, the unspent income must be used to acquire assets or reduce liabilities. In so far as, unspent income is not used deliberately to acquire various financial or non-financial assets, or to reduce liabilities, it must materialize as an increase in cash, itself a financial asset. If saving is negative, some financial or non-financial assets must have been liquidated, cash balances run down or some liabilities increased. Thus, saving provides the link between the current accounts of the System and the subsequent accumulation accounts. If saving is zero, i.e., if final consumption expenditure equals disposable income, the institutional unit is not obliged to liquidate any assets or change any of its liabilities. Therefore, disposable income can, therefore, be interpreted as the maximum amount that an institutional unit can afford to spend on final consumption goods and services in the accounting period without having to reduce its cash, liquidate other assets or increase its liabilities. Nonfinancial and financial corporations have no final consumption expenditure or actual final consumption. Their net saving is equal to their net disposable.

26.2 Sequence of Accounts

Saving, in general, can also be regarded as the balancing item of the Use of Income Account (specifically, the Use of Disposable Income Account).

1. The balancing item of production account is GVA, which is distributed as:

- (i) Compensation of Employees (wages, salaries, employer social contributions)
- (ii) Taxes on production less subsidies
- (iii) Consumption of fixed capital &
- (iv) Operating Surplus / Mixed Income (the residual — profit-like income for corporations, or mixed income for unincorporated household enterprises), which is the balancing item of Generation of Income Account.

2. The Operating Surplus/Mixed Income + Compensation of Employees received + Property Income received (interest, dividends, rent) – Property Income paid, gives Balance of Primary Income (Net National Income at the economy level; for a sector, it's their primary income). Balance of Primary Income is balancing item for Allocation of Primary Income Account.

3. The Primary Income + Current Transfers received (taxes on income, social contributions/benefits, other current transfers) – Current Transfers paid, gives Disposable Income. Disposable Income is balancing item for Secondary Distribution of Income Account.

4. Adjusted disposable income is derived from disposable income by adding back social transfers in kind which reflects the value of individual goods and services (education, health, housing, etc.) that Government units and NPISHs provide to households for free or at economically insignificant prices. This adjusted disposable income is the balancing item of Redistribution of Income in Kind Account.

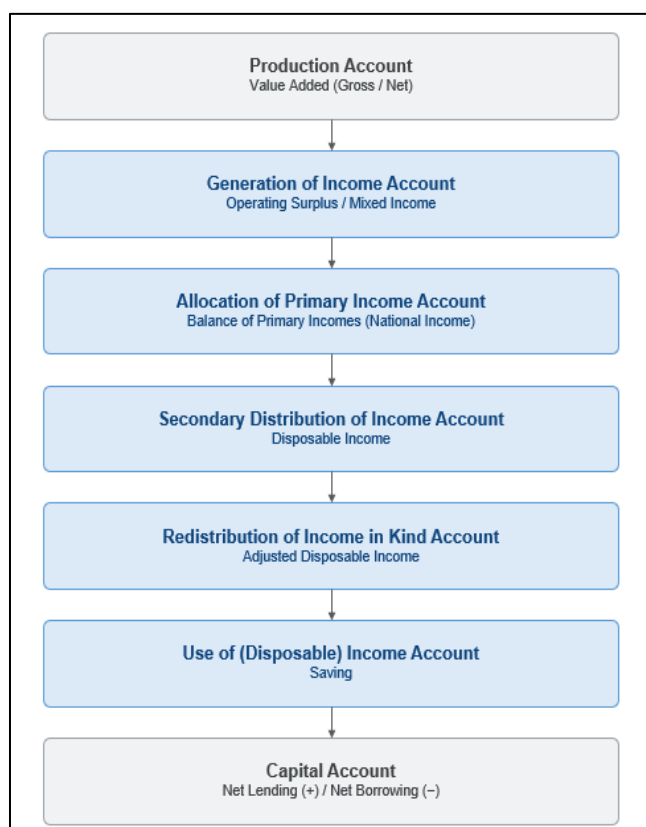
5. Saving is derived as the balancing item of the Use of Income Account which shows how disposable income (or adjusted disposable income) is either spent on final consumption or not spent.

$$\text{Gross Saving} = \text{Disposable Income} - \text{Final Consumption Expenditure} \dots\dots\dots(26.1)$$

$$\text{Gross Saving} = \text{Adjusted Disposable Income} - \text{Actual Final Consumption} \dots\dots\dots(26.2)$$

Saving is the crucial link between the income accounts and the capital account: saving carries forward as the main resource available in the capital account, where it combined with capital transfers - finances gross capital formation, with any surplus or shortfall showing up as net lending or net borrowing. The schematic flow chart is presented at **Figure 26.1**.

Figure 26.1 Sequence of Accounts



26.3 Data Sources and Methodology of Compilation of Gross Savings

The compilation of gross saving for the economy is carried out following institutional sector approach. The estimates of saving are prepared separately for following sectors:

- (i) General Government and Departmental Enterprises,
- (ii) Non-Financial Corporations,
- (iii) Financial Corporations, and
- (vi) Households.

The methodology and data sources for compilation of saving for each of the institutional sector are elaborated below:

(i) General Government and Departmental Enterprises

Estimates are compiled using analysis of Budget Documents. Saving of the General Government are estimated as the difference between total current receipts and total current expenditure. It does not include capital receipts and capital expenditure. Total Current Receipts comprise tax revenues, property income, miscellaneous current receipts, and current transfers received, including inter-Government transfers. Total current expenditure includes compensation of employees, net purchase of goods and services, consumption of fixed capital (CFC), interest payments, subsidies, and current transfers paid, including inter-Government transfers. Accordingly, General Government Saving are calculated as:

$$\text{General Government Saving} = \text{Total Current Receipts} - \text{Total Current Expenditure} \dots\dots\dots(26.3)$$

A positive value indicates that current receipts exceed current expenditure, resulting in Government saving, whereas a negative value indicates dissaving. For the purpose of National Accounts compilation, further adjustments, such as exclusion of profits of Departmental Commercial Undertakings (DCUs), may be made wherever required to derive the saving of the Public Administration and Defence sector.

(ii) Non-Financial Corporations

- a. Public Non-Financial Corporations: Annual accounts of the companies and corporations
- b. Private Non-Financial Corporations: MCA database

For non-financial corporations, Gross saving is same as the balancing item of Secondary Distribution of Income Account (in the sequence of accounts for non-financial non-Government companies) - Reinvested earnings of foreign companies. In the parlance of business accounts, this is equivalent to retained profit (excluding non-operating surplus/deficit) plus depreciation provision minus reinvested earnings of foreign companies. The non-operating surplus, deficit comprises (a) profit/loss on account of (i) sale of fixed assets, investments etc.,(ii) revaluation/devaluation of foreign currencies, (b) provisions no longer required, written back, (c) insurance claims realized, and (d) income or expenditure relating to the previous years and such other items of non-current nature.

(iii) Financial Corporations

- a. Public Financial Corporations: Annual Report of the companies, data from RBI, IRDAI and NABARD
- b. Private Financial Corporations: Annual reports of the companies, MCA database, data from RBI, IRDAI and NABARD

For financial corporations, the saving are estimated as addition to the reserve funds. The transfers to reserve funds include net amount carried to reserves, deprecation provision, amount allocated for other special purposes and amount carried forward to next year's account net of surplus/deficit of the previous year brought forward as available from the details of "Earnings and Expenses of Commercial Banks". The estimation of saving of non-banking financial and investment companies is same as that of non-financial corporations. In case of co-operative societies, data on statutory reserves/funds and other reserves are taken from RBI and NABARD. The gross saving is taken as the increase in statutory funds and other reserves/funds.

Reinvested earnings of foreign direct investment companies in India is excluded from the saving of non-Government financial / non-financial corporate enterprises and included in the net factor income and net capital inflow from abroad.

(iv) Household

The household sector comprises, apart from individuals, all non-Government, unincorporated enterprises like sole proprietorships and partnerships owned and/or controlled by individuals and non-profit institutions. The saving of the household sector is taken as the sum of its investments in various instruments of financial saving and in the form of physical assets. Since direct annual data on household saving, as an excess of income over current expenditure of households and household enterprises, are not available, the estimates are derived from the assets and liabilities of the household sector.

Gross household saving comprises of (i) Gross Financial Saving, (ii) Saving in physical assets, and (iii) Saving in form of valuables (gold & silver ornaments).

Gross Financial Saving of Household sector are compiled instrument-wise, using various data sources as follows:

- (a) Currency : from RBI
- (b) Deposits (with bank, non-banking companies, with co-operative banks & societies, trade debt, net) : from RBI
- (c) Shares, debentures, hybrid instruments and mutual funds : from SEBI
- (d) Claims on Government
 - i. Investment in Government securities : from RBI
 - ii. Investment in small saving : from Budget Documents

- (e) Insurance funds (life, postal, state) and provident and pension funds : from Budget Documents, LIC Annual Reports, EPFO, annual reporting by Organisations maintaining Provident and Pension Funds and Private Insurance Fund from RBI

Household Saving in physical assets comprises the Gross Capital Formation (GFCF+CIS) of the Household Sector and is estimated as a component of expenditure side estimates of GDP. The saving in form of valuables are estimated using the total valuables compiled for the economy as a component of GCF and by applying the ratio of household's investment in valuables (estimated from the results of All India Debt and Investment Survey to the total estimated valuables in the economy in that year.

Household financial liabilities comprises of bank advances, loans and advances by co-operative banks & societies, financial corporations & non-banking companies, insurance corporations (compiled using data provided by RBI) and loans and advances from Government (which are compiled from analysis of Budget Documents).

26.4 Changes in the compilation of savings

The major change in the compilation of household savings in respect of saving in financial assets namely in Shares, debentures, hybrid instruments and mutual funds. The estimates for these financial instruments were provided by RBI in the old series (2011-12 series). In the new series, the estimates of household saving in these instruments are provided by SEBI. The coverage of investment by households in these assets have improved in the new series. Following changes have been carried out by SEBI in reporting of household saving in Shares, debentures, hybrid instruments and mutual funds:

- (a) Inclusion of non-individuals (Non-profit institutions serving Households (NPISH)) while preparing estimates of household saving in shares and debentures,
- (b) Inclusion of new instruments like Real Estate Investment Trust (REIT), Investment Trust (InviT) and Alternate Investment Funds (AIFs) and
- (c) Inclusion of net investment of households and NPISH in equity and debt through secondary markets have expanded the coverage.

26.5 Gross Capital Formation (GCF)

The estimates of gross saving are used in deriving the estimates of capital formation from flow of funds approach wherein Gross Capital Formation is equivalent to the Saving plus the net inflow of capital from rest of the world. Net capital inflow is the deficit of the nation on current account in balance of payment account excluding official transfers.

Thus, the estimates of Gross Capital Formation are available using two approaches:

(i) **Flow of funds approach**, wherein GCF is derived as Gross Saving plus net capital flow from Rest of the World (RoW). The estimates are published in Statement 5B of press release dated 27.02.2026 wherein $GCF \text{ by flow of funds} = \text{Savings} + \text{Net inflow of funds from Abroad (CAD)}$.

(ii) **Commodity flow approach**, derived by the type of assets and industry (as sum of GFCF + CIS+ Valuables).

The difference in the two estimates of GCF are due to different data sources used in their compilation and are attributed as errors and omissions.

The balancing item in Capital Account and the Financial Account is net lending (if positive) or net borrowing (if negative). The balancing items in both accounts are conceptually equal, but due to measurement error result in a discrepancy which is presented as net errors and omissions. Countries such as Australia, Canada, the Netherlands and the United Kingdom, despite having well-developed national accounts systems, also experience discrepancies between net lending/net borrowing derived from the Capital Account and the Financial Account. Such discrepancies primarily arise from differences in data sources, coverage, valuation, timing and measurement methods used to compile the two accounts and are generally recognised and presented as statistical discrepancies, errors and omissions, or statistical adjustments.

26.6 Limitations

In 2011-12 series, the value of the 'Finances for Gross Capital Formation' was taken as the headline Gross Capital Formation (GCF) at current prices. However, the headline value of GCF at current prices did not match with the sum of GFCF, CIS and Valuables estimated using industry of use approach. The difference between sets of estimates of GCF is attributed to errors & omissions due to methodological differences and differences in the data sources used in the compilation by the two approaches referred above. 'Finances to gross capital formation' is arrived at using institutional sector-wise savings + net capital inflow from the rest of the world whereas the GFCF, CIS and Valuables are estimated as components of expenditure approach of GDP compilation. The differences in the value of GCF by these two approaches were not reconciled or adjusted and the difference reflected 'errors and omissions'.

In the new series, with the integration of National Accounts Statistics compilation with Supply Use Tables, the statistical discrepancy between production side and expenditure side estimates of GDP has been made '0' at current prices. SUT compilation also uses the GFCF, CIS and Valuables and not the GCF derived using 'Finances for Gross Capital Formation'. Further, GCF by flow of funds approach does not give asset-wise and industry-wise GFCF and CIS.

The current prices estimates of Saving by institutional sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are presented at **Table 26.1**.

Table 26.1 Estimates of Institutional Sector-wise Saving for the year 2022-23 as per the 2011-12 series and 2022-23 series at current prices

<i>(in Rs. Crore)</i>				
S. No.	Item	2011-12 series	2022-23 series	% difference
1	Gross Saving	82,44,048	79,40,137	-3.7
1.1	Non-financial corporations	29,76,375	23,86,398	-19.8
1.1.1	Public non-financial corporations	3,31,867	3,45,515	4.1
1.1.1.1	Departmental enterprises	67,417	60,220	-10.7
1.1.1.2	Non-departmental enterprises	2,64,450	2,85,295	7.9
1.1.2	Private non-financial corporations	26,44,507	20,40,884	-22.8
1.2	Financial corporations	7,69,821	8,77,415	14.0
1.2.1	Public financial corporations	4,64,221	4,59,701	-1.0
1.2.1.1	Departmental enterprises	6,723	2,725	-59.5
1.2.1.2	Non-departmental enterprises	4,57,498	4,56,976	-0.1
1.2.2	Private financial corporations	3,05,600	4,17,714	36.7
1.3	General Government	-5,12,622	-5,91,900	15.5
1.4	Household sector	50,10,475	52,68,223	5.1
1.4.1	Gross financial saving	29,27,604	29,91,983	2.2
1.4.2	Less Financial liabilities	15,96,485	16,00,435	0.2
1.4.3	Saving in physical assets	36,14,851	37,11,669	2.7
1.4.4	Saving in the form of gold and silver ornaments	64,504	1,65,006	155.8
2	Net capital inflow from ROW	5,27,525	5,27,525	-
3	Finances for Gross Capital Formation (1+2)	87,71,573	84,67,662	-3.5

CHAPTER 27

SUPPLY AND USE TABLE

27.1 Introduction

Supply and Use Tables (SUTs) are an integral part of the System of National Accounts (SNA 2008., 2025) and serve as the most important integration framework for the national accounts. SUTs provide a comprehensive and coherent statistical architecture for balancing the supply and demand of goods and services in an economy and are regarded as the most appropriate framework for compiling Gross Domestic Product (GDP).

The quality and robustness of GDP and its components are enhanced by the supply and use table (SUT) framework. SUTs are accounting schemes in the form of matrices that record supplies of different goods and services that originate from domestic industries or imports and how these supplies are allocated to various intermediate or final uses, including exports (1993 SNA, 1.16; 2008 SNA, 1.24; 2025 SNA, 1.34). It leads to more consistent and robust GDP estimates.

SUTs offer a complete description of the economy by presenting detailed information on production processes, inter-industry relationships, the use of goods and services, and the generation of income through production activities. After balancing, the SUT framework ensures consistency between the output of industries, products produced, and their intermediate and final uses. The tables depict the structure of production costs, income generated in the production process, the flow of domestically produced goods and services, and transactions with the rest of the world.

The SUT framework focuses on both the production and use aspects of the economy. It shows how industries produce goods and services using intermediate inputs and primary factors of production, and how these goods and services are utilized as intermediate consumption, final consumption, gross capital formation, and exports. Within this framework, key macroeconomic aggregates such as GDP, value added, imports, final consumption expenditure, capital formation, and exports are derived in a consistent and integrated manner.

For India, the Supply and Use Tables (SUT) is compiled by the National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI). India's national accounts follow the System of National Accounts (SNA) 2025, and the SUTs bring together data from diverse sources including the Annual Survey of Industries (ASI), Annual Survey of Unincorporated Sector Enterprises (ASUSE), National Sample Survey (NSS), Government Finance Statistics, and administrative data.

The supply–use identity for any product in an economy can be expressed as:

$$\begin{aligned} \text{Output} + \text{Imports} = & \text{IC} + \text{Final Consumption (GFCE + PFCE)} + \text{GCF [GFCF} \\ & + \text{CII + Valuables]} + \text{Exports} \quad \dots\dots\dots(27.1) \end{aligned}$$

To ensure that the identity holds, all transactions are valued at a common price basis. Since domestic output is measured at basic prices (BP), while the use components are valued at purchasers' prices (PP), appropriate adjustments are required to bring both sides of the equation to the same valuation. Accordingly, taxes less subsidies on products and trade and transport margins (TTM) are added to the supply side. The supply–use identity at purchasers' prices is therefore expressed as:

$$\begin{aligned} \text{Output} - \text{IC} + \text{Taxes on Products} - \text{Subsidies on Products} + \text{TTM} = & \text{Final} \\ \text{Consumption} + \text{GCF [GFCF + CII + Valuables]} + \text{Exports} - \text{Imports} \quad \dots\dots(27.2) \end{aligned}$$

India's economy is characterised by significant sectoral diversity, a large informal sector, and complex inter-industry linkages spanning agriculture, manufacturing, and services. SUTs provide the essential framework to integrate and reconcile data from heterogeneous statistical sources into one coherent GDP estimate, identify and measure the informal economy, balance the three approaches to GDP measurement and support policy analysis.

27.2 Salient Features of SUT

27.2.1 Integration of Annual Estimates with SUT framework

In the new GDP series, the Supply and Use Table (SUT) framework serves as the central balancing mechanism for annual estimates compilation. The estimates derived independently through the production, income, and expenditure approaches are not treated in isolation; instead, they are systematically reconciled within the SUT framework. This ensures internal consistency across all three approaches, as recommended by the System of National Accounts (SNA). The SUT framework is the best available system to organize, display, and contrast detailed statistics on production, expenditure, and income in an economy.

27.2.2 Alignment with latest classifications

The adoption of updated classification systems improves the alignment of national accounts with international standards and evolving economic structures. Industries are classified using NIC 2025, which captures emerging sectors and technological changes more effectively. Products are classified using National Product Classification for Manufacturing Sector (NPCMS) 2011 (Revised)/ National Product Classification for Services Sector (NPCSS), ensuring a detailed and internationally comparable product breakdown. Classification of Individual Consumption According to Purpose (COICOP) 2018 has been adopted for classification of PFCE items.

27.2.3 Improved Non-Financial Private Corporate Estimates

The estimates of the Non-Financial Private Corporate (NFPC) sector have been improved by segregating revenue share, hence GVA for multi activity enterprises using MGT 7/7A data.

Multipliers have been used at disaggregated level to account for the differences in capital intensity (measured by GVA to PUC ratio) across industries and size classes. Comprehensive coverage of Limited Liability Partnership (LLPs) has been ensured using MCA data.

27.2.4 Improved IC Structure

The allocation of industry-wise inputs has been significantly improved from the latest ASI and ASUSE data, sectoral ministry databases, and corporate financial statements. For some service-related industries, the distribution has been further enriched by borrowing information from other developed economies, leading to more realistic and industry-specific input structures.

27.2.5 Improved TTM Estimates

Trade and Transport Margins (TTM), which bridge the gap between basic prices and purchasers' prices, are now estimated using a more robust and data-driven approach. Instead of relying on fixed assumptions, TTM is derived indirectly using multiple data sources such as ASI, Household Consumption Expenditure Survey (HCES), and state-level price data. Improved TTM estimates are crucial for accurately transforming supply at basic prices into uses at purchasers' prices within the SUT framework.

27.2.6 Improved Product-Level Tax Allocation

A major methodological improvement is the allocation of taxes at a detailed product level. Taxes such as Goods and Services Tax (GST), excise duties, and import duties are mapped to specific products using tax schedules and administrative data. This replaces earlier aggregate or proportional allocation methods and ensures that the tax burden is accurately reflected across different goods and services.

27.2.7 Improvement of PFCE Estimation

In the new series, the estimates of PFCE have improved substantially. The Household Consumption Expenditure Survey (HCES) data have been extensively used to derive benchmark estimates for most of the 128 PFCE items. The commodity flow approach adopted for the remaining items has also been strengthened by updating rates and ratios using the latest studies on milk and road transport, along with recent surveys such as ASI and ASUSE. Several administrative data sources, including those from the Central Electricity Authority (CEA), Petroleum Planning and Analysis Cell (PPAC), and Directorate General of Civil Aviation (DGCA), have also been utilised.

27.2.8 Elimination of Discrepancy

One of the key strengths of the SUT framework in the new GDP series is the complete elimination of statistical discrepancies at the final estimation stage. Through iterative balancing, inconsistencies between supply and use are resolved, ensuring that total supply equals total use

for each product. This results in a fully coherent and internally consistent set of national accounts estimates. Unlike earlier approaches where discrepancies were shown explicitly, the new framework integrates all adjustments within the system, thereby improving transparency, reliability, and analytical integrity.

27.3 Data Sources

The **Table 27.1** shows the data sources that have been used in SUT compilation.

Table 27.1 Data Sources for SUT Compilation

Data Sources	Organisation	Use in SUT
Annual Survey of Industries (ASI)	NSO / MoSPI	Manufacturing output, IC, value added for organised manufacturing; product composition from unit-level data
Annual Survey of Unincorporated Enterprises (ASUSE)	NSO / MoSPI	Unorganised manufacturing, trade, transport, and service sectors
Household Consumption Expenditure Survey (HCES)	NSO / MoSPI	Household final consumption expenditure by product; TTM derivation
Periodic Labour Force Survey (PLFS)	NSO / MoSPI	Labour inputs
Cost of Cultivation Studies (CCS)	Ministry of Agriculture	Input structures for agriculture and horticulture crops
EXIM Data Bank	Ministry of Commerce and Industry	Import and export of goods classified by ITC-HS codes
Balance of Payments (BOP) Statement	Reserve Bank of India (RBI)	Imports and exports of services; CIF adjustment data
MCA21 Database (MGT-7, Financial Statements)	Ministry of Corporate Affairs	GVA, output, and IC for private corporate sector
Government Finance Statistics / Union Budget	Ministry of Finance / CAG	GVA, output, and IC of Railway transport and public administration GFCE, product taxes and subsidies, excise duty
GST Data	Goods and Services Tax Network	GST distribution across products
IBM Mineral Statistics	Indian Bureau of Mines	Product composition of mining output and input
Agricultural Statistics at a Glance	Ministry of Agriculture	Crop-wise output and area data
CEA / PPAC / DGCA	Sectoral Ministries	Electricity, petroleum, and civil aviation data for PFCE and IC structure

Data Sources	Organisation	Use in SUT
Central Board of Indirect Taxes and Customs	Ministry of Finance	Customs duty distribution among imported goods
Annual Reports of NDEs and DEs	Sectoral Ministries/ PSU Boards	Output, IC, and value added for public sector enterprises

27.4 Structure of Supply and Use Tables

Supply Table and Use Table are Product $\times$ Industry (Row $\times$ Column) matrices of equal dimensions with different entries. In the Supply Table, entries across columns show the value of the respective product by kind of supplier industry, distinguishing the domestic supply from foreign supply (imports), all at basic prices. The total supply of each product at purchasers' prices is obtained by adding taxes less subsidies on products, trade and transport margins, and the CIF adjustment for imports of insurance and transport services.

On the other hand, entries in the Use Table show use of different product as intermediate consumption by industries, final consumption, gross capital formation and exports, all at purchasers' price. The table also records the value-added components by industry, including compensation of employees, consumption of fixed capital, net taxes on production, and operating surplus/mixed income, which together with intermediate consumption constitute the total output of each industry. **Table 27.2** and **27.3** present the formats of Supply Table and Use Table, respectively, having m products and n industries.

Table 27.2 Format of Supply Table

Industry	Industry 1	...	Industry n	Import	CIF Adj.	Taxes on Products	Subsidy on Products	TTM	Total Supply at PP
Product									
Product 1									
...									
Product m									
CIF Adj.									
Output at BP									

Table 27.3 Format of Use Table

Industry/ Products	Industry 1	...	Industry n	Total IC	PFCE	GFCE	GCF	Export	Total Use at PP
Product 1									
...									
Product m									
Total IC at PP									
GVA at BP									
Net Taxes on Production									
Consumption of Fixed Capital (CFC)									
Compensation to Employee (CE)									
Operating Surplus (OS)/Mixed Income (MI)									

27.5 Identification of Industries and Products

NIC 2025 and NPCMS 2011 (Revised)/ NPCSS 2010 have been used for classification and identification of new products and industries. The dimension of SUTs for 2022–23 and 2023–24 has been revised from the old series (140 products × 66 industries) to 155 products × 67 industries. The annual estimation divides the entire economic activities into 11 broad groups. **Table 27.4** shows the activity-wise number of industries and products that are identified in SUT.

Table 27.4 Number of Industries and Products

S. No.	Economic Activities	No. of Industries	No. of Products
1	Agriculture & Allied	4	41
2	Mining and Quarrying	6	10
3	Manufacturing	30	75
4	Electricity, Gas, Water Supply & Other Utility Services	4	4
5	Construction	1	1
6	Trade, Repair, Hotels and Restaurants	2	3
7	Transport, Storage, Communication & Services Related to Broadcasting	7	7
8	Financial Services	2	2
9	Real Estate, Ownership of Dwelling & Professional Services	6	7

S. No.	Economic Activities	No. of Industries	No. of Products
10	Public Administration and Defence	1	1
11	Other Services	4	4
	Total	67	155

The identification of products and industries has been carried out for each of the 11 economic activities separately. The process adopted for each activity is discussed below.

27.5.1 Agriculture and Allied Activities

This economic activity consists of 4 industries: agriculture (covering agricultural and horticultural crops), livestock, forestry & logging, and fishing & aquaculture. For SUT 2022–23 and 2023–24, all 4 industries are retained as in the previous series. A fairly large number of crops are identified as products for the purpose of national accounts compilation. From the categories having major contributions, only limited items with the highest share are selected; others are consolidated as residual items (e.g., other pulses, other oilseeds). The category of Fruits & Vegetables has been split into Fruits and Vegetables, with new products like Citrus & Grapefruit and Cabbage & Cauliflower introduced. **Table 27.5** presents the number of products of agriculture and horticulture in annual estimates and SUT.

Table 27.5 No. of Products of Agriculture and Horticulture in Annual Estimates and SUT

Categories	No. of Products in Annual Estimates	No. of Products in SUT
Cereals	11	3
Pulses	13	3
Oilseeds	11	4
Sugars	4	1
Fibres	5	1
Drugs & Narcotics	12	3
Condiments & Spices	18	1
Fruits & Vegetables	71	4 (Fruits) + 5 (Vegetables)
Floriculture	1	-
Dying and Tanning material	1	-
Other Crops	7	2
By-products	1	—
Backyard	1	—

Thus, out of 27 products (including residual items) in SUT, 17 fall under the Agriculture industry and the remaining 10 under Horticulture.

Livestock : For the Livestock industry, estimates are compiled for 8 products, selected by clubbing/splitting different products to align with NPCMS. New products like Beef, Mutton, Poultry Meat and Other Meat have been introduced. **Table 27.6** presents the number of products of livestock in annual estimates and SUT.

Table 27.6 Name of Livestock Products in Annual Estimates and SUT

S. No.	Name of Product in Annual Estimates	Name of Product in SUT
1	Milk Group	Milk
2	Beef	Beef
3	Mutton	Mutton
4	Pork	Other Meat
5	Meat Products	Other Meat
6	Poultry Meat	Poultry Meat
7	Eggs	Egg
8	Wool	Wool
9	Hides	Other Livestock Products
10	Skins	Other Livestock Products
11	Other By-products	Other Livestock Products
12	Hair & Bristles	Other Livestock Products
13	Dung Fuel	Other Livestock Products
14	Dung Manure	Other Livestock Products
15	Silk Worm Cocoons & Honey	Other Livestock Products
16	Increment in Livestock	Other Livestock Products

Forestry and Logging : For Forestry and Logging, all three products, namely Industrial Wood, Firewood, and Other Forestry Products are included. For Fishing and Aquaculture, three products, namely Inland Fish, Marine Fish, and Prawn are selected.

27.5.2 Mining and Quarrying

This industry is divided into six industries in SUT. Fuel minerals are split into three industries: Coal & Lignite, Crude Petroleum, and Natural Gas. Metallic minerals cover Iron Ores and Non-Ferrous Metal Ores. The sixth is Other Mining, which includes all minor minerals. Ten products are selected based on product-wise data availability and the respective share in the overall output of this industry.

27.5.3 Manufacturing

The annual estimates provide output and Gross Value Added (GVA) for the manufacturing sector across 30 activity groups (compilation categories), which are retained as the corresponding 30 industries in the Supply and Use Tables (SUT). Product-wise information is derived from the Annual Survey of Industries (ASI), an establishment-based survey that captures detailed data on output and intermediate consumption at the seven-digit National Product Classification for Manufacturing Sector (NPCMS) level. Output is initially compiled at the seven-digit NPCMS code level, following which major products are identified based on their value of output. These products are subsequently aggregated into homogeneous SUT product groups. Inputs and outputs reported in Block F (Input) and Block G (Output) of the ASI Schedule that are not assigned NPCMS codes are mapped to the appropriate SUT product categories, are shown in **Table 27.7**.

Table 27.7 Treatment of items Listed in Block F (Input) and G (Output) of ASI Schedule

Block	Description in ASI	SUT Product
F	Work done by others on materials supplied	Merged with Major Products of Industry
F	Repair & Maintenance of Buildings and other Construction	Construction and Construction Services
F	Repair & Maintenance of Other Fixed Assets	Repair and Maintenance of Motor Vehicles
F	Operating Expenses	Other Utility Services
F	Rent paid for Plant & Machinery and Other Fixed Assets	Renting of Machinery & Equipment
F	Expenses on Research & Development (R&D)	Research & Development Services
F	Rent paid for Buildings	Real Estate Services
F	Purchase value of Goods sold in the same condition as purchased	Trade
G	Receipts from Manufacturing Services (incl. work done for others)	Merged with Major Products of Industry
G	Receipts from Non-manufacturing Services	Merged with Major Products of Industry
G	Value of Electricity Generated and Sold	Electricity
G	Rent received for Plant & Machinery and Other Fixed Assets	Renting of Machinery & Equipment
G	Sale value of Goods sold in the same condition as purchased	Trade

27.5.4 Construction

Construction is treated as a single industry producing a single product, namely Construction, in the SUT. Although the production accounts provide estimates of construction output by type of construction (e.g., dwellings, other buildings and structures, non-residential buildings, roads and bridges, etc.), the corresponding breakdown of intermediate consumption and other components is not available. Consequently, it is not feasible to treat these categories as separate products in the SUT, and they are therefore aggregated into a single construction product.

27.5.5 Services

For this category, 26 industries have been identified for inclusion in the SUT, largely corresponding to the activity groups available in the annual estimates. In certain cases, industries have been further disaggregated based on the availability of detailed information and the SUT classification adopted for compilation. Likewise, 28 product groups have been identified, primarily using information from the annual estimates and the adopted SUT product classification. In the current series, Other Utility Services has been carved out from Other Services and classified as a separate product category.

27.6 Compilation of Supply Table

The supply table provides information about the resources of goods and services. It is a product-by-industry table that captures the output of goods and services at the selected product level in

rows and by domestic industries as well as imports in columns. The supply table is generally prepared at basic prices. To account for the final utilization of products, the supply table includes valuation vectors to move from basic prices to purchasers' prices.

27.6.1 Agriculture and Allied Activities

The Ministry of Agriculture provides crop-wise value of output, which are grouped into the crops of the supply table. The value of output of Government irrigation systems is also included. Outputs of livestock products (milk, wool, hides & skins, and other livestock products), inland fish, marine fish, industrial wood, firewood (estimated using NSS consumption expenditure surveys), and other forestry products are included in the respective industry sectors.

27.6.2 Mining and Quarrying

Industry-wise output is compiled by aggregating information from the analysis of private corporate sector data (MCA) and the annual reports of Non-Departmental Enterprises (NDEs). For allocating mining output across SUT mining product groups, product-wise output patterns derived from data published by the Indian Bureau of Mines (IBM) are utilised. The output of the Petroleum & Natural Gas industry is apportioned between the SUT product groups Crude Petroleum and Natural Gas using the allocation ratios adopted for SUT compilation (e.g.: 75:25).

27.6.3 Manufacturing

Industry-wise Gross Value of Output (GVO) estimates are compiled separately for each institutional sector, namely DEs, NDEs, private corporations (including quasi-corporations), and the household sector. Since the annual estimates are available only at the industry level, detailed unit-level data from the Annual Survey of Industries (ASI)—particularly Blocks F, G, and J—are analysed to derive the product-wise composition of output within each industry. This product distribution is then used to allocate the industry-wise GVO estimates across the relevant SUT product groups for compilation of the Supply Table.

27.6.4 Services

The estimate of output of various economic activities under services is compiled institution-wise (General Government, DEs, NDEs, private corporate including quasi-corporations, and unincorporated sectors). Since most services produced are single-product, mapping of product outputs to SUT industry sectors is assigned to the single product of the industry. Other Services is distributed into two products: 'Community, Social and Personal Services' and 'Recreation, Entertainment, Radio & TV Broadcasting and Other Services'.

27.6.5 Import

Imports are distributed separately for goods and services. The aggregate values of imports are sourced from the Balance of Payments (BoP) statistics published by the Reserve Bank of India

(RBI). Product-wise allocation of imported goods is carried out by mapping detailed import data at the eight-digit ITC–HS level, available from the EXIM Data Bank of the Ministry of Commerce and Industry, to the corresponding SUT product groups. Imports of services are allocated directly to the respective SUT service products based on the product-wise information available in the RBI's BoP statistics.

27.6.6 CIF Adjustment

Import of goods obtained from the EXIM Data Bank is available on a CIF basis, which includes cost of insurance and freight. The RBI data also includes import of insurance and transport (mainly Water and Air) services. CIF adjustment is made to remove double counting of these services which are included in the import value of goods. For this purpose, imported values of Air and Water transport (other than passengers) along with 100% of imported insurance services as available in the BPM statement are used.

Valuation Vectors

27.6.7 Import Duty

Total import duty as available in budget documents. product-wise customs duty data, obtained from the Central Board of Indirect Taxes and Customs (CBIC), are analysed to derive the distribution of import duty across goods. The total import duty is then allocated to the respective SUT product groups on a pro-rata basis using this distribution.

27.6.8 Product Taxes less Subsidies

The distribution of product taxes less subsidies is done to convert output from basic prices to producers' prices. Aggregate product taxes and subsidies are compiled by analysing budget documents of Governments and Local Bodies. GST is distributed among product groups using PFCE and item-specific GST rates, with consideration for informality of sectors. Non-GST taxes (Excises, Sales Taxes) are distributed based on exchequer data of the petroleum sector, apportioned to basic output. Subsidies are mapped from budget heads to appropriate products. In the new series, product taxes and subsidies are presented as a separate vector in the Supply Table.

27.6.9 Trade and Transport Margin (TTM) Adjustment

The estimation of Trade and Transport Margins (TTM) has been significantly refined in the current series. In addition to the Annual Survey of Industries (ASI), data from the Household Consumption Expenditure Survey (HCES) and crop price information received from the State Directorates of Economics and Statistics (DESS) are utilised to derive purchasers' prices (PP) and basic prices (BP) for individual products. The ratio of PP to BP is computed for each product to estimate the combined effect of net taxes and TTM. Ratios that are found to be implausibly high (greater than 2) or low (less than 0.5) are reviewed and suitably adjusted using information from auxiliary data sources. Product-level PP/BP ratios for the SUT are then derived by taking the

geometric mean of the corresponding NPCMS-level ratios. After excluding the estimated share of net taxes, the remaining component is treated as the TTM factor. The aggregate TTM adjustment is subsequently allocated across products in proportion to these TTM factors, covering the entire output of the trade industry and the relevant portion of transport and supporting transport activities.

27.7 Compilation of Use Table

The use table gives product-wise information on the use of goods and services supplied to the economy and the cost structure of industries. It shows the use of products by type: intermediate consumption by industry; private and Government final consumption; gross capital formation (GFCF, change in inventories, and valuables); and exports. The use table is compiled at purchasers' prices.

Intermediate Consumption by Activity

27.7.1 Agriculture and Allied Activities

Annual estimates compile item-wise input of agriculture and horticulture combined under: seed; organic manure; chemical fertilizer; current repair and maintenance; feed of livestock; irrigation charges; market charges; electricity; pesticides & insecticides; and diesel oil. Separate input structures for agriculture and horticulture are compiled using Cost of Cultivation Studies (CCS) conducted by Ministry of Agriculture and Farmers Welfare.

Input of livestock consists of feed of livestock and maintenance costs, distributed using input structures based on CCS, All India Debt and Investment Survey (AIDIS), and ASI data. For Forestry and Fishing, detailed input structures from MCA data and annual reports of non-departmental enterprises are analysed, which is further enriched by information of some developed economies.

27.7.2 Mining and Quarrying

The detailed input structure available from MCA data for private corporate and annual reports of non-departmental enterprises has been analysed for compiling IC structure in mining industries. Input items are mapped to SUT products. Cost on raw materials are distributed in the ratio of the input structure of the previous series and are also enriched by based on analysis of SUTs of similar economies.

27.7.3 Manufacturing

The input structure of manufacturing industries is derived using ASI data for the respective years. Blocks H (indigenous input), I (imported input), and F (other input) of the ASI schedule are used to arrive at the total input structure. A product-by-industry matrix is first generated at the most

disaggregated level (7-digit NPCMS $\times$ 5-digit NIC codes) and then reduced using the mapping of NPCMS codes with identified products and NIC codes with identified industries.

27.7.4 Construction

Annual estimates compile estimates of the construction sector using the commodity flow approach. Accordingly, it identifies cement & cement products, iron & steel, other metallic products, bricks & tiles, timber & round wood, bitumen & bitumen mixtures, glass & glass products, fixtures & fittings, paint & varnishes, marbles & granite, fuel inputs, and other construction materials & service charges as input material. These are distributed among their representative SUT products in the ratio of output.

27.7.5 Services

Detailed input structures from MCA data for private corporate, annual reports of non-departmental enterprises, and ASUSE data are analysed. For industries with a major share from the organised sector, product-wise IC is compiled from MCA and NDE data. For industries with a major share from the household sector, ASUSE data is used. Inputs are enriched by borrowing information from similar economies.

Final Use Vectors

27.7.6 Government Final Consumption Expenditure (GFCE)

The final consumption expenditure of the Government comprises compensation of employees, consumption of fixed capital, intermediate consumption (purchases of goods and services including repair and maintenance, less sales) and social transfer in kind. Annual estimates compile overall GFCE for the economy, which is then divided among the products on the basis of the estimate available as per Classification of the Functions of Government (COFOG).

27.7.7 Private Final Consumption Expenditure (PFCE)

In the current revision, the approach adopted for estimating PFCE varies according to the nature of available data. Quantity estimates are available for most basic food items, while value estimates are used for manufacturing/service items. HCES data has been used in greater detail to derive benchmark estimates for approximately half of PFCE items. Several other data sets including E-Vahan portal, Central Electricity Authority, M/o Petroleum & Natural Gas, and M/o Food & Public Distribution, have been used to derive PFCE estimates independently of the commodity flow. Rates and ratios from ASI, ASUSE, and milk and road transport studies have been updated.

27.7.8 Gross Fixed Capital Formation (GFCF)

The annual estimates compile Gross Fixed Capital Formation (GFCF) under four broad asset groups: (i) Dwellings, Other Buildings and Structures, (ii) Machinery and Equipment, (iii)

Cultivated Biological Resources, and (iv) Intellectual Property Products. For all asset groups except Machinery and Equipment, the mapping to SUT product groups is direct. The GFCF of Machinery and Equipment is further classified into four categories—Electrical Equipment, Non-electrical Machinery and Equipment, Transport Equipment, and Other Machinery and Equipment. Industries producing these categories of capital goods are first identified, following which the total GFCF estimates are allocated across the corresponding SUT product groups using product-wise output shares derived from unit-level ASI data. These shares are appropriately scaled to ensure consistency with the aggregate GFCF estimates available from the annual estimates.

27.7.9 Change in Inventories (CII)

CII, also known as Change in Stock (CIS), is compiled at industry level in annual estimates. CII of the crop sector is distributed among crop products on the basis of output. For other industries, industry-wise CII is first distributed among SUT industries in the ratio of their output, and then the distributed CII is further distributed among products on the basis of intermediate consumptions.

27.7.10 Valuables

Estimates of valuables compiled in the annual estimates are assigned to products covered under NPCMS codes 3821–3825.

27.7.11 Export

Distribution of total exports is treated separately for goods and services. Data on total export of goods are taken from the BPM statement of RBI. For distribution of exports among products, ITC-HS code-wise data from the EXIM Data Bank of the Ministry of Commerce and Industry are used after suitable mapping with SUT products. For export of services, RBI data provides service-wise export data that is easily identifiable with the products of services.

27.8 GVA Estimate Using Income Approach

The components under the income approach are Production Taxes less Subsidies, Consumption of Fixed Capital (CFC), Compensation to Employee (CE), and Operating Surplus/Mixed Income (OS/MI). Annual estimates provide these components at broad economic activity level, which are then distributed among SUT industries as follows:

Production Taxes less subsidies have been distributed among the industries, wherever required, in the ratio of gross value added of the industry. CFC has been distributed in the ratio of gross value added of the industry except for industries of manufacturing sector where it is distributed using the CFC ratio obtained from ASI data (Block C of ASI Schedule). CE is compiled from the respective data sources for all institutional sectors except the household sector, for which it is estimated using the CE/GVA ratio derived from ASUSE. Industry-wise Operating Surplus/Mixed Income (OS/MI) is derived residually. For industries of manufacturing sector, CE and OS/MI has

been distributed using the ratio of ASI data. For other industries, it is distributed in the ratio of gross value added, wherever required.

27.9 Balancing Supply and Use Table

The compilation of SUT brings together information from a wide range of surveys (ASI, ASUSE, HCES), administrative databases (MCA), and institutional records (budget documents). Since these sources are collected using different concepts, methodologies, coverage, and reference periods, discrepancies naturally emerge. The balancing of supply and use is the most crucial aspect of the exercise as it makes the tables coherent and helps identify discrepancies observed in the compilation of annual estimates using production and expenditure approaches.

The new series adopts a fully integrated Supply and Use Table (SUT) framework for the compilation of annual estimates, thereby ensuring consistency and coherence across the production and expenditure measures of GDP. The SUT framework provides a comprehensive mechanism for reconciling the estimates by satisfying the fundamental accounting identity that the total supply of each product is equal to its total use. The major improvements facilitating the integration and balancing of SUT are as below:

27.9.1 Improvements on the Production Side

The new GDP series incorporates several methodological improvements on the production side, including: segregation of GVA for multi-activity enterprises; use of multipliers at a more disaggregated level; improved coverage of Limited Liability Partnerships (LLPs); better estimation of output for the Government sector through special treatment of House Rent Allowance (HRA) and the National Pension System (NPS); and use of annual surveys such as ASUSE and PLFS to strengthen annual GVA estimation.

27.9.2 Improvements on the Expenditure Side

Substantial improvements have been made in the estimation of PFCE, GFCE, and GFCF. The PFCE estimates are now derived using benchmark estimates from HCES and other datasets, supplemented by the commodity flow approach where direct estimate is not feasible. Direct estimates from administrative databases such as Central Electricity Authority, Petroleum Planning & Analysis Cell, and Director General of Civil Aviation are also utilised. GFCE estimates benefit from improved Government sector output measurement. GFCF estimates benefit from better measurement of construction sector output and use of recent survey data including ASI and AIDIS.

27.9.3 Updated Classification Systems

The new GDP series adopts updated national and international classifications: NPCMS 2011, NPCSS 2010, COICOP 2018, COFOG, and ITC-HS, with systematic mapping to 155 SUT products and 67 industries. Updated classifications facilitate identification of emerging products

and industries. Improved concordance of SUT products with merchandise trade items and BPM data has strengthened consistency between domestic production, trade, and expenditure estimates.

27.9.4 Improved estimation of valuation matrix

Improved distribution of product taxes is ensured through separate treatment of GST and non-GST taxes. GST allocation incorporates considerations relating to PFCE and informality of the sector. Non-GST taxes are allocated using administrative data of M/o Petroleum & Natural Gas and estimates of output at basic prices. Product subsidies are mapped and allocated to concerned products and compiled as a separate vector.

The estimation of TTM has been strengthened through the use of multiple data sources. SUT product-wise basic prices and purchasers' prices have been derived using data from the HCES, State DES price data and ASI. A weighted geometric mean has been used to derive a representative price for each product from these sources. Outliers were identified and excluded during the analysis to improve the robustness and reliability of the estimated margins.

27.9.5 Balancing Approach

The Supply and Use Tables (SUT) are balanced on a product-by-product basis by reconciling the supply and use of each product through appropriate adjustments to one or more components of the table. The balancing process is guided by a systematic assessment of the quality, reliability, and consistency of the underlying data sources. As a general principle, adjustments are made, to the extent possible, to estimates derived from indirect methods or relatively less reliable data sources, while estimates based on comprehensive administrative records, survey data, or other high-quality sources are modified only where necessary. Throughout the balancing process, care is taken to preserve the underlying economic relationships and the internal consistency of the SUT framework.

In practice, SUT balancing is an iterative process guided by the validation of source data, assessment of coverage and exhaustiveness, and cross-checks using alternative data sources wherever available. Product balances are reviewed alongside key macroeconomic aggregates to ensure internal consistency across the production, income and expenditure approaches. Several rounds of analytical review are undertaken until a coherent and statistically consistent set of Supply and Use Tables is achieved.

In the annual national accounts, the production-side estimates are derived primarily from administrative data sources, such as MCA-21 and PFMS, although a significant proportion of the household sector continues to be estimated using survey data. Consequently, the production estimates are generally considered to be relatively reliable. Similarly, product-wise exports and imports are compiled using data from the Central Bank and the concerned Central Ministries, and are regarded as robust.

In contrast, certain components of SUT rely more heavily on indirect methods, survey-based estimates and rates and ratios. These include the product-wise allocation of taxes on products, estimation of trade and transport margins (TTM) and the derivation of intermediate consumption (IC) structures, which are based on survey data and other auxiliary information and are therefore subject to greater uncertainty. Similarly, the item-wise estimates of PFCE are derived primarily from household survey data and commodity-flow methods, although administrative data sources are used for certain items wherever available. Product-wise allocation of GFCF is also based on establishment survey data and other allocation indicators, making these components comparatively less reliable. Accordingly, during the balancing process, greater emphasis is placed on preserving estimates derived from robust administrative sources, while adjustments are generally confined to components based on relatively weaker data sources, wherever necessary.

27.10 Assumptions and Limitations

The compilation and balancing of the Supply and Use Tables (SUT) involve integrating information from a wide range of surveys, administrative databases and institutional records. Since complete product-by-product information is not available for all components of the national accounts, a number of assumptions as listed below are required to ensure consistency and coherence of the estimates:

1. Products grouped within each SUT product category are assumed to exhibit similar production technologies, input structures and use patterns. Likewise, establishments classified within an industry are assumed to have comparable production characteristics.
2. Product distributions of output and input derived from establishment surveys such as the Annual Survey of Industries (ASI) and the Annual Survey of Unincorporated Sector Enterprises (ASUSE) are assumed to be representative of the corresponding institutional sectors and are used to allocate industry-level estimates to individual products.
3. For activities where detailed input information is unavailable, intermediate consumption structures derived from previous year SUTs, other countries SUTs are assumed to adequately represent current production processes of the economy.
4. Product-specific trade and transport margins and taxes on products are estimated using price information, survey data and administrative records. The derived valuation ratios are assumed to be representative for the corresponding product groups.

Despite substantial methodological improvements, certain limitations remain because of the availability and nature of underlying data sources, as below:

1. Product-level estimates for several components, particularly intermediate consumption, trade and transport margins and distribution of product taxes, continue to rely on indirect estimation methods, allocation procedures and proxy indicators rather than direct observations.

2. Detailed product-wise information for many service industries remains limited, requiring greater reliance on administrative data, corporate financial statements and previous year and other countries input structures.
3. The balancing process ensures accounting consistency but does not eliminate all measurement errors present in the original data sources. Instead, it reconciles the available information into the most plausible and internally consistent set of estimates.

Other Estimates and Data Dissemination

CHAPTER 28

QUARTERLY, ADVANCE AND PROVISIONAL GDP ESTIMATES

28.1 Quarterly GDP Estimates

28.1.1 Introduction

The National Statistics Office (NSO) has been disseminating Quarterly Estimates of Gross Domestic Product (GDP) and its constituent aggregates since 30th June 1999, beginning with the estimates for the Fourth quarter (Q4) of 1998–99, both at current and constant prices. The Quarterly National Accounts (QNA) estimates are compiled using Benchmark-Indicator methodology, whereby appropriate short-term indicators are utilized in each of the Economic Activity categories as well as the Expenditure components. Following the guidelines, principles and standards laid down in the QNA Manual of the International Monetary Fund (IMF), estimates are generated by both Production and Expenditure approach.

The QNA series with base year 2022-23 has principally embedded the concepts and standards as per QNA Manual published in the year 2017 (Second Edition), latest released edition by IMF. The major changes marked in the base year 2022-23 is change in the method of benchmarking, from Pro-Rata method in previous base years to Proportional Denton benchmarking method²⁰. This updated benchmarking strategy improves time-series continuity and ensure consistency between Annual National Accounts (ANA) and QNA estimates.

The revised series also incorporates refinements in the construction of both current price and constant price indicators across economic activities and expenditure side components. The increased availability of comprehensive high-frequency data sources has enabled the selection of more representative indicators, thereby improving the accuracy, reliability and stability of the quarterly estimates.

28.1.2 Data Sources for Quarterly GDP Estimates

In principle, the quarterly estimates should be compiled using the same conceptual framework and data sources as those employed for the ANA. However, in practice, many annual data sources are either unavailable at quarterly frequency or become available only after considerable time lags. Furthermore, high-frequency administrative data are often subject to multiple revisions. For example, information on several indicators from State Government Accounts are available on monthly basis, but are revised following the finalization of Annual Accounts. Consequently, compilation of quarterly GDP relies on an appropriate combination of available high-frequency indicators, selected based on their conceptual relevance, statistical quality, timeliness and ability to reflect the movements of the corresponding annual benchmark estimates.

The compilation methodology is developed separately for each component under both the Production and Expenditure approaches, since the most appropriate indicators differ across

²⁰The Proportional Denton benchmarking technique aims at movement preservation of indicators and does not create any artificial break in the series, as observed in QNA series generated using Pro-Rata method, subject to the constraints given by the annual benchmarks.

Economic Activities and Expenditure aggregates. While many indicators are specific to individual components, some indicators are used across both approaches owing to the underlying economic relationships. For example, construction-related indicators are used both for estimating Gross Value Added (GVA) in the Construction industry under the Production approach and for estimating Gross Fixed Capital Formation (GFCF) pertaining to Dwellings, Other Buildings and Structures under the Expenditure approach.

Administrative data constitute one of the most important sources for compiling quarterly estimates because they are generally available at monthly or quarterly frequency and cover a large segment of Economic Activity. Amongst these, Goods and Services Tax (GST) data obtained from the Goods and Services Tax Network (GSTN), available at disaggregated product level classified by HSN/SAC²¹ as well as institutional sectoral level identified by Constitution of Business, represent a major source of information for measuring the quarterly estimates. Another important administrative data source is the quarterly financial statements of listed and permitted companies in stock exchanges, which are used for estimating quarterly GVA across several industries, particularly within the organized corporate sector.

Where direct quarterly data for a particular component is unavailable, suitable proxy indicators that exhibit a close relationship with the underlying Economic Activity are employed. For example, in the Wholesale and Retail Trade industry, high-frequency information on trade margins is not available, therefore ‘*Outward Taxable Supply*’ reported in GST returns are used as a proxy indicator to capture quarterly movements in these industries.

In a limited number of cases, neither direct nor proxy/related indicators are available at quarterly level. For instance, in the Forestry sector, no suitable high-frequency information on output and Intermediate Consumption (IC) is currently available. Accordingly, growth observed in latest annual benchmark estimate is reflected on the Year-on-Year growth rate in quarterly estimate of the extrapolated series.

28.1.3 Quarterisation Strategy for Quarterly GDP Estimates

Quarterisation in the QNA framework is the process of generating quarterly estimates from ANA data, by utilizing relevant high-frequency or short-term indicators. This process is carried out at certain level of disaggregation based on the availability of suitable indicators at that level. At the time of base year revision, the quarterly distribution is required to be re-established for the base year under updated methodology, source data, and sector definitions to prevent mis-attribution of growth across quarters.

When subsequent quarters following the base year are extrapolated using volume or price indicators, their movement is relative to the corresponding quarter of the base year. Quarterisation in the base year ensures that quarterly level shifts reflect actual structural changes rather than mathematical artefacts resulting from inappropriate distribution of annual data.

²¹HSN (Harmonized System of Nomenclature) and SAC (Services Accounting Code) are standard classification codes used under the Goods and Services Tax (GST) regime to categorize Goods and Services, respectively.

In the 2022-23 base year series, quarterisation is done at each activity level with certain level of disaggregation by products, sub-sectors and institutional sectors using relevant indicators at respective levels. An estimation methodology at detailed granularity also provides a structured approach to measuring Economic Activity, thereby improving accuracy and data consistency across National Accounts. This marks a major improvement in this base year. The core advantages include,

Accurate Reflection of Heterogeneity: Aggregated estimates often mask divergent growth rates within broad sectors. Granular estimation (e.g., differentiating products or sub-sectors) prevents distortions caused by uniform growth assumptions.

Refined Institutional Sector Split: Segmenting data by institutional sectors captures distinct behavioural patterns.

Precise Price and Volume Measures: Compiling data at a lower level of disaggregation allows for the application of specific price deflators (e.g., product-specific Producer Price Indices) rather than broad Consumer Price Indices (CPI) or Producer Price Indices (PPI) deflators.

In the new base year (2022-23), incorporation of new data sources, expansion of granularity and use of indicators at granular level, has changed the quarterly pattern observed across all sectors as well as Expenditure components. Consequently, the new base year series re-establishes an updated quarterly structure, which got distorted over the time, with a substantial distance from the past base year. The quarterisation pattern at each base year series is due to the combined effect of indicators incorporated in quarterisation/estimation in respective base years within each Economic Activity and Expenditure components.

28.1.4 Deflation Strategy for Quarterly GDP Estimates

The estimation of GVA at constant prices requires isolating changes in price movements from changes in the volume of Economic Activities. The choice of deflation method is guided by the availability and quality of short-term source data as well as conceptual characteristics of each Economic Activity. Accordingly, the revised QNA framework employs three principal approaches to generate the constant price estimates:

- **Volume Extrapolation**, utilizing reliable high-frequency physical volume indicators;
- **Single Extrapolation**, whereby current price output indicators are deflated using appropriate output price indices;
- **Double Deflation**, under which output and intermediate consumption are independently deflated for deriving GVA at constant prices.

Compared to previous base year series, the compilation of QNA series in the new base year significantly broadens the application of granular deflation techniques across detailed industries and institutional sectors, reducing aggregation bias and capturing sector-specific price dynamics more precisely.

For the production approach, granular output Producer Price Indices (PPIs) constitute the principal price indices for goods-producing industries, while appropriate item-specific CPIs are employed for service-producing industries depending on the nature of the activity. Composite price indices have been constructed wherever multiple products or services contribute to the output of an industry.

A major methodological improvement in the new series has been the transition to Double Deflation for Manufacturing sector. In this approach, output and IC are deflated separately using distinct, output and input-specific composite price indices. Unlike the Single Deflation approach, this approach provides a more robust measure of real value added by accurately capturing independent price movements of both output and IC.

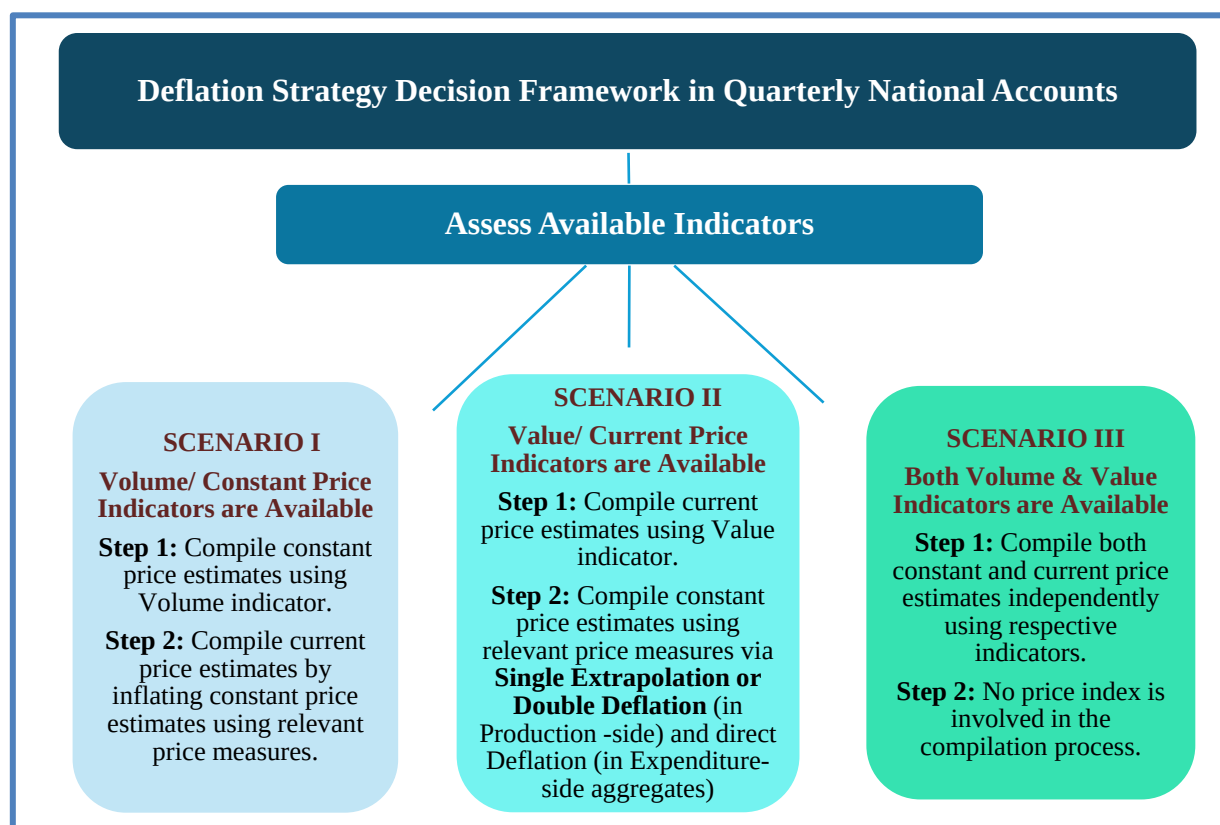
For Expenditure components, asset and commodity-specific price indicators are applied to Gross Fixed Capital Formation (GFCF) and Private Final Consumption Expenditure (PFCE) respectively. Estimation of PFCE relies on item-specific CPIs aligned with Classification of Individual Consumption According to Purpose (COICOP). Government Final Consumption Expenditure (GFCE) utilizes separate deflators for Compensation of Employees (CE) and Net Purchase of Goods and Services. GFCF is deflated using asset-specific PPIs and specific CPIs based on the nature of the fixed asset. Exports and Imports of goods incorporate principal commodity level Unit Value Indices (UVIs); Exports and Imports of services employ service-specific Implicit Price Deflators (IPD) of the domestic economy for Exports and Service Producer Price Indices (SPPIs) of trading partner countries adjusted for exchange rates for Imports, where domestic price measures are unavailable.

Overall, the refined deflation framework ensures structural coherence between the Quarterly and Annual National Accounts while appropriately measuring short-term changes in the economic activity.

QNA are compiled using a diverse pool of short-term indicators, encompassing volume, value and price indicators. In the scenario, where direct value-based indicators are not available for certain industries, constant price estimates are compiled first using volume indicators and then these constant price estimates are inflated with suitable price indicators. For example, in Agriculture and Allied; Mining & Quarrying; Construction; Road, Water and Air Transport sectors current price estimates are obtained by inflating volume estimates with appropriate price measures. In all these cases, industry and product-specific PPIs or CPIs (in case of Road, Water and Air Transport sectors) are identified, to derive the nominal price GVA estimates. Similarly, for item-specific estimates of PFCE, based on the nature of indicator available, either deflation is done to obtain constant price estimates, or inflation is done to derive current price estimates. Further, in specific scenario, where both volume and value-based indicators are available, current and constant price estimates are compiled independently using respective indicators.

Figure 28.1 shows the decision framework for deflation in quarterly national accounts.

Figure 28.1 Deflation Strategy Decision Framework in Quarterly National Accounts



28.1.5 Compilation Methodology for Quarterly GDP Estimates

28.1.5.1 Benchmarking

Benchmarking is an essential process for QNA compilation. The objective of benchmarking is to ensure that the quarterly estimates are consistent with the corresponding ANA estimates while maintaining the integrity of short-term economic trends.

ANA estimates are the most comprehensive measures of Economic Activity which are compiled using detailed level of information. In contrast, QNA relies on high-frequency indicators that are generally less comprehensive but provide timely information on short-term economic developments. As a result, differences arise between the annualized quarterly estimates and the annual benchmarks in both levels and movements. Benchmarking integrates these two information sets by combining the statistical strength of the annual benchmarks with the timeliness of the quarterly indicators. Consequently, the annual estimates determine the annual levels of economic activity, while the quarterly indicators determine the intra-year pattern or movement. Benchmarking serves mainly two principal purposes:

a) Quarterly Distribution (Interpolation): Breaking down annual benchmarks into quarters to build a consistent historical time series;

b) Quarterly Extrapolation: Producing forward series of QNA estimates for recent periods where annual benchmarks are not yet available.

The relationship between annual benchmarks and quarterly indicators is commonly evaluated through the Benchmark-Indicator (BI) ratio, defined as the ratio of the annual benchmark to the annual aggregate of the corresponding quarterly indicator.

Pro-Rata Benchmarking Method

In earlier GDP base year series, quarterly estimates were benchmarked using the Pro-Rata method. Under this approach, the difference between the annual benchmark and the annualized sum of quarterly estimates was distributed in proportion to the value of the indicators across quarters.

The quarterly BI ratio in this method shows that, the Pro-Rata approach introduces artificial discontinuities in the time series and therefore does not preserve the movements in the indicators from fourth quarter of one year to first quarter of the next (called ‘**step problem**’). This step problem distorts the quarter-on-quarter movements of the estimates and limits the analytical usefulness of the resulting quarterly series for macroeconomic analysis, business cycle assessment and policy formulation. Proportional benchmarking methods, such as Denton, Chollette-Dagum, offer potential improvements by minimizing the core issues of the Pro-Rata approach.

Proportional Denton Benchmarking Method

Beginning with the 2022–23 base year series, the QNA estimates are generated using Proportional Denton Benchmarking Method. The Proportional Denton benchmarking technique aims at movement preservation of indicators and avoids creating any artificial break in the series subject to the constraints given by the annual benchmarks. In mathematical terms, this statement can be expressed as the minimization of the objective function,

$$\min_{X_t} \sum_{t=2}^q \left[\frac{X_t}{X_{t-1}} - \frac{I_t}{I_{t-1}} \right]^2$$

subject to the annual constraints, $\sum_{t=4n-3}^{4n} X_t = A_n$, for $n=1,2,\dots,y$

where, q is the last quarter for which quarterly source data are available.

Solving the penalty function subject to the constraints of annual benchmarks, will find the quarterly (unknown) values X_t , i.e., the QNA level estimate for quarter t . The generated QNA series will meet the criterion of annual benchmarks and the underlying quarterly growth rates are as much as possible close to the growth rates of indicator. The minimization function is also known as Growth Rate Preservation (GRP) function. Proportional Denton method is a close linear approximation of the GRP function and provides the benchmarked QNA series using simple matrix algebra operations. Here, the individual term of the penalty function is minimized by the Proportional Denton Method, also known as Proportional First Difference Variant of the Denton Method. The complete mathematical formulations, theoretical foundations of the Proportional Denton Benchmarking Method are detailed in the IMF Quarterly National Accounts Manual 2017 (<https://www.imf.org/external/pubs/ft/qna/pdf/2017/chapterv6.pdf>).

Under the Proportional Denton method, movement preservation is achieved by distributing the quarterly BI ratios smoothly from one quarter to the next and thus maintains the quarterly BI ratio as stable as possible. With this method a) For interpolated or historical series, the quarterly BI ratios are in line with the weighted averages of the annual BI ratios for each year, where weights are given by the indicators' quarterly share in each year. The QNA series optimally inherits the growth rates from the short-term indicator and fully incorporates the information contained in ANA; b) For forward series, the quarterly BI ratios are kept constant and equal to the ratio observed in the last quarter of the latest available benchmarked year. In the QNA series of the new base year, the Proportional Denton Benchmarking Method has been adopted at each component level after evaluation of the benchmarked series for its long-term stability and consistency.

28.1.5.2 GDP by Production Approach at Current and Constant Prices

The Production approach measures GVA by different Economic Activities and Net Taxes on Products. The underlying objective is to capture the contribution of individual Economic Activities, industries and institutional sectors to the aggregate GVA and, consequently, to GDP of the economy.

The estimate of GDP by Production approach is considered to be the more accurate, since it is based on more comprehensive data sources, extensive administrative records and involves more rigorous compilation procedure than the Expenditure approach. Therefore, the official quarterly GDP estimates are based on the Production approach.

The revised annual benchmark in the base year 2022-23, updated and new indicators at sub-sector and institutional sectoral, and improved methodology has resulted the changes in quarterly values in new base year, compared to the previous base year series. **Table 28.1** and **28.2** respectively represents, the quarterly current price values of GDP and GVA for the year 2022-23, as per the old base year and new base year. Estimates of sector-wise GVA and Net Taxes for the year 2022-23 are placed subsequently in respective sections.

Table 28.1 Estimates of GDP for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	64,99,863	60,68,650	-6.6
2022-23 Q2	64,58,025	60,71,215	-6.0
2022-23 Q3	68,27,505	68,56,237	0.4
2022-23 Q4	71,05,080	71,80,899	1.1
FY 2022-23	2,68,90,473	2,61,77,001	-2.7

Table 28.2 Estimates of GVA for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

Quarters	2011-12 series	2022-23 series	(in Rs. Crore)
			% difference
2022-23 Q1	59,14,029	54,75,365	-7.4
2022-23 Q2	58,95,228	54,84,306	-7.0
2022-23 Q3	62,67,323	62,86,139	0.3
2022-23 Q4	65,70,117	65,77,326	0.1
FY 2022-23	2,46,46,698	2,38,23,136	-3.3

(a) Agriculture and Allied

The Agriculture and Allied sector have four sub-sectors, namely **Crop, Livestock, Forestry and Fishing**.

Crop

The Ministry of Agriculture & Farmers' Welfare provides the quarterly production estimates for various crops which constitutes various food-grains (cereals and pulses), oilseeds, commercial crops, fruits, vegetables, condiments and spices, plantation crops etc. The Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade serves as the primary source of data for crop-wise PPIs. These volume and price measures are relied upon to generate constant and current price estimates for the Crop sub-sector.

For obtaining the constant price GVA estimates, crop-specific quarterly production estimates are utilized to compile the GVO. The latest available Input-Output (I/O) ratio based on the annual benchmark is used for preparing the indicator for quarterly IC values. For quarterly distribution of IC values, the quarterly IC indicators are obtained using I/O ratio of that specific financial year, whereas for the extrapolation, the I/O ratio is from the latest available annual benchmark year is used.

In the previous base year, quarterly crop production estimates were available for 46 crops/ crop categories, whereas the revised base year expands this coverage to 69 crops/ crop categories. This has aided the estimation of GVO based on improved crop coverage at quarterly level. For the few Horticultural Crops, where quarterly information is not made available by the Ministry, the information based on Advance estimates of crop production are taken at annual level and equal quarterisation has been practiced.

For obtaining the current price GVA estimates, crop-specific PPI is used to inflate the constant price GVO estimates, which acts as crop-wise current prices indicators for GVO and the I/O ratio based on the latest available annual benchmark is adopted for preparing the indicator for quarterly IC values.

The Crop sub-sector also includes the Irrigation component which constitutes approximately 2 per cent share (in base year 2022-23) in the GVA of Agriculture/Crop sub-sector. Due to absence of high frequency indicator for this component, real and nominal GVA are derived based on the annual growth observed in the preceding year. For the interpolation, an indicator is built based on equal quarterisation of the annual benchmarks in respective years.

In the revised base year, two major changes have been introduced in the Crop sector,

- (i) Improved the granularity of estimation based on quarterly production estimates of additional crops and
- (ii) Strengthened the current price estimates by using crop-specific PPI instead of weighted WPI based on all the crops in the previous base year series.

Livestock

For Major Livestock Products (MLP) namely, milk, egg, meat and wool, the production estimates are being provided by the Ministry of Fisheries, Animal Husbandry and Dairying. The growth in production estimates are indicators for obtaining GVO at constant prices for these components. However, the production estimates of MLP from the Ministry are available season-wise which include Summer (March-June), Rainy (July-October) and Winter (November-February) seasons. In coordination with the Ministry, quarter-wise production estimates are extracted from the season-wise information by assuming an equal distribution of production across the months within each respective season.

Apart from MLPs, which account for around 93 per cent share in total GVO of the Livestock sector, three minor components namely dung, silk and increment in livestock are also accounted for the estimation purpose, but no high frequency indicators of production are available for these items. Therefore, constant price GVO estimates for these items are compiled by extrapolation using past year growth. For the interpolation, indicators are built based on equal quarterisation of the annual benchmark in respective years.

For current price GVO estimation, respective constant prices GVO are inflated by using appropriate PPIs. The preparation of indicators for IC is based on the latest available I/O ratio at both current and constant prices.

Forestry

Forestry sector comprises three components, namely industrial wood, fire wood and other forestry products. For this sector, no high frequency indicator for quantity or volume estimates are available for preparing quarterly GVO estimates. Therefore, extrapolation is done using the past year growth. For preparing indicators for current price GVO estimates, appropriate PPI has been utilized for inflating the constant price GVO estimates. The indicators for IC are compiled based on the latest available I/O ratio at both current and constant prices.

Fishing

The Ministry of Fisheries, Animal Husbandry and Dairying provides the quarterly production estimates for inland and marine fish separately. This information is utilized to compile the volume indicator for constant price GVO estimation. While the annual benchmark is available for three different items, which are inland fish, marine fish and prawn; quarterly indicators sourced from the Ministry does not separate prawn. Therefore, the annual benchmark for prawn and marine fish is added up for obtaining combined quarterly estimates for marine fish and prawn, utilizing marine fish production data as indicator. The current price GVA estimation involves utilization of relevant PPIs. The preparation of indicators for IC is based on the latest available I/O ratio at both current and constant prices.

The current prices quarterly estimates of GVA in respect of Agriculture and Allied Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.3**.

Table 28.3 Estimates of GVA in respect of Agriculture and Allied Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	9,90,560	10,36,924	4.7
2022-23 Q2	8,56,948	8,85,673	3.4
2022-23 Q3	13,84,237	14,51,967	4.9
2022-23 Q4	12,17,587	13,69,989	12.5
FY 2022-23	44,49,332	47,44,554	6.6

(b) Mining and Quarrying

Consistent with the methodology adopted in the ANA, quarterly estimates of GVA at constant prices is derived using the Volume Extrapolation approach. Index of Industrial Production (IIP) of different minerals serve as the principal volume indicators.

- Coal and Lignite – IIP: Coal and Lignite
- Crude Petroleum and Natural Gas – IIP: Crude Petroleum and Natural Gas
- Major Metallic Minerals – IIP: Metallic Minerals
- Major Non-Metallic Minerals (including Salt Mining) – IIP: Non-Metallic Minerals
- Minor Minerals (including Sand)– IIP: Minor Minerals

However, the coverage of minor minerals in the IIP differs from that in the ANA. In both of these cases, individual States are consulted to obtain quantity indicators for different minor minerals. The coverage greatly improves at annual level than in higher frequency level.

Current price GVA estimates are compiled by inflating the constant price estimates using component-specific PPIs. This approach has substantially strengthened the current price GVA estimates over the previous base year practice. In the old series, single composite price indicator, based on only fuel minerals (coal & lignite and crude petroleum & natural gas) was used to inflate

the constant price GVA of the entire Mining & Quarrying sector, which essentially transfers the price volatility observed in fuel minerals in the aggregate Mining & Quarrying sector estimates. In addition, combined price indicator has also the disadvantage of relying upon base year price index weights which dampens the reflection of quarterly volatility governed by peaks and troughs of price indices. The revised approach improves the measurement of price movements across individual mining components and more accurately captures quarterly price dynamics.

The current prices quarterly estimates of GVA in respect of Mining & Quarrying Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.4**.

Table 28.4 Estimates of GVA in respect of Mining & Quarrying Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

(in Rs. Crore)

Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	1,34,838	1,29,026	-4.3
2022-23 Q2	1,01,573	98,065	-3.5
2022-23 Q3	1,23,159	1,28,796	4.6
2022-23 Q4	1,51,112	1,50,130	-0.6
FY 2022-23	5,10,682	5,06,017	-0.9

(c) Manufacturing

The methodology for compiling quarterly Manufacturing sector's GVA has been strengthened through extensive use of GST data. In the previous base year, data sourced from listed companies were used for estimation of GVA in case of incorporated part, whereas IIP data has been used for volume extrapolation in case of unincorporated segment. However, in the new base year, the availability of GST data has aided substantial improvement in the estimation of the unincorporated segment which replaces the use of IIP. Use of fixed base production indices also has limitations in capturing dynamism across quarters in an appropriate sense.

For the estimation of GVA at constant prices, Double Deflation approach has been adopted using separately constructed output and Input price indices.

Institutional Sector Approach

A key methodological improvement in the new base year is the compilation of quarterly Manufacturing GVA by institutional sector. In this base year, entity-level GST data, classified by the Constitution of the Business, are used to derive separate quarterly output indicators for Public Corporations, Private Corporations, Quasi-Corporations and the Household (Unorganised) Sector.

The Constitution of the Business recorded in the GST database provides a basis for identifying the relevant institutional sectors. GST entities classified as Proprietorships, Partnerships and Hindu Undivided Families (HUFs) are used to construct the quarterly indicator for Quasi-Corporations. In the absence of direct high-frequency information for the Household (Unorganised) Sector, the quarterly indicator for Quasi-Corporations is used as a proxy for this sector.

Estimation of Output at Current Prices

The ‘*Outward Taxable Supply*’ variable sourced from the GST database has been used as the indicator of GVO/output. The Year-on-Year (Y-o-Y) growth rate observed in the supply value has been prepared based on Matched Responding Units following the Matched Paired Procedure. However, the usual Matched Paired Procedure has been modified to contain the coverage of bigger companies through handling the information pertaining to missing entities. In this Procedure, the data has been first divided into two parts, respectively called Set A and Set B.:

- **Set A:** Large entities accounting for more than 80 per cent of total output.
- **Set B:** All remaining entities.

For Set A, missing observations are imputed using the Y-o-Y growth observed among responding entities within the same group. For Set B, the output is computed based on matched responding units. Any potential outlier observed in the data is also removed from the set. Finally, total supply value is based on aggregating supply from two sets. Thereafter, Y-o-Y growth rate observed in total supply at respective institutional sectors has been considered as the indicator of GVO/output at current prices.

Estimation of Intermediate Consumption and GVA at Current Price

For the Public and Private Corporate sectors, quarterly financial statements of listed manufacturing companies are used to derive indicators of current price GVA. Intermediate Consumption is estimated residually as the difference between Gross Value of Output (GVO) and GVA.

For Quasi-Corporations and the Household (Unorganized) Sector, quarterly GVA is derived by applying the annual benchmark input-output relationship. For subsequent periods, the growth observed in the quarterly output indicator is used as the proxy for GVA growth at current prices.

Estimation of GVA at Constant Price

Constant price estimates are compiled using the Double Deflation method, whereby output and IC of different institutional sectors are independently deflated using composite output and input price indices constructed using the latest available Annual Survey of Industries (ASI) structure and corresponding PPIs. Composite Output Price Indices are compiled using the output PPIs for NIC-wise output items, while composite Input Price Indices are constructed using the output PPIs for NIC-wise input items.

This methodology provides measure of the real value added by capturing changes in the prices of both output and IC compared to the Single Deflation approach followed in previous base year series where same deflator was used for both output and IC. The current prices quarterly estimates of GVA in respect of Manufacturing Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.5**.

Table 28.5 Estimates of GVA in respect of Manufacturing Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	8,72,417	7,49,975	-14.0
2022-23 Q2	8,49,407	8,36,805	-1.5
2022-23 Q3	8,21,394	8,46,965	3.1
2022-23 Q4	9,91,647	10,49,103	5.8
FY 2022-23	35,34,867	34,82,848	-1.5

(d) Electricity, Gas, Water Supply and Remediation Services

The compilation methodology for the Electricity, Gas, Water Supply and Remediation Services (EGWR) sector in the new base year emphasizes on improving the coverage of quarterly indicators, particularly for the Gas, Water Supply and Remediation sub-sectors. Under the previous (2011–12) base year series, quarterly constant price estimates for these sub-sectors were primarily derived using the past years' annual growth pattern owing to the absence of suitable high-frequency indicators. Current price estimates for the aggregate EGWR sector were obtained by inflating constant price estimates using the WPI for Electricity.

In the new base year, current and constant price estimates are obtained at a disaggregated level using sub-sector specific available indicators, thereby improving the measurement of both volume and value movements.

Electricity

Quarterly GVA at constant prices is compiled using the volume extrapolation approach, with the IIP – Electricity serving as the quarterly volume indicator. Current price GVA estimates are obtained by inflating the constant price estimates using the PPI for Electricity.

Gas

For the Gas sub-sector, quarterly GVA at constant prices is estimated using the volume extrapolation approach based on the information of natural gas consumption sourced from Petroleum Planning and Analysis Cell (PPAC), Ministry of Petroleum and Natural Gas. Current price estimates are compiled by inflating the constant price estimates using the PPI for Natural Gas.

Water Supply

Suitable high-frequency volume indicators are currently not available for the Water Supply sub-sector. Accordingly, quarterly GVA at current prices is compiled using the previous year's annual growth. Constant price GVA estimates are subsequently derived by using CPI for Water Charges as price indicator, thereby incorporating the observed movement in prices of Water Supply services.

Remediation Services

For compilation purposes, this sub-sector is divided into two segments, namely Recycling and Sewerage.

Recycling

Quarterly current price estimates are derived using the growth in ‘*Outward Taxable Supply*’ reported in the GST database under the relevant SAC covering *Sewage, Waste Collection, Treatment and Disposal, and Other Environmental Protection Services*. Institutional sector-wise current price indicators are first compiled using GST information by Constitution of Business and subsequently aggregated using the latest available annual benchmark weights to obtain the overall quarterly current price indicator for the Recycling segment.

Constant price GVA is compiled using the single extrapolation approach, whereby current price output is deflated using a composite PPI. The composite PPI is constructed from the weighted PPIs for Basic Metals, Fabricated Metal Products except Machinery and Equipment, Plastic Products, and Paper and Paper Products.

Sewerage

The Sewerage segment is predominantly represented by General Government units. Consequently, GST-based indicators are not considered appropriate for measuring quarterly economic activity in this segment. In the absence of suitable high-frequency source data, quarterly GVA at current prices is compiled by using the annual growth observed in the latest annual benchmark year. Quarterly constant price GVA estimates are derived by deflating the corresponding current price estimates using the CPI-General as the proxy price indicator.

The current prices quarterly estimates of GVA in respect of Electricity, Gas, Water Supply & Remediation Services Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.6**.

Table 28.6 Estimates of GVA in respect of Electricity, Gas, Water Supply & Remediation Services Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	1,42,405	1,41,853	-0.4
2022-23 Q2	1,48,389	1,47,039	-0.9
2022-23 Q3	1,57,295	1,46,011	-7.2
2022-23 Q4	1,60,978	1,56,054	-3.1
FY 2022-23	6,09,068	5,90,956	-3.0

(e) Construction

Quarterly GVA for the Construction sector is compiled through volume extrapolation of construction inputs using appropriate indicators. The methodology is based on the premise that GVA of construction activity is closely correlated with the consumption of key construction inputs. Quarterly estimates are therefore derived by extrapolating the inputs using appropriate high-frequency volume indicators.

For compilation purposes, construction inputs are grouped into eight categories, each of which is independently extrapolated using the most representative quarterly volume indicator, as presented in **Table 28.7**.

Table 28.7: Input Category-wise Volume Indicator for Construction Sector

Input Category	Quarterly Volume Indicator
Cement and Cement Products	IIP– Cement and Cement Products
Iron and Steel	Consumption of Finished Steel (in Metric Tonnes)
Bricks and Tiles	Weighted IIP of relevant items
Timber and Roundwood	IIP for <i>Manufacture of Wood and Products of Wood and Cork, except Furniture; Manufacture of Articles of Straw and Plaiting Materials</i>
Bitumen and Bitumen Mixtures	IIP for <i>Bitumen</i>
Glass and Glass Products	Weighted IIP of relevant items
Fixtures and Fittings	Weighted IIP of relevant items
Other Materials (including kutcha material like mud, mud phuska, grass and straw etc.), fuel, electricity, water and Services related Charges	IIP for <i>Infrastructure and Construction Goods</i>

For the input aggregates, namely Bricks and Tiles; Glass and Glass Products; and Fixtures and Fittings, composite volume indicators are constructed using IIPs and their item-level weights from the IIP series with base year 2022-23. The constituent products included in each composite indicator are aligned with the corresponding material inputs used in the annual benchmark estimates compilation, thereby ensuring consistency between the quarterly and annual estimates.

Input-Output ratio of the base year annual benchmark estimates is applied to the total input estimates to obtain total output at constant prices and consequently GVA at constant prices is derived by subtracting IC from GVO. Current price estimates are obtained by separately inflating each of the constant price material input aggregates using the corresponding PPI or composite PPI. In case of other materials (including kutcha material like mud, mud *phuska*, grass and straw etc.), fuel, electricity, water and services related charges, combined PPIs and CPI-General is used for inflating the corresponding constant price estimates, bifurcating the share of service-related charges from other materials based on annual benchmark for preparing composite price indices.

The resulting current-price input estimates are then aggregated, and the base-year input-output relationships are applied to derive current-price GVO and, subsequently, GVA.

The use of component-specific PPIs represents an important improvement over the previous base year approach, under which a single construction price index with fixed weight was used to inflate the entire Construction sector. The revised approach better captures the heterogeneous price movements across different construction inputs and, consequently, improves the measurement of quarterly current-price estimates. The current prices quarterly estimates of GVA in respect of Construction Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.8**.

Table 28.8 Estimates of GVA in respect of Construction Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

(in Rs. Crore)

Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	5,28,948	5,18,334	-2.0
2022-23 Q2	4,67,523	4,98,143	6.5
2022-23 Q3	5,37,988	5,33,718	-0.8
2022-23 Q4	6,36,942	5,62,616	-11.7
FY 2022-23	21,71,401	21,12,811	-2.7

(f) Trade, Hotels, Transport, Storage, Communication and Services related to Broadcasting

Trade and Repair Services

The methodology for compiling quarterly estimates of the Trade and Repair Services sector has been strengthened in the revised base year by adopting an institutional sector-wise approach for estimating GVA at both current and constant prices. The availability of GST data has facilitated the development of separate quarterly indicators for the respective institutional sectors. For the Private Corporate segment of Retail Trade, quarterly financial statements of listed retail trading companies are also utilized.

Entity-level GST data, classified by the Constitution of Business, are used to construct quarterly output indicators based on the variable '*Outward Taxable Supply*'. GST entities classified as Proprietorships, Partnerships and HUFs are used to compile output indicators for the Quasi-Corporate sector. The indicator derived for Quasi-Corporations is also adopted as a proxy for the Household (Unorganised) sector. The quarterly output indicators are compiled using the Matched Paired Procedure, similar to the procedure described for the Manufacturing sector, thereby ensuring a consistent methodology for the use of entity-level GST data across sectors.

Wholesale and Retail Trade

Quarterly current price indicators for Wholesale Trade are prepared separately for each institutional sector using unit level GST data classified by Constitution of Business. For Retail Trade, GST data are used to derive current price indicators for all institutional sectors except the

Private Corporate segment, for which quarterly financial statements of listed retail trading companies are utilized. The Departmental Enterprise component, which accounts for less than one per cent share in the overall GVA of Trade and Repair Services sector, is relying on past year growth for extrapolation.

Constant price GVA is estimated using the single extrapolation method. Under this approach, the current price output indicator is deflated using a composite deflator prepared from specific PPIs with weight based on Trade and Transport Margins (TTM), to derive the indicator for estimating GVA at constant prices. The TTM weights used in the construction of the composite deflator are based on the Supply and Use Tables (SUT) for the base year 2022–23.

Sale of Motor Vehicles and Motor Cycles and Maintenance and Repair of Motor Vehicles and Motor Cycles

For these activities, quarterly constant price GVA is compiled using the volume extrapolation approach. Domestic sales of vehicles of all categories including commercial vehicles, passenger vehicles, two-wheelers and three-wheelers, obtained from the Society of Indian Automobile Manufacturers (SIAM), are utilized as the quarterly volume indicator. Current price estimates are derived by inflating the constant price estimates using the TTM-weighted PPI.

Repair of Computers, Personal and Household Goods

For this activity, no suitable high-frequency volume indicator is available. Accordingly, quarterly current price estimates are extrapolated using the annual growth observed in the latest annual benchmark estimate, while TTM-weighted PPI is used as price indicator for obtaining constant price estimates through single extrapolation approach.

Hotels and Restaurants

In the revised base year, the major changes incorporated in the Hotels and Restaurants sector include adopting institutional sector-wise current and constant price GVA estimation alongside changing the deflation mechanism.

Quarterly current price estimates for the Unincorporated and Household sectors are compiled using GST data of SAC covering particularly Hotels and Restaurants services and Constitution of Business for the Proprietorships, Partnerships and HUFs. In the Private Corporate segment, quarterly financial statements of listed companies are analysed. For the Public Sector, which represents only a small proportion of the overall sector's GVA, quarterly current price estimates are extrapolated using the annual growth observed in the latest annual benchmark estimate.

In the previous base year, WPI was used for single deflation of the current price GVA estimate for this sector. In the revised base year single extrapolation approach has been adopted, where indicator is prepared by deflating output at nominal prices with a composite index reflecting price movement representative of the Hotel and Restaurants services. The composite price index comprises indices for Tea Cups, Coffee Cups, Other Served Processed Food, Cooked Meals,

Cooked Snacks Purchased, Hotel Lodging Charges from the CPI series with base year 2024 with linkages with the CPI series available with base year 2012.

Transport and Storage

Quarterly estimates for the Transport and Storage sector are compiled separately for Road Transport, Water Transport, Air Transport, Railway Transport, Services Incidental to Transport and Storage & Warehousing, at both current and constant prices. The principal data source agencies for preparing estimates for this sector are as follows,

- (i) Society of Indian Automobile Manufacturers (SIAM)
- (ii) Ministry of Ports, Shipping and Waterways
- (iii) Directorate General of Civil Aviation (DGCA)
- (iv) Ministry of Railways,
- (v) GSTN
- (vi) Office of the Economic Adviser.

For all transport sub-sectors, except Storage & Warehousing, constant price GVA is compiled using the volume extrapolation approach. The principal quarterly volume indicators are:

Road Transport: Stock + Sales of commercial vehicles. Stock of vehicles are dynamically updated preserving stock based on the latest 15 years.

Water Transport: Cargo handled at major and minor ports.

Air Transport: Domestic and international air traffic and operating statistics (in thousand tonne km.).

Railway Transport: Passenger and net tonne km. of Indian Railways.

Services Incidental to Transport: Composite volume indicator derived from the weighted growth of Road, Water and Air Transport GVA. The indicator is constructed using combined GVA growth rates of Road and Water transport in Household sector and combined GVA growth rates of Road, Water, and Air transport for other institutional sectors.

For the Storage & Warehousing sub-sector, quarterly constant price estimates are compiled using the single extrapolation approach, whereby current price output derived from the GST data is deflated using the benchmark annual IPD, which serves as a proxy in the absence of a suitable quarterly price indicator.

For the Road, Water, Air Transport sectors, current price estimates are derived by inflating constant prices GVA estimates using appropriate CPI as given in the following **Table 28.9**.

Table 28.9: Price Indices Used for Current Price Estimates of Transport Services

Transport Sub-sector	Price Indicator Used for Current Price Estimation
Road Transport	Combined price Indices of various CPIs such as Tyres & Tubes, Other Transport Equipment, Diesel, Petrol; Compressed Natural Gas (CNG); Bus/Tram Fare (Occasional); Bus/Tram Fare for Commuting to Work (Daily and Periodic); Bus/Tram Fare for School/College (Daily and Periodic); Taxi Fare; Hire Charges for Cars/Buses for Ceremonial Occasions and Excursions; Auto-rickshaw/E-rickshaw Fare; Rickshaw Fare; and Other Conveyance Expenses. The composite index is designed to capture both the operating cost and passenger fare movements relevant to road transport services.
Water Transport	CPI of Boat and Steamer Charges.
Air Transport	CPI of Air Fare.

For the Railway Transport sector, goods and passenger earning information has been used as an indicator to obtain the current price GVA estimate.

For the Services Incidental to Transport and Storage & Warehousing sub-sectors, quarterly current price GVA estimates are compiled using GST data. The quarterly growth in ‘*Outward Taxable Supply*’ reported under the relevant SAC covering *Supporting Services in Transport*, which includes both Auxiliary Transport services and Storage & Warehousing activities, is used as the principal indicator for deriving current price GVA estimates for both sub-sectors.

Communication and Services Related to Broadcasting

The Communication and Services Related to Broadcasting sector is dominated by the Telecommunications sub-sector. Quarterly current price GVA estimates are compiled separately for each institutional sector. For the Private Corporate segment of Telecommunication sub-sector, quarterly financial statements of listed telecommunications companies are analysed for deriving the indicator for the nominal GVA. Whereas, for the remaining institutional sectors, current price estimates are derived using GST data classified by the specific SAC and Constitution of Business.

Quarterly constant price GVA for the Telecommunications sub-sector is compiled using the volume extrapolation approach. For the volume extrapolation approach, weighted growth of data usage and minutes of usage is utilized, the weights being the revenue share from data usage and revenue share from calls respectively. For preparing total minutes of usage, information on three variables is used, which are total telephone subscribers, minutes of usage per subscriber per month and internet telephony. The information on all these variables are sourced from Telecom Regulatory Authority of India (TRAI).

For the Courier activities, institutional sector-wise nominal GVA estimation is on the basis of taxable supply value information from GSTN at Constitution of Business level. Similarly, for Activities of Cable Operators, Recording, Publishing and Broadcasting Services, the GSTN

information of respective SAC by Constitution of Business, are used to derive quarterly current price estimates.

For Postal Activities, which are predominantly undertaken by the Department of Posts, suitable high-frequency indicators are not available. Consequently, quarterly current price GVA is extrapolated using the annual growth observed in the latest annual benchmark estimate. For the base year, the annual estimates are distributed evenly across the four quarters.

Quarterly constant price GVA for Postal Activities; Courier Activities; Activities of Cable Operators; Recording, Publishing and Broadcasting Services is compiled using the single extrapolation approach, whereby current price output estimates are deflated using appropriate composite CPIs.

For Postal Activities and Courier Activities, the composite deflator is constructed using the composite CPI series for Transport Services and Information & Communication Services. For Activities of Cable Operators; Recording, Publishing and Broadcasting Services, the composite price index includes CPI of Cable Television/DTH Services; Online Media and Streaming Services; Cinema and Theatre; Books and Journals; and Newspapers and Periodicals.

The current prices quarterly estimates of GVA in respect of Trade, Hotels, Transport, Storage, Communication & Services related to Broadcasting Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.10**.

Table 28.10 Estimates of GVA in respect of Trade, Hotels, Transport, Storage, Communication & Services related to Broadcasting Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	9,42,414	7,71,694	-18.1
2022-23 Q2	10,75,611	7,74,602	-28.0
2022-23 Q3	11,27,862	8,42,686	-25.3
2022-23 Q4	12,66,121	8,75,499	-30.9
FY 2022-23	44,12,008	32,64,481	-26.0

(g) Financial Services, Real Estate, Information Technology, Professional Services, and Ownership of Dwelling

Financial Services

Quarterly current and constant prices GVA estimate for the Financial Services are compiled at various sub-sectoral level defined in accordance with the System of National Accounts 2008 (SNA 2008). The sub-sectors comprise:

S 121 – Reserve Bank of India (RBI)

- S 122** – Deposit-taking Corporations except the RBI, including Nationalized Banks, Private Sector Banks, Foreign Banks, Small Finance Banks (SFBs), Payments Banks, Regional Rural Banks (RRBs), Cooperative Banks and the Post Office Savings Banks
- S 123** – Money Market Funds (MMFs)
- S 124** – Non-Money Market Investment Funds (Non-MMF Investment Funds)
- S 125** – Other Financial Intermediaries, except Insurance Corporations and Pension Funds (ICPFs)
- S 126** – Financial Auxiliaries, including insurance agents and other financial auxiliary service providers
- S 127** – Captive Financial Institutions and Money Lenders
- S 128** – Insurance Corporations, comprising both Life and Non-life Insurance Corporations
- S 129** – Pension Funds

The output of Money Market Funds (S 123) and Non-Money Market Investment Funds (S 124) is measured by the value of their explicit service charges. Since these units generally do not produce market output beyond the services consumed in their own production process, their GVA is recorded as zero, with output equal to intermediate consumption. For, Pension Funds (S 129) also, GVA is recorded as zero, since the output is measured equivalent to the value of intermediate consumption. The administrative fund associated with this sub-sector is classified under S 126 sub-sector.

Quarterly estimates for each institutional sub-sector are compiled using diverse administrative, regulatory and financial data sources, while ensuring consistency with the conceptual framework adopted for ANA, as per the details given at **Table 28.11**.

Table 28.11: Compilation Methodology for Quarterly GVA Estimates – Financial Services

Institutional Sub-sector	Data Source	Current Price Indicator	Constant Price Indicator
S 121 – Central Bank/ RBI	Reserve Bank of India	Quarterly Compensation of RBI Employees (CE) is used as the indicator for GVA estimates.	Compensation of Employees is deflated using the CPI-General, the resulting volume measure is used as the indicator of constant price GVA.
S 122 – Deposit-taking Corporations except the Central Bank	RBI quarterly data containing Loans, Deposits and Interest information for Nationalized Banks, Private Sector Banks, Foreign Banks and Small Finance Banks	Quarterly Financial Intermediation Services Indirectly Measured (FISIM) is used as the indicator of GVA. $\text{FISIM} = \text{FISIM on Loans} + \text{FISIM on Deposits}$ $\text{FISIM on Loans} = \text{Stock of Loans and Advances} \times (\text{LR} - \text{RR})/100$ $\text{FISIM on Deposits} = \text{Stock of Deposits} \times (\text{RR} - \text{DR})/100$ where LR is the Lending Rate, DR is the Deposit Rate, RR* is the Reference Rate	Constant price estimates are based on the Volume measure of FISIM. $\text{Volume measure of FISIM} = \text{Volume measure of FISIM on Loans} + \text{Volume measure of FISIM on Deposits}$ $\text{Volume measure of FISIM on Loans} = \text{Deflated Stock of Loans and Advances} \times (\text{LR of}$

Institutional Sub-sector	Data Source	Current Price Indicator	Constant Price Indicator
		Quarterly FISIM calculated for Nationalized Banks used as indicator for Nationalized Banks and RRBs. FISIM calculated for Foreign Banks, Private Sector Banks and SFBs is used as an indicator for these Banks including Payment Banks. For the Cooperative Banks, Post Office Savings Banks, annual benchmarks are distributed equally for the interpolated series and for extrapolation, previous year growth is used as proxy. *For calculation of RR, the combined LR and DR based on Loans, Deposits, Interests information of both the S-122 and S-125 sub-sectors are used.	Base Year - RR of Base Year)/100 Volume measure of FISIM on Deposits = Deflated Stock of Deposits * (RR of Base Year - DR of Base Year)/100 For deflation of Loans/Deposits CPI- General is used.
S 125 – Other Financial Intermediaries, except Insurance Corporations and Pension Funds	RBI quarterly data containing Loans, Deposits and Interest information for Upper Layer and Middle Layer NBFCs	FISIM on Loans is used as the quarterly indicator of current price GVA estimates.	Constant price estimates are based on the Volume measure of FISIM on Loans*. For deflation of Loans, CPI- General is used. *FISIM generated by NBFCs is concentrated almost entirely on the loan side rather than deposits.
S 126 – Financial Auxiliaries	Quarterly information on Commission for Insurance companies from Insurance Regulatory and Development Authority of India (IRDAI); Quarterly financial statements of listed stock brokers and Asset Management Companies (AMCs)	For Insurance agents, the total value of commission received from insurance corporations is used as the quarterly indicator. For the remaining Financial Auxiliary activities, revenue growth observed from the quarterly financial statements of listed financial auxiliaries (including stock brokers, AMCs etc.) is used as the current price indicator.	Current price output indicators are deflated using CPI- General, and the resulting volume indices serve as the indicators for constant price GVA.

Institutional Sub-sector	Data Source	Current Price Indicator	Constant Price Indicator
S 127 – Captive Financial Institutions and Money Lenders	No suitable high-frequency source available	In the absence of suitable quarterly indicators, annual benchmark estimates are distributed evenly across quarters for the benchmark periods. For the extrapolated series, previous year growth is used as proxy.	Constant price estimates are obtained by deflating the current price series using CPI-General.
S 128 – Insurance Corporations	Quarterly Public Disclosures of Insurance companies	For the Life Insurance Corporation (LIC) and Non-Life Insurance Companies (Private and Public separately), quarterly GVA is compiled based on their Public Disclosures. GVA is compiled as Output - Intermediate Consumption, where Output comprises Premiums (less Reinsurance), Premium Supplements (including Net Profit), less Adjusted Claims. Intermediate consumption includes Management Expenses, Commissions, Bank Charges, Repair and Maintenance, and other Miscellaneous Expenses. For Private Life Insurance Corporations, Net Premium Income is used as proxy indicator for quarterly GVA.	Volume indices of deflated Output or Net Premium income (for Private Life Insurers) are used as indicators of constant prices GVA using CPI- General as price index.

Real Estate, Information Technology and Professional Services

Quarterly GVA estimates at both current and constant prices for the Real Estate, Information Technology (IT) and Professional Services sector are compiled at institutional sectoral level. The sector comprises the following activities:

- Real Estate Activities
- Computer and Information related Services
- Legal Activities
- Accounting and Book keeping Activities
- Rental and Leasing Activities without operator
- Research and development and other Professional, Scientific and Technical services
- Administrative and Support Service Activities (excluding Rental and Leasing Activities without operator).

GST data constitute the principal source for compiling quarterly current price GVA estimates. For the Real Estate activities; Computer and Information related Services; Rental and Leasing Activities without operator and Research and Development sub-sectors, Corporate Identification Number (CIN)-wise GST data are used for the Private Corporate segment. Quarterly output indicators are derived from the variable '*Outward Taxable Supply*' using the Matched Paired Procedure as described under the Manufacturing sector.

For the remaining sub-sectors, quarterly current price indicators are compiled using GST data classified by Constitution of Business and the specific SACs are used. GST entities classified as Proprietorships, Partnerships and HUFs are used to derive the indicators for Quasi-Corporations. In the absence of separate high frequency information, the indicator compiled for Quasi-Corporations is used as a proxy for the Household (Unorganized) sector.

Quarterly constant price GVA is compiled using the single extrapolation approach, whereby the current price output indicators are deflated using composite CPIs representative of the respective service activities. The composite price indices are constructed from the relevant indices of the specific services in the CPI basket, thereby providing representative measures of quarterly price movements while maintaining consistency with the practice in ANA.

Ownership of Dwellings

Quarterly GVA for the Ownership of Dwellings sector is compiled separately for the urban and rural segments at both current and constant prices. GVA is derived as the difference between Gross Rental Value and Repair and Maintenance (R&M) expenditure. Gross Rental Value is estimated as:

$$\text{Gross Rental Value} = \text{Number of Dwellings} \times \text{Average Rent per Household}$$

Urban Segment

For the urban segment, the stock of residential dwellings is extrapolated using the annual growth in the number of dwellings observed between FY 2022-23 and FY 2023-24. The estimated number of dwellings for 2022-23 and 2023-24 is derived using projected population estimates of the Ministry of Health and Family Welfare (MoHFW) and average household size from the Household Consumption Expenditure Surveys (HCES). These estimates have been adjusted for vacant houses using information from Drinking Water and Sanitation, Hygiene and Housing Condition Survey (July–December 2018). Additionally, adjustments are made for Employer-provided Housing services. Finally, the dwelling growth observed based on the number of dwellings in these two years, is used for extrapolation purpose. The estimated number of residential dwellings is assumed to remain constant for each quarter within a year. CPI – Housing (Urban) has been used as an indicator for average rent per household at quarterly level, thereby reflecting quarterly movements in rental prices.

The Repair and Maintenance component is estimated separately. For the benchmark period, annual estimates are distributed evenly across quarters, while for the extrapolated series the annual growth observed in the latest annual benchmark estimate is used as a proxy.

Quarterly constant price estimates of Gross Rental Value are obtained by multiplying the base year quarterly rent per household with the estimated number of dwellings. Constant price estimates of Repair and Maintenance are derived by extrapolating the quarterly series using the annual growth observed in the latest annual benchmark estimate.

Rural Segment

Suitable high-frequency indicators are not presently available to capture quarterly movements in either Gross Rental Value or Repair and Maintenance expenditure for the Rural segment. Accordingly, both components are extrapolated separately using the annual growth observed in the latest benchmark estimate. The same methodology is adopted for compiling quarterly constant price estimates.

The current prices quarterly estimates of GVA in respect of Financial, Real Estate, IT & Professional Services and Ownership of dwelling Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.12**.

Table 28.12 Estimates of GVA in respect of Financial, Real Estate, IT & Professional Services and Ownership of dwelling Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	14,80,605	13,85,777	-6.4
2022-23 Q2	15,56,237	15,04,987	-3.3
2022-23 Q3	12,68,007	15,35,727	21.1
2022-23 Q4	12,95,590	16,18,685	24.9
FY 2022-23	56,00,439	60,45,177	7.9

(h) Public Administration, Defence and Other Services

Public Administration and Defence

In the revised base year, the methodology for compiling quarterly GVA for the Public Administration and Defence sector has been strengthened through the incorporation of suitable high frequency administrative data for the Compensation of Employees component, particularly utilizing the Public Financial Management System (PFMS) data for the Central Government including Union Territories (UTs) without legislature. Quarterly indicator of CE using PFMS information includes salary & wages, leave travel concession, medical reimbursements, rewards and honoraria.

For State Governments including UTs with Legislature, quarterly current price estimates of CE are extrapolated using salary & wages data reported by the respective State Governments.

For the Defence component, quarterly estimates of CE are derived based on distributing the latest available Budget Estimates (BE), Revised Estimates (RE) or Actual Expenditure on salary & wages uniformly across the four quarters of the financial year and used as quarterly indicators.

The Employer-provided Housing component of Ownership of Dwellings is extrapolated using the salary & wages indicators of the Central Government, State Governments and Defence establishments, which provide an appropriate proxy for changes in compensation-related housing services.

For the Local Bodies and other components (State and Central Autonomous Bodies), in the absence of suitable quarterly indicators, the salary & wages series of State Governments is used as the proxy indicator, in this segment Local Bodies and State Autonomous bodies account for more than 80 per cent share. The Pensions and Consumption of Fixed Capital (CFC) components are extrapolated using the annual growth observed in the latest benchmark estimate, where suitable quarterly indicators are not available.

Quarterly constant price estimates of Compensation of Employees and Employer-provided Housing are obtained by deflating with CPI for Industrial Workers [CPI (IW)]. In the absence of an appropriate quarterly price indicator, constant price estimates of CFC are extrapolated using the annual growth observed in the latest annual benchmark estimate. Total quarterly GVA at constant prices is obtained by aggregating the constant price estimates of the individual components.

Other Services

The Other Services sector comprises:

- Education [Coaching/Academic tutoring services; Education other than coaching]
- Health
- Recreational, Cultural and Sporting Activities
- Activities of Membership Organisations
- Personal Services and Other Service Activities n.e.c. [Washing & cleaning of textiles and fur products; Hair dressing and other beauty treatment; Custom tailoring; Other personal service activities]
- Private Households with Employed Persons

In the revised base year, quarterly GVA estimates are compiled separately for each institutional sector at both current and constant prices. For the Private Corporate segment of various sub-industries (which excludes Private Household with Employed Persons), CIN-wise GST data are used. Quarterly output indicators are derived from the variable '*Outward Taxable Supply*' using the Matched Paired Procedure as described under the Manufacturing sector.

GST administrative data classified by SAC and Constitution of Business for Quasi segment and Household sector utilizes same proxy indicators as Quasi-Corporations. For the General Government sector, in the absence of suitable high-frequency indicators, annual benchmark

estimates are distributed evenly across the four quarters and latest year growth is used for extrapolation.

Quarterly constant price GVA is compiled using the single extrapolation approach, whereby current price output indicators are deflated using representative CPIs or composite CPIs for the respective activities. The details of price indices used for constant price GVA estimates of other services are given at **Table 28.13**.

Table 28.13: Price Indices used for Constant Price GVA Estimates of Other Services

Sector / Activity	Price Indicators
Education	CPI (Education) - Weighted CPI comprising Early Childhood and Primary Education, Secondary Education, Higher Education, and Education not elsewhere classified.
Health	CPI (Health) - Weighted CPI comprising Medicines and Health products, Outpatient services, Inpatient services, and Other Health services.
Activities of Membership Organisations	Composite Index based on relevant CPIs
Recreational, Cultural and Sporting Activities	Composite Index based on relevant CPIs
Personal Services	Weighted CPI comprising Washerman, laundry, ironing, dry cleaning and dyeing; Tailor; Barber, beautician and spas; Priest; Grinding and Husking Charges
Private Households with Employed Persons	Weighted CPI comprising Domestic helper/cook; Watchman/ Security Guard; Sweeper; Driver; Attendant, babysitter; Other consumer services excluding conveyance

The use of activity-specific composite price indices improves the measurement of quarterly price movements and ensures greater consistency between the quarterly estimates and the annual benchmark framework.

The current prices quarterly estimates of GVA in respect of Public Administration, Defence & Other Services Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.14**.

Table 28.14 Estimates of GVA in respect of Public Administration, Defence & Other Services Sector for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices
(in Rs. Crore)

Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	8,21,842	7,41,783	-9.7
2022-23 Q2	8,39,540	7,38,993	-12.0
2022-23 Q3	8,47,381	8,00,268	-5.6
2022-23 Q4	8,50,139	7,95,249	-6.5
FY 2022-23	33,58,901	30,76,292	-8.4

(i) Product Taxes and Subsidies

The transition from GVA at basic prices to GDP at market prices requires the addition of Taxes on Products and the deduction of Subsidies on Products. Accordingly, the compilation of quarterly estimates of Product Taxes and Subsidies forms an important part of QNA.

Product Taxes

Current Price Estimates

Product Taxes are taxes payable per unit of a good or service that is produced, sold, imported, exported or otherwise transacted. They comprise GST, Union Excise Duties, State Excise Duties, Customs Duties, Sales Taxes and other taxes levied on products by different levels of Government. Quarterly current price estimates of Product Taxes are compiled primarily from administrative data available from the Central and State Government accounts.

For the Central Government, the principal data sources are the GSTN and the Controller General of Accounts (CGA). In the revised base year series (2022–23), net GST collections are used for estimating quarterly GST revenues instead of gross GST collections, thereby coherence is maintained between the quarterly methodology with the approach adopted for the ANA. Monthly information available on net GST collection include net Central GST (CGST), net State GST (SGST), net Integrated GST (IGST), compensation cess²². Customs duties, union excise duties, service tax and other product taxes are obtained from CGA.

For the State Governments, monthly information on sales tax, State excise duties and other product taxes is obtained from the State Government accounts available in the website of Comptroller and Auditor General of India (CAG). Monthly data are aggregated to derive quarterly estimates.

Taxes on products collected by Local Bodies account for only a small proportion of total product taxes. In the absence of suitable quarterly administrative information, quarterly estimates are obtained by extrapolating the annual benchmark estimates using the annual growth observed in the latest benchmark year.

Constant Price Estimates

Quarterly constant price estimates of Taxes on Products are compiled using the volume extrapolation approach. Under this method, the benchmark estimates for individual tax categories are extrapolated using volume indicators that reflect the underlying economic activities generating the respective tax revenues. The details of volume indicators used for various product taxes are given at **Table 28.15**.

Table 28.15: Volume Indicators – Product taxes

²²Compensation Cess has been discontinued from Q1, 2026-27.

Tax Category	Volume Indicator
GST	Combined Growth of all industries at constant prices excluding Agriculture and Allied, Ownership of Dwellings, Public Administration and Defence, Electricity, and the output of the General Government sector across all industries
State Excise Duties	Weighted IIP for Alcoholic Beverages
Union Excise Duties	IIP for Manufacture of Coke and Refined Petroleum Products
Sales Taxes	Composite indicator based on IIP for Alcoholic Beverages and Manufacture of Coke and Refined Petroleum Products
Customs Duties	Imports of Goods at constant prices
Other Product Taxes	Composite indicator constructed from the above tax categories

The use of activity-specific volume indicators ensures that constant price estimates appropriately reflect the underlying volume movements in the tax base while maintaining consistency with the annual benchmark estimates.

Subsidies on Products

Current Price Estimates

Quarterly current price estimates of Subsidies on Products are compiled using administrative data obtained from the accounts of the Central and State Governments.

For the Central Government, monthly expenditure data on the major product subsidy schemes—nutrient-based fertilizer subsidy, urea subsidy, and petroleum subsidy—are obtained from the Controller General of Accounts (CGA). For the remaining product subsidies, which individually account for relatively small shares of total subsidies and for which suitable quarterly information is not available, quarterly estimates are derived by distributing the latest available Budget Estimates (BE) or Revised Estimates (RE) uniformly across the four quarters of the financial year.

For the State Governments, monthly information on total subsidies is available from the State Government accounts published by the Comptroller and Auditor General of India (CAG). As separate quarterly information on subsidies on products is not available, quarterly estimates are derived using the growth observed in total State Government subsidies as the proxy indicator.

Constant Price Estimates

Quarterly constant price estimates of Subsidies on Products are compiled using the volume extrapolation approach, wherever suitable volume indicators are available, thereby improving consistency with the methodology adopted in the ANA. Major subsidies, namely, fertilizer subsidy and electricity subsidy constitute more than 75 percent share in overall subsidies. The details of volume indicators used for various product subsidies are given at **Table 28.16**.

Table 28.16: Volume Indicators – Product subsidies

Subsidy Category	Volume Indicator
Fertilizer Subsidies	Quarterly consumption of fertilizers (Urea, DAP, MOP, NPKS and SSP)
Electricity Subsidies	IIP – Electricity
Other Product Subsidies	Current price estimates deflated using IPD for GVA

The current prices quarterly estimates of GVA in respect of Net taxes for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.17**.

Table 28.17: Estimates in respect of Net Taxes for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	5,85,834	5,93,285	1.3
2022-23 Q2	5,62,796	5,86,909	4.3
2022-23 Q3	5,60,182	5,70,098	1.8
2022-23 Q4	5,34,963	6,03,574	12.8
FY 2022-23	22,43,775	23,53,866	4.9

28.1.5.3 Expenditure Approach Aggregates at Current and Constant Prices

GDP by the Expenditure approach measures the final demand for goods and services produced within the domestic economy. The components of Expenditure side of GDP are Private Final Consumption Expenditure (PFCE), Government Final Consumption Expenditure (GFCE), Gross Fixed Capital Formation (GFCF), Changes in Stock (CIS), Valuables, Exports of Goods and Services, and Imports of Goods and Services.

Compiling quarterly Expenditure-side GDP estimates is inherently more challenging than Production-side measures due to survey and administrative data reporting gaps across several expenditure components. The revised base year (2022–23) incorporates methodological improvements in the compilation of quarterly Expenditure-side estimates. Compared with the previous series, the coverage and quality of quarterly source data have been expanded through the increased use of administrative databases, item or asset-specific indicators, and external sector statistics. These improvements have enabled the compilation of several expenditure components at a more detailed level.

Consistent with international best practices, quarterly GDP is compiled independently using both the Production and Expenditure approaches. Differences between the two approaches are continuously analysed to identify potential improvements required in the source data, and facilitate systematic methodological upgradation.

The revised annual benchmark in the base year 2022-23, updated and new indicators at product, asset or component level, and improved methodology has resulted the changes in quarterly values in new base year, compared to the previous base year series. Estimates of old vs. new base year for PFCE, GFCE, GFCF CIS, Valuables, Exports and Imports for the year 2022-23 are placed subsequently in respective sections.

(a) Private Final Consumption Expenditure (PFCE)

PFCE constitutes the largest component of GDP derived by the Expenditure approach. In the revised base year, the compilation methodology has been strengthened through estimation at a highly disaggregated level comprising 93 consumption item categories, classified according to the COICOP 2018.

In the revised base year, the adoption of more granular approach for estimation of PFCE, reduces reliance on broad commodity group assumptions, improves the representation of seasonal consumption patterns, and enhances consistency with the ANA. The revised CPI, compiled as per COICOP 2018 classification, provides price indices at detailed levels of aggregation, thereby facilitating more accurate deflation/inflation mechanism and representation of price indices at individual item level. The compilation of quarterly consumption distribution for majority of the items has been prepared based on the data from Household Consumption Expenditure Survey (HCES) of 2022–23 and 2023–24.

The principal data sources used for compiling quarterly PFCE estimates include the HCES, IIP, VAHAN data, Reserve Bank of India (RBI) statistics on imports and exports of services, production statistics from the Ministry of Agriculture and Farmers' Welfare and the Ministry of Fisheries, Animal Husbandry and Dairying, passenger km. and passenger revenue information from the Ministry of Railways, gas consumption data from the PPAC, supplemented by other relevant administrative and sector-specific data sources.

In case, where direct quarterly consumption indicators are not available, representative production indicators, administrative records or commodity-flow based indicators are employed. For selected service activities, quarterly estimates are compiled by preparing indicator using domestic output adjusted for imports and exports of services, thereby mirroring the methodology adopted in the ANA.

Compilation Methodology

i) Food and Non-alcoholic Beverages

PFCE for food and non-alcoholic beverages is compiled at a detailed commodity level in accordance with the COICOP 2018 classification. The HCES serves as the principal source for deriving the quarterly distribution of consumption for individual food items, including cereals, pulses, edible oils, fruits, vegetables, dairy products, processed food products and non-alcoholic beverages.

For the base year (2022–23), quarterly constant price estimates are majorly derived using the quarterly distribution of consumption quantities reported in the HCES. Quarterly current price estimates are obtained by applying the relevant CPIs to the constant price estimates. For certain items, like bread and bakery products, dairy products (excluding butter and ghee), refined sugar, sugar confectionery, ice cream, and non-alcoholic beverages, the distribution of consumption in value terms was more reasonable than the quantity figures. For these items, in the base year, quarterly current price estimates are first compiled using expenditure shares and deflated using the relevant CPI to derive constant price estimates.

For the extrapolated series, constant price estimates are compiled using representative indicators. For various processed food products, commodity-specific or weighted IIP are used; for major agricultural commodities, annual production estimates are used. The annual estimates are distributed across quarters using the base year quarterly distribution pattern derived from the HCES. For rice and wheat, adjustments are incorporated to account for Public Distribution System (PDS) off-take, thereby improving the measurement of household consumption. For the extrapolated series, current price estimates are obtained by inflating the constant price estimates with item-level or composite CPI.

For highly perishable commodities, including bananas, mangoes, green coconuts, meat, fish and seafood, milk, eggs and sugarcane for chewing, quarterly production statistics are used directly as consumption indicators for both interpolation and extrapolation. For livestock products, quarterly production estimates are derived by distributing season-wise production data using the methodology adopted for the Livestock sector under the Production approach.

ii) Alcoholic Beverages, Tobacco and Narcotics

PFCE for alcoholic beverages, tobacco and narcotics is compiled using HCES expenditure data to derive the quarterly distribution of current price estimates for the base year. The corresponding constant price estimates at base year are obtained by deflating current price estimates using the relevant Consumer Price Indices.

For the extrapolated series, constant price estimates are compiled using appropriate commodity-specific or weighted IIP, while current price estimates are derived by applying the corresponding CPI to the constant price estimates.

iii) Clothing and Footwear

Quarterly current price estimates for clothing and footwear are obtained using HCES expenditure data at the base year. Whereas, constant price estimates are obtained through deflation using the relevant CPI.

For subsequent years, quarterly constant price estimates are extrapolated using relevant NIC 2-digit IIP series, while current price estimates are obtained by inflation using the corresponding CPI.

iv) Housing, Water, Electricity, Gas and Other Fuels

PFCE for housing-related services is compiled separately for the major expenditure components. Actual and Imputed Rental payments made for housing; services for the maintenance, repair and security of the dwelling, and security equipment and materials for dwelling maintenance and repair are estimated using the GVO of the Ownership of Dwellings activity at current and constant prices.

For water supply, base year equal quarterisation at current prices is followed. Base year quarterly constant price estimates are obtained by deflating the current price estimates with suitable CPI; previous year growth is used for extrapolation at constant prices. For Extrapolated current price series, CPI (Water Charges) is used for inflating the constant price estimates.

For electricity, the base year quarterly split of PFCE is based on HCES, in the similar manner explained for clothing and footwear. IIP Electricity is used for extrapolation at constant prices.

For Liquefied Petroleum Gas (LPG) and other domestic fuels, quarterly consumption of LPG obtained from the PPAC is used as the volume indicator for constant price estimation, while current price estimates are derived using the corresponding CPIs.

v) Furnishings, Household Equipment and Routine Household Maintenance

Base year quarterly estimates of furniture and furnishings; carpets and other floor coverings; household textiles; household appliances; glassware, tableware and household utensils; tools and equipment for house and garden; and non-durable household goods are derived from HCES expenditure data and converted to constant prices using the relevant CPIs. Extrapolated constant price estimates are compiled using weighted IIP series corresponding to the individual product groups, while current price estimates are derived using the corresponding CPIs.

For domestic services and household services, quarterly indicators are based on the current and constant price GVA estimates of the Private Household with employed persons.

vi) Health and Social Protection

Quarterly base year estimates for medicines and health products are derived using HCES expenditure information. Constant price estimates for subsequent periods are extrapolated using weighted IIP.

For health services and social protection, quarterly current price estimates are based on the corresponding GVA estimates of the Health sector, adjusted for imports and exports of health services. Constant price estimates are obtained by deflating current price estimates using the health services related CPI.

vii) Transport

In the transport group, the items for estimation of quarterly PFCE are purchase of vehicles; parts and accessories for personal transport equipment; fuels and lubricants for personal transport equipment; maintenance and repair of personal transport equipment; and other services related to

personal transport equipment. Various transport services items are passenger transport by road, water, air and railways, other passenger transport services and transport services for goods.

PFCE for purchase of vehicles (including motor car, motor cycles, bicycles and animal drawn vehicles) at current prices is estimated using household vehicle (majorly cars and two-wheelers) sales (in Rs.) data received from Ministry of Road Transport and Highways (MoRTH). Whereas, for estimation of PFCE at constant prices, vehicle registration data from VAHAN database of MoRTH is used.

At constant prices, for estimation of PFCE in case of parts and accessories for personal transport equipment; fuels and lubricants for personal transport equipment; maintenance and repair of personal transport equipment; and other services related to personal transport equipment, an indicator based on stock+sales (in No.) of household vehicles is used. For derivation of vehicle stock, 15 years is assumed as the average lifespan of vehicles. Relevant CPI has been used in individual items to inflate the constant price estimates, for preparing indicator for current price estimates of PFCE.

Passenger transport by road and other passenger transport services, at constant prices, is estimated using stock+sales of passenger vehicles as indicator. Passenger vehicles include heavy, medium and light passenger vehicle categories comprising of bus, taxi, auto rickshaw, E-rickshaw and two wheelers. Here also, for derivation of vehicle stock, 15 years is assumed as the average lifespan of vehicles. Current price estimates are obtained based on suitable CPIs for these items.

For passenger transport by railways, respectively passenger km. information and passenger earnings are used as indicators at constant and current prices.

For passenger transport by air, current price estimates is prepared using an indicator based on GVA of Air Transport adjusted for import and export of this service. Constant price estimate is obtained by deflating the current price estimate with suitable CPI.

For passenger transport by sea and inland waterways, GVA estimates of Water Transport is used as indicator at both the constant and current prices.

For transport services for goods, at constant prices, the indicator is stock+sales of goods transport vehicles. This category majorly includes light, medium and heavy goods transporting vehicles, where stock is based on 15 years lifespan of vehicles. Nominal price estimation is based on inflation of constant price estimates with appropriate CPI.

viii) Information and Communication

Base year quarterly estimates for information and communication equipment are derived from the HCES expenditure information. Constant price estimates for subsequent periods are extrapolated using relevant IIP series, while current price estimates are obtained using the corresponding CPI.

For information and communication services, quarterly indicators are based on the current and constant price GVA estimates of the Telecommunication and Broadcasting-related activities.

ix) Recreation, Sports and Culture

Quarterly base year estimates for recreational and cultural goods are based on HCES expenditure data. Constant price estimates are extrapolated using suitable IIPs, while current price estimates are derived based on inflation using the corresponding CPIs.

For recreation services, quarterly current and constant price estimates are based on the corresponding GVA estimates of the Recreation Services activity.

x) Education

Quarterly current price estimates for education services are compiled using the corresponding GVA estimates of the Education sector, adjusted for imports and exports of education services. Constant price estimates are obtained through deflation using the CPI of Education.

xi) Restaurants and Accommodation Services

Quarterly PFCE estimates for restaurants and accommodation services are derived directly from the corresponding current and constant price GVA estimates of the Hotels and Restaurants sector.

xii) Insurance and Banking Services

PFCE for insurance and banking services is compiled using the corresponding current and constant price GVA estimates of the Insurance and Banking services sectors as quarterly indicators.

xiii) Personal Care and Miscellaneous Goods and Services

For personal care, personal effects related goods including personal services (washing, hairdressing, custom tailoring, beauty treatment etc.), the indicator used is GVA estimates of Personal Care Services at current prices. Composite CPIs of personal care and personal effects are used for deflating the current price estimates.

For legal services and business services (including minor share of religious and funeral related services), respectively current and constant price GVA estimates of Legal and Business services are used as proxy indicators for current and constant price PFCE estimates.

The current prices quarterly estimates of Private Final Consumption Expenditure for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.18**.

Table 28.18 Estimates in respect of Private Final Consumption Expenditure for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

(in Rs. Crore)

Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	38,71,639	34,12,551	-11.9
2022-23 Q2	40,78,089	34,24,146	-16.0
2022-23 Q3	44,19,805	40,43,168	-8.5
2022-23 Q4	41,58,329	40,58,987	-2.4
FY 2022-23	1,65,27,862	1,49,38,852	-9.6

(b) Government Final Consumption Expenditure (GFCE)

GFCE comprises the expenditure incurred by General Government units on the production of non-market goods and services for individual and collective consumption, together with expenditures on goods and services provided to households as social transfers in kind.

Current Price Estimates

The revised base year (2022–23) introduces a more disaggregated compilation framework for quarterly GFCE at current prices by employing separate high-frequency indicators for various components. This approach improves the representation of quarterly expenditure patterns and improves consistency with the ANA.

Compensation of Employees, which constitutes the largest component of GFCE, accounting for approximately two-thirds of total expenditure, is estimated using administrative information on salaries & wages. For the Central Government including UTs without legislature, quarterly indicators are derived from the PFMS data. Monthly accounts information of various States and UTs with legislature is sourced from Comptroller and Auditor General of India (CAG), providing the salaries & wages information of these States and UTs.

For other major components of GFCE, including net purchase of goods and services and CFC, in the absence of suitable quarterly indicators, quarterly estimates are extrapolated using the annual growth observed in the annual benchmark estimate of the preceding year.

The ownership of dwellings component relating to employer-provided housing is compiled using the corresponding quarterly indicator adopted under the production approach for the Public Administration and Defence sector.

A key methodological improvement in the revised series relates to the treatment of food subsidy. Following the reclassification of the Food Corporation of India (FCI) from a market producer to a non-market producer, food subsidy is recorded as a social transfer in kind and consequently forms part of GFCE rather than product subsidies. Quarterly current price estimates of this component are compiled using information on food subsidy expenditure sourced from Controller General of Accounts (CGA).

Constant Price Estimates

Quarterly GFCE at constant prices is compiled by applying appropriate price deflators for CE, net purchase of goods and services, and ownership of dwellings components; and volume indicator is used for food subsidy component.

Constant price estimates of CE are obtained by deflating the corresponding current price estimates using the CPI for Industrial Workers [CPI (IW)], which serves as the proxy measure of changes in labour costs/wages in real terms.

For net purchase of goods and services, constant price estimates are derived by deflating current price estimates using a composite price index constructed from relevant CPI and PPIs, thereby reflecting the price movements of goods and services purchased by General Government units.

The ownership of dwellings component relating to employer-provided housing is similarly converted to constant prices by deflating the current price estimates using CPI (IW).

For food subsidy, constant price estimates are compiled using the volume extrapolation approach using food-grain offtake information. The quarterly growth in food-grain offtake under the National Food Security Act (NFSA), reflects distribution through the Targeted Public Distribution System (TPDS) and other major food security programmes, including Integrated Child Development Services (ICDS), PM POSHAN, and PMGKAY. Volume of foodgrain distributed provides a direct measure of the quantity of goods transferred to households, this indicator therefore appropriately captures the real movement in social transfers in kind of food-grains.

The current prices quarterly estimates of Government Final Consumption Expenditure for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.19**.

Table 28.19 Estimates in respect of Government Final Consumption Expenditure for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	7,02,433	7,05,428	0.4
2022-23 Q2	5,75,131	7,32,960	27.4
2022-23 Q3	6,07,379	7,02,463	15.7
2022-23 Q4	8,72,685	7,93,209	-9.1
FY 2022-23	27,57,628	29,34,060	6.4

(c) Gross Fixed Capital Formation (GFCF)

Quarterly estimates of GFCF in the revised base year are compiled by type of asset, broadly aligned with the methodology adopted for the ANA. The asset-based compilation framework is also recommended in the IMF Quarterly National Accounts Manual (2017) as it facilitates the use of asset-specific volume and price indicators, thus improves the measurement of capital formation, and strengthens the economic interpretation of investment trends across assets. Quarterly estimates are compiled separately at current and constant prices for the following asset categories:

- Dwellings, Other Buildings and Structures;
- Machinery and Equipment;
- Cultivated Biological Resources; and
- Intellectual Property Products.

i) Dwellings, Other Buildings and Structures

Construction activity provides the principal indicator for fixed capital formation in residential buildings, non-residential buildings and other structures. Accordingly, quarterly GFCF for this

asset category is compiled using the GVO of the Construction sector as the indicator. Current price GVO is used to derive current price GFCF, while constant price GVO serves as the indicator for constant price GFCF estimates.

ii) Machinery and Equipment

Quarterly estimates of GFCF for machinery and equipment at current prices are compiled using the commodity flow approach, consistent with the methodology adopted in the ANA. Under this approach, capital formation is estimated by combining information on domestic production of capital goods, imports, exports, product taxes, import duties, and trade and transport margins.

Domestic production of capital goods is estimated using appropriate IIP inflated by corresponding PPIs. Separate indicators are employed for the different asset categories to improve the measurement of investment by type of machinery and equipment:

- **Transport Equipment:** IIP for manufacture of other transport equipment, inflated with the PPI for manufacture of other transport equipment
- **Information and Communication Technology (ICT) Equipment:** IIP for manufacture of computer, electronic and optical products, inflated with the PPIs for manufacture of computer and peripheral equipment, and communication equipment
- **Other Machinery and Equipment:** IIP for manufacture of machinery and equipment, inflated with PPIs for manufacture of electrical equipment, and machinery and equipment.

Imports and Exports of capital goods are compiled using merchandise trade statistics from the Directorate General of Commercial Intelligence and Statistics (DGCIS), identifying appropriate items in respective asset categories. Product taxes and import duties are estimated by applying the applicable effective tax rates to domestic production and imports, respectively. TTM is derived through apportioning combined value of domestic production and import of capital goods using the share of TTM in the annual benchmark.

Quarterly constant price estimates are obtained by deflating the current price estimates for each asset categories using the corresponding PPIs, thereby ensuring that the volume measures reflect changes in the quantity of capital goods acquired.

For machinery and equipment acquired by Defence establishments, which accounts for approximately 2 per cent share of total machinery and equipment GFCF and less than 1 per cent of total GFCF, suitable quarterly indicators are not available. Consequently, both current and constant price estimates are extrapolated using the annual growth observed in the benchmark estimate of the previous year.

iii) Cultivated Biological Resources

Cultivated Biological Resources comprise animal resources, and tree, crop and plant resources yielding repeat products. As this asset category accounts for a relatively small share of total GFCF (approximately 0.2 per cent), and suitable quarterly source indicators are being unavailable,

quarterly estimates at both current and constant prices are extrapolated using the annual growth observed in the benchmark estimate of the preceding year.

iv) Intellectual Property Products

Intellectual Property Products (IPPs) comprise assets such as research and development; computer software and databases; mineral exploration and evaluation; entertainment, literary or artistic originals; and other IPPs.

For research and development, and computer software and databases, GVA estimates of the respective industries pertaining to organized segment, is used as indicator of GFCF at current prices. For computer software and databases, the GVA estimates is adjusted for exports and imports of computer software and databases (based on data from Balance of Payment Statistics compiled by RBI) to arrive at computer software and databases available in the economy for capital formation.

For the remaining IPP components, which together account for approximately 0.6 per cent of total GFCF, suitable high-frequency source data are not available. Accordingly, current price estimates are extrapolated using the annual growth observed in the benchmark estimate of the previous year.

Quarterly constant price estimates of Intellectual Property Products are obtained by deflating the corresponding current price estimates using appropriate CPI, consistent with the deflation strategy adopted in the ANA, as per the details in **Table 28.20**.

Table 28.20: Deflators for Intellectual Property Products

Intellectual Property Product	Principal Deflator
Research and Development	CPI for Industrial Workers [CPI (IW)]
Computer Software and Databases	CPI (Urban)
Mineral Exploration and Evaluation	CPI (General)
Entertainment, Literary and Artistic Originals	CPI for Recreation Services
Other Intellectual Property Products	CPI (Urban)

The current prices quarterly estimates of Gross Fixed Capital Formation (GFCF) for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.21**.

Table 28.21 Estimates in respect of Gross Fixed Capital Formation (GFCF) for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

(in Rs. Crore)

Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	20,68,612	20,19,070	-2.4
2022-23 Q2	19,96,753	20,59,041	3.1
2022-23 Q3	20,00,687	21,19,067	5.9
2022-23 Q4	23,29,986	22,55,777	-3.2
FY 2022-23	83,96,038	84,52,955	0.7

(d) Changes in Stock (CIS)

Quarterly estimates of CIS in the revised base year are compiled using industry-wise commodity flow framework. The methodology derives quarterly indicators of CIS by subtracting major Expenditure components from Production-side estimates, associated with the corresponding industries. This framework is conceptually equivalent to applying a residual approach for the estimation of inventories.

However, it is important to note that CIS are not used as a balancing item to eliminate statistical discrepancies between the Production and Expenditure approaches of GDP. Rather, the quarterly movement in inventories reflects the difference between the estimated supply of goods and their identified uses. Quarterly estimates are compiled separately for the following broad industries:

- Agriculture and Allied
- Mining and Quarrying
- Electricity, Gas, Water Supply and Remediation Services
- Manufacturing
- Construction
- Trade and Repair Services, Hotels and Restaurants
- Transport, Storage, Communication and Services Related to Broadcasting
- Financial Services
- Real Estate, Information Technology, Professional Services and Ownership of Dwellings
- Public Administration and Defence
- Other Services

The same conceptual framework is applied for the compilation of both current price and constant price estimates, thereby ensuring consistency in estimation between the nominal and real measures of quarterly inventories.

The current prices quarterly estimates of Changes in Stocks (CIS) for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.22**.

Table 28.22 Estimates in respect of Changes in Stocks (CIS) for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	74,004	44,425	-40.0
2022-23 Q2	72,052	34,892	-51.6
2022-23 Q3	69,676	45,128	-35.2
2022-23 Q4	84,118	49,676	-40.9
FY 2022-23	2,99,851	1,74,121	-41.9

(e) Valuables

Quarterly estimates of acquisitions less disposals of Valuables at current prices are compiled using information on net imports of precious commodities, including gold, silver, diamonds and other valuable articles. Given that a substantial proportion of Valuables is sourced through international trade, movements in net imports provide an appropriate short-term indicator for quarterly estimation of Valuables at current prices.

In the previous series, current price estimates were deflated using the WPI for gold and silver. In the revised series with base year 2022–23, quarterly current price estimates are deflated using a composite CPI covering gold, diamond and platinum jewellery; silver jewellery; jewels, pearls and precious stones; and other jewellery and ornaments. This revised deflation strategy is also consistent with the practice adopted in the ANA in the new base year and provides a more representative measure of the price movements associated with acquisitions less disposals of Valuables.

The current prices quarterly estimates of Valuables for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.23**.

Table 28.23 Estimates in respect of Valuables for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	51,834	1,00,871	94.6
2022-23 Q2	1,63,284	1,16,135	-28.9
2022-23 Q3	70,032	79,914	14.1
2022-23 Q4	59,339	63,748	7.4
FY 2022-23	3,44,489	3,60,668	4.7

(f) Exports and Imports of Goods and Services

Current Price Estimates

Quarterly estimates of Exports and Imports of Goods and Services at current prices are compiled using merchandise data from the Ministry of Commerce and Industry and services data from the RBI. Goods trade primarily from DGCIS (Directorate General of Commercial Intelligence and Statistics), Ministry of Commerce is aligned to the BPM6 framework by including net exports of goods under merchanting and reconciled with RBI's Balance of Payments compilation.

As per SNA recommendations, the Exports and Imports have to be recorded in FoB (Free-on-Board) values. But Imports of goods are reported at CIF (Cost, Insurance, Freight) which includes cost for freight and insurance. Hence, the adjustment for CIF has been made in order to ensure consistency with the valuation of Exports.

Constant Prices Estimates

The revised series introduces more granular deflation framework for deriving constant price estimates of Exports and Imports, consistent with the methodology adopted in the ANA. Instead

of relying on aggregate Unit Value Indices, commodity and service specific deflators are employed to better capture the price movements across goods and services.

For Goods, information of Principal Commodity wise Export and Imports, and UVIs on Exports and Imports with base year 2022-23, is obtained from the Ministry of Commerce and Industry. For Services, detailed Balance of Payments (BoP) statistics published by the RBI, which provides disaggregated information on Exports and Imports of individual service categories, is deflated.

Exports of Goods: Current price Exports of goods are deflated using IPD derived based on principal commodity-wise Export of Goods and corresponding UVIs. The total principal commodity-wise Export at current prices divided by the total principal commodity-wise deflated Export, is used to arrive at IPD for Export of goods.

Imports of Goods: Similarly, current price Imports of goods are converted to constant prices using IPD derived based on principal commodity-wise Import of Goods and corresponding UVIs.

Exports of Services: Constant price estimates of Exports of services are derived by deflating current price Exports using the IPD of the corresponding domestic service producing industries. Deflation is carried out at a disaggregated service category level to ensure that the volume estimates appropriately reflect the price dynamics of individual service activities. For Service-wise IPD for Export of services, Table 24.1, as followed in ANA is adopted.

Imports of Services: For Imports of services also, granular deflation strategy is adopted. For the major service categories, namely transport; travel (business, education, health, personal, others); telecommunications, computer and information services, and other business services, current price estimates are deflated using appropriate Service Producer Price Indices (SPPIs) of major trading partner countries, the corresponding price indices of major trading partner economies adjusted for exchange rate fluctuations. In some of the trading partner countries, where Service PPIs were not available or published, related IPD has been used. For the remaining services categories, IPDs of the corresponding domestic service producing industries has been used.

The current prices quarterly estimates of Exports and Imports for the year 2022-23 as per the 2011-12 series and 2022-23 series are given at **Table 28.24** and **Table 28.25**, respectively.

Table 28.24 Estimates in respect of Exports for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	15,28,756	15,35,179	0.4
2022-23 Q2	15,24,345	15,30,750	0.4
2022-23 Q3	15,47,370	15,53,872	0.4
2022-23 Q4	16,51,979	16,58,921	0.4
FY 2022-23	62,52,449	62,78,722	0.4

Table 28.25 Estimates in respect of Imports for the year 2022-23 as per the 2011-12 series and 2022-23 series at Current prices

<i>(in Rs. Crore)</i>			
Quarters	2011-12 series	2022-23 series	% difference
2022-23 Q1	17,71,718	17,07,551	-3.6
2022-23 Q2	18,70,032	18,04,977	-3.5
2022-23 Q3	18,11,479	17,49,436	-3.4
2022-23 Q4	17,59,798	17,00,412	-3.4
FY 2022-23	72,13,027	69,62,377	-3.5

28.1.5.4 Economic Activity/ Expenditure Component-wise list of Indicators used in QNA

The detailed methodology as described above for compiling constant and current price Estimates of Quarterly GDP, already covers the sector-wise indicators and price measures used in the estimation along with their sources. However, for ease of understanding by users, the indicators and price measure used in the estimation for major sectors/sub-sector and Expenditure components are summarized in **Annexure-VII**.

28.2 Advance Estimates and Provisional Estimates of GDP

28.2.1 Introduction

In order to meet the growing demand for timely macroeconomic statistics, the National Accounts Division (NAD) compiles and disseminates annual estimates of GDP at successive stages of compilation. These comprise the First Advance Estimates (FAE), Second Advance Estimates (SAE), Provisional Estimates (PE), First Revised Estimates (FRE), and Final Estimates (FE). The release of estimates at different stages enables users to obtain an early assessment of the performance of the economy while ensuring that the estimates are progressively refined as more comprehensive source data become available.

The methodology adopted for the compilation of QNA, including the concepts, definitions, classifications, data sources and estimation procedures, has been described in the section **28.1**. The quarterly estimates constitute the basis for the compilation of the Annual Advance Estimates and Provisional Estimates.

The Advance Estimates provide an assessment of the likely level of GDP and its constituent aggregates before the completion of the financial year and serve as important inputs for fiscal policy, budget formulation and macroeconomic analysis. The Provisional Estimates, released after the end of the financial year, represent the first Annual estimates based on aggregating the quarterly estimates compiled for all four quarters of the financial year.

28.2.2 Compilation Framework

The Advance Estimates and Provisional Estimates are compiled within the framework of the SNA 2008 and follow the same concepts, definitions, classifications and accounting principles as those adopted for the Quarterly National Accounts and the Annual National Accounts.

The compilation of Annual estimates is closely integrated with the quarterly compilation system. Quarterly estimates of GVA, GDP and Expenditure components are first prepared using the

Benchmark-Indicator approach described in the previous chapter. The Annual estimates are subsequently obtained by aggregating the quarterly estimates for the four quarters of the financial year. Consequently, any revision in the quarterly estimates is appropriately reflected in the corresponding annual estimates.

28.2.3 First Advance Estimates (FAE)

28.2.3.1 Purpose

The FAE provide the earliest assessment of the likely annual performance of the economy for the current financial year. They are released in January of the current financial year, before the completion of the financial year.

At this stage, complete information for the entire financial year is not available. The estimates therefore necessarily involve a combination of observed information and projections for the unobserved period.

The primary objective of the FAE is to provide a timely and analytically useful estimate of the likely level and growth of GDP and its major components based on the best information available at that point in time.

28.2.3.2 Availability of Source Data

At the time of compilation of the FAE, quarterly indicators are generally available up to the second quarter of the financial year, while monthly indicators may be available for approximately seven to eight months.

Thus, the information available for the first part of the year is relatively more comprehensive, whereas information relating to the remaining period is incomplete or unavailable. The estimation procedure consequently involves projecting the relevant indicators for the unobserved portion of the financial year. Essentially, the source data are same as those exhausted for compilation of quarterly estimates

28.2.3.3 Projection of Indicators

Projection of indicators is an important feature distinguishing Advance Estimates from Provisional Estimates. The projections are not necessarily based on a single uniform assumption for all sectors. Rather, sector-specific approaches are followed, considering the characteristics of the respective economic activity and the nature of the available indicators.

The approach of projection based on source data, differs across sectors depending upon:

- The Nature and Frequency of the underlying source data
- The Availability and Timeliness of administrative records
- The relationship between the indicator and the corresponding economic activity
- The Historical Behaviour of the indicator
- Seasonal patterns in the activity.

The projections are based on the latest information available from administrative records, high-frequency indicators, historical trends, seasonal patterns and other relevant information received

from the respective source agencies. Wherever advance information is available from the concerned administrative Ministry or agency, such information is given due consideration. For instance, the Ministry of Agriculture & Farmers' Welfare provides Advance Estimates of Crop Production based on information such as Area Sown reported by States, expected Yield Rates, Remote Sensing Inputs and other relevant information. These advance estimates are used in estimating the output of the Crop sub-sector under Agriculture and Allied activities.

For Taxes and Subsidies, projections are primarily based on the latest available budgetary and administrative information on tax collections and subsidy expenditure. For other indicators, such as the IIP, CPI, PPI and other high-frequency indicators, where information for the complete reference period is not available, the indicator for the unobserved period is estimated using the growth pattern observed in the available period, supplemented, wherever appropriate, by historical trends and seasonal behaviour. The specific projection methodology may therefore vary across sectors and indicators, depending upon the nature of the activity and the information available.

The objective is to arrive at the most reasonable assessment of economic activity for the period for which complete observations are not yet available.

28.2.3.4 Compilation of FAE

The observed indicators for the available period and projected indicators for the remaining period are used to compile quarterly estimates for the full financial year, following the methodology prescribed for the Quarterly National Accounts. The annual First Advance Estimate is then obtained by aggregating the estimates for all four quarters.

Thus, in simplified form:

Observed Indicators + Projected Indicators → Quarterly estimates for Four quarters → Annual First Advance Estimate

The FAE should therefore be interpreted as an early assessment based on the best information available at the time of release, rather than as a complete Annual estimate based on finalized information.

28.2.4 Second Advance Estimates (SAE)

The Second Advance Estimates are released in February and provide an updated assessment of the annual performance of the economy.

At this stage, quarterly indicators are generally available up to the Third quarter (Q3) of the financial year, while few monthly indicators are available upto ten months. The additional information received after the release of the First Advance Estimates is incorporated into the compilation process, thereby reducing the extent of projection required for the remaining period. Besides, SAE is based on the updated benchmark estimates for previous FYs.

The indicators for the unobserved period continue to be projected using sector-specific methodologies depending upon the availability and characteristics of the source data. These projections are based on the latest information available from source agencies and other relevant high-frequency indicators.

The quarterly estimates are revised using the updated indicators, and the annual Second Advance Estimates are obtained by aggregating the quarterly estimates for the four quarters of the financial year.

28.2.5 Provisional Estimates (PE)

The Provisional Estimates are released after the completion of the financial year and constitute the first Annual estimates, based entirely on the quarterly estimates compiled for all four quarters.

Unlike the Advance Estimates, projection of indicators are not required at this stage, as quarterly estimates are available for the entire financial year. The annual Provisional Estimates are therefore obtained by summing the quarterly estimates of Gross Value Added, Gross Domestic Product and the Expenditure aggregates for the four quarters.

The Provisional Estimates are fully consistent with the methodologies adopted for Quarterly National Accounts and provide the first comprehensive annual assessment of the economy after the end of the financial year.

28.2.6 Revisions to Annual Estimates

The compilation of annual national accounts is a sequential process in which estimates are progressively refined as comprehensive source data become available. Accordingly, the Provisional Estimates are subsequently revised through the First Revised Estimates, and Final Estimates.

The revisions primarily arise from the replacement of provisional information by finalized annual data received from various source agencies, including Annual Financial Statements, Audited Accounts of Enterprises, finalized Government Finance Statistics, Annual Survey results, Revised Administrative Records and other administrative information.

The revision process is an integral feature of the National Accounts compilation system and reflects the progressive availability of more complete and reliable information rather than changes in the underlying conceptual framework.

28.2.7 Limitations

Advance Estimates are based on limited information available for a financial year and therefore involve a degree of uncertainty. The robustness of the projections is dependent upon the quality and timeliness of available indicators and assumptions regarding the remaining period of the financial year.

Consequently, differences between Advance Estimates and subsequent Revised estimates are expected. Initial figures prioritize timeliness for decision-makers, while subsequent revisions prioritize exhaustive coverage and structural accuracy.

CHAPTER 29

REGIONAL ACCOUNTS

29.1 Coverage

Regional Accounts provide estimates of the economic performance of States and Union Territories (UTs) by measuring the value of goods and services produced within their geographical boundaries. The estimates primarily comprise Gross State Value Added (GSVA), Gross State Domestic Product (GSDP), Net State Domestic Product (NSDP) and Per Capita Income (PCI). These estimates facilitate inter-state comparisons, policy formulation, planning and monitoring of economic development. The estimation framework follows the System of National Accounts (SNA 2008) and is aligned with national accounts practices to ensure consistency and comparability.

The compilation of Regional Accounts covers:

- A) Institutional sectors:
 - (i) Non-Financial Private Corporations (NFPC)
 - (ii) Financial Corporations
 - (iii) General Government
 - (iv) Household Sector (including Quasi-Corporations and NPISH)

- B) Eleven broad industries classified according to the National Industrial Classification, 2008:
 - (i) Agriculture & Allied Activities
 - (ii) Mining & Quarrying
 - (iii) Manufacturing
 - (iv) Electricity, Gas, Water Supply & Other Utility Services
 - (v) Construction
 - (vi) Trade, Repair, Hotels & Restaurants
 - (vii) Transport, Storage, Communication & Services related to Broadcasting
 - (viii) Financial Services
 - (ix) Real Estate, Ownership of Dwellings & Professional Services
 - (x) Public Administration & Defence
 - (xi) Other Services

GSVA is primarily compiled using the production approach, while the income approach is applied wherever appropriate, particularly for Government-related activities.

29.2 Concepts and Definitions

29.2.1 Gross State Value Added (GSVA)

Gross State Value Added (GSVA) is a key macroeconomic indicator that measures the economic performance of States and Union Territories by capturing the value of goods and services produced within their respective geographical boundaries.

29.2.2 Gross State Domestic Product (GSDP)

GSDP represents the aggregate value of all economic activities within a State after adding taxes on products and deducting subsidies on products.

$$\text{GSDP} = \Sigma \text{GSVA} + \text{Taxes on Products} - \text{Subsidies on Products} \dots\dots\dots(29.1)$$

29.2.3 Net State Domestic Product (NSDP)

NSDP is obtained by deducting Consumption of Fixed Capital (CFC) from GSDP.

$$\text{NSDP} = \text{GSDP} - \text{CFC} \dots\dots\dots(29.2)$$

29.2.4 Per Capita Income (PCI)

Per Capita Income measures average income available per person.

$$\text{PCI} = \text{NSDP} / \text{Mid-year Projected Population} \dots\dots\dots(29.3)$$

29.3 Methods for Estimation of Regional Accounts

The estimates of GSVA and State Income are compiled using the income originating approach. The income originating approach measures total value added by production of goods and services within a region's boundaries. It represents the net value of goods and services produced within the region, irrespective of whether income generated from such production activity is ultimately received by residents within or outside the State.

There are three methods that are used for the estimation of Regional Accounts according to their suitability and data availability.

29.3.1 Top-Down Approach

In the top-down approach, national level aggregates are first estimated and then distributed among States using suitable indicators. This method can be used when State-level estimates are not directly available. It ensures consistency with higher-level estimates but may not fully capture local variations.

29.3.2 Bottom-Up Approach

The bottom-up approach involves direct estimation at the state level by collecting data from households, enterprises/establishments and administrative records within each state. State estimates are then aggregated to obtain national level estimates. This approach better reflects local economic conditions but requires detailed and reliable state level data.

29.3.3 Mixed Approach

The bottom-up method is rarely encountered in its pure form. There are always gaps in the data, which have to be filled using a top-down approach.

GSVA estimates are generally compiled through a mixed approach, combining direct State-level estimation using bottom-up approach primarily in Agriculture and Mining (specifically in case of GSVA estimation of Minor Minerals) and allocation of higher-level estimates using top-down approach in case of remaining sectors of the economy wherever State-level information is not available.

The detailed institutional sector and industry-wise methodology for compilation of GSVA Estimates at current and constant price is available in the publication “*Revised Guideline for Compilation of the Gross State Value Added (GSVA) in the New Base (2022–23)*” (published by MoSPI in September 2026) on the MoSPI website.

29.4 Estimation Framework

Industry-wise estimates are compiled for each institutional sector and their compilation methodology for institutional sector remains the same across industries except for the Household Sector. In case of the Household Sector, estimates for Agriculture, Construction & Ownership of Dwellings industries are compiled following a methodology which is different from the one used in other industries.

29.4.1 Compilation Methodology for Institutional Sectors

A) General Government Sector and Public Corporations (Departmental Enterprises and Non-Departmental Enterprises)

A.1 General Government Sector

The General Government sector comprises the Central Government, State Governments, Local Bodies and Autonomous Institutions. Net value added in respect of state governments, local bodies and state autonomous institutions for the respective states are estimated directly following the income approach. Drawing and Disbursing Office (DDO) code-wise (location based) Public Financial Management System (PFMS) data in respect of each object head from the office of Comptroller General of Accounts (CGA) is used for compilation of State-wise net value added from central government following income approach.

A.2 Departmental Enterprises (DE)

There are two categories of DEs: Central Departmental Enterprises and State Departmental Enterprises. For Central DEs, the Net Value Added (NVA) is allocated to the States/UTs using DDO code location-wise data available from the Public Financial Management System (PFMS). The GVA of State DEs is assigned entirely to the respective State/UT in which the enterprise is located. The methodology for the estimation and allocation of GVA of Departmental Enterprises is uniform across all industries covered under DEs. Wherever any industry-specific variation or deviation from the common methodology arises, the same has been separately indicated in the respective industry-wise section.

A.3 Non-Departmental Enterprises (NDE)

All-India Estimates of NDEs are generated using the financial statements of the NDEs following the production approach. Contribution of a State NDE is directly allocated to state concerned. In case of Central NDE, Compensation to Employees (CE) and 'GVA *minus* CE' is distributed among concerned states (in which they are operating) on the basis of number of employees and asset respectively, which are available in the Public Enterprises Survey report published annually by Department of Public Enterprises. However, there is a slight variation in the methodology for allocation of all India estimates among states in case of Electricity, Gas and Construction industry, details of which are given in respective chapters for the industry.

B) Non-Financial Private Corporate (NFPC) Sector

All-India estimates for different industries in respect of the NFPC sector are compiled using production approach. Data of this institutional sector is obtained from MCA-21 database of Ministry of Corporate Affairs, Govt. of India. The All-India estimates are then allocated among states using state-wise ratio of outward supply from GST data across industries except Water Transport, Mining & Quarrying and Manufacturing. All India estimates for **Construction** pertaining to NFPC sector are allocated on the basis of state-wise ratios of outward supplies/taxable values of all the construction related items. In case of the **Water Transport**, the **State-wise share in cargo handled at major and minor ports** is used as the indicator for allocating GVA among the States.

For the manufacturing sector, all-India estimates of GVA are compiled using the production approach and allocated to states on the basis of state-wise value added in manufacturing from Annual Survey of Industries (ASI).

For ASI non- corporate Sector, state-wise estimates of GVA are directly obtained from ASI (Factories covered under ASI but are not corporations). For the year when ASI results are not available, estimates of the preceding year are extrapolated using Index of Industrial Production (IIP) and Output Producer Price Index (OPPI) as per availability.

For the mining & quarrying sector, methodology has been described at para 29.4.2.2.

C) Households including Cooperatives, Quasi-Corporations and Non-Profit Institutions Serving Household (NPISH) (Except Agriculture, Construction and Ownership of Dwellings)

All-India GVA estimates in respect of unincorporated segment of manufacturing and services sectors are compiled following Labour Input (LI) method, using GVA per worker (GVAPW) from ASUSE and workforce estimates from Periodic Labour Force Survey (PLFS) after adjusting with projected population (based on the Report of M/o Health & Family Welfare). All India GVA is then allocated across states using industry-wise and state-wise share of GVA from ASUSE.

For household sector of certain non-financial services viz. Water Transport, Services incidental to transport (SIT), Storage and Warehousing, different methodology has been adopted for allocation of national GVA of household sector across states. Details given as follows:

Water Transport: State-wise share of navigable length of waterways is used for allocation of national level GVA among States/UTs.

Services Incidental to Transport: State-wise GVA is estimated by allocating the national GVA to the States/UTs based on the combined state-wise share of unincorporated GVA from road and water Transport.

Storage and Warehousing: State-wise GVA is estimated by allocating the national GVA of unincorporated sector to the States/UTs based on the state-wise GVA shares derived from Non-Departmental Enterprises (NDE) and Private Corporate (PC) sectors.

29.4.2 GSVA Compilation Methodology for industries

29.4.2.1 Agriculture and Allied:

In the Agriculture and Allied Sector, a **bottom-up approach** is adopted for the estimation of GVA for States/UTs. For a detailed description of the concepts, data sources, coverage, and estimation methodology, Chapter 9 on Agriculture, Chapter 10 on Forestry & Logging and Chapter 11 on Fisheries may be referred.

29.4.2.2 Mining and Quarrying:

For estimating the value of output, the mining and quarrying sector is divided into two broad groups viz., Major Minerals and Minor Minerals. The major minerals cover fuel minerals consisting of coal, lignite, petroleum & natural gas and other major minerals i.e. metallic minerals including atomic minerals and non-metallic minerals. Minor minerals consist of materials such as marble, slate, shale, sand etc.

Gross State Value Added (GSVA) for the Mining & Quarrying sector is compiled separately for the Public Corporations (Non-Departmental Enterprises), the Private Corporate Sector, and the Household Sector, following respective institutional sector approach. Table 29.1 shows the GSVA Estimation Methodology for Mining and Quarrying by institutional sectors.

Table 29.1 GSVA Estimation Methodology for Mining & Quarrying

Minerals	Institutional Sectors		
	PC	NDE	Household
Coal	State-wise value of Production of Coal in private sector is obtained from Coal Directory of Office of Coal controller is used for allocation of GVA of Coal Mining among the States/UTs.	As mentioned in Para A.3	-
Petroleum & Natural Gas	State-wise value of Production of Crude oil in Private Sector provided by M/o Petroleum and Natural Gas is used for allocation of All India GVA estimates Crude Petroleum and Natural Gas among States/UTs.	As mentioned in Para A.3	-
Metallic and Non-metallic Minerals	Distributed as per State-wise mineral-wise production data from Indian Bureau of Mines (IBM).	(i) Annual Reports of Companies (ii) State-wise, mineral-wise production and input rates provided by the Indian Bureau of Mines (IBM)	-
Salt Evaporated	State-wise production and prices data for output from State/UT Directorates of Economics and Statistics (DEs) and the Indian Salt Manufacturers' Association (ISMA). Intermediate consumption is estimated by applying State-wise input-output ratios derived from the Annual Survey of Industries (ASI). GVA is estimated as the difference between Output and Intermediate Consumption (IC).	-	-
Sand	-	-	(i) Value of output is derived using the NSS Pilot Survey on Construction and the ratios from the study commissioned by MoSPI and carried out by the Central Building Research Institute (CBRI)

Minerals	Institutional Sectors		
	PC	NDE	Household
			Conducted in 2021-22. (ii) GVA allocated to the States on the basis of GVA estimates from the value of production (GVO) of sand received from the States and by applying the average input rate of major non-metallic minerals.
Minor Minerals other than sand	-	-	GSVA is estimated using the state-wise Output from State Geological Departments and average input rate of major metallic minerals from IBM

29.4.2.3 Manufacturing

The methodology for compilation of current price estimates for respective institutional sector is already discussed in para 29.4.1, as applicable.

29.4.2.4 Electricity, Gas, Water Supply and Other Utility Services

GSVA estimates for Electricity, Gas, Water Supply and Remediation (EGWR) are compiled institution-wise, covering State Administrative Departments/Departmental Enterprises, Non-Departmental Enterprises, Private Corporations, ASI Non-Corporate and Household Sector, as applicable to the respective activity. The detailed institution-wise methodology is provided in para 29.4.1, as applicable.

In case of Own Account Electricity production by households, State-wise consumption of electricity data from HCES on own-account electricity consumption has been used for estimation of GVA in base year and for the years when the HCES results are available. In subsequent years, the State-wise allocation of all India estimates has been done based on state-wise share in installed capacity reported under Off-Grid Solar Schemes (KUSUM) and PM Surya Ghar Yojana.

In case of Gas, the household sector comprises of biogas production. The estimates of biogas production are compiled using data available from the Ministry of New and Renewable Energy, Khadi & Village Industries Commission (KVIC), M/o Rural Development, D/o Drinking Water & Sanitation. The estimates of GVA in respect of Biogas are prepared on the basis of value of

production per plant (estimated on the basis of data provided by KVIC) multiplied by total number of plants and by applying GVA to GVO ratio (provided by KVIC).

29.4.2.5 Construction

The estimates of Gross Value of Output (GVO) from construction are prepared separately for the following institutional sectors:

Public Sector, comprising Central Government, State Governments, Local Bodies, Departmental Enterprises, Non-Departmental Enterprises: For General Government and DE, estimates of GVA at current prices are compiled using income approach. DDO code location-wise PFMS data has been used for State-wise allocation of NVA of Central Government and Central DEs. NVA of State Governments and DEs are assigned to the respective States. CFC estimated using Perpetual Inventory Method (PIM) is added to NVA in order to arrive at GVA.

In case of NDE, estimates of State Non-Departmental Enterprises (NDEs) are assigned directly to the respective States, while estimates of Central NDEs are allocated using State-wise information on the number of employees and gross block from the Public Enterprise Survey. For NHAI, the estimates are allocated using State-wise length of highways awarded under PPP and EPC projects in a year.

Household Sector: The methodology for the compilation of state-wise GVA from construction under Unincorporated Sector is as follows. The GVA from Construction comprises of the following components: i) Dwellings, Other Buildings & Structures (DOBS) ii) Construction attributed to plantations iii) Mineral explorations. GVA of Dwellings, Other Buildings & Structures (including repair and maintenance of these assets) is measured the commodity flow approach. In addition to the estimates of Dwellings, Buildings and Other Structures, expenditure on construction activity in plantations and mineral explorations is separately estimated and included in GVA from construction. The GVA of unincorporated sector is derived as residual in the commodity flow approach at national level is further bifurcated into Rural Residential buildings (RRB), Urban Residential Buildings (URB), Non-Residential Buildings and Other Construction Works (NRBOCW) and other households (which includes NPISH). The State/UT-wise results of AIDIS 2019 duly adjusted for growth in number of dwellings and price changes of materials used in rural and urban construction (for estimating RRB and URB at current prices) and combined growth of GVO of all industries excluding construction (for estimating NRBOCW at current prices) has been used to derive the GVO of RRB, URB and NRBOCW. The State/UT-wise GVA to GVO ratio from 'Pilot study on construction activities in unincorporated sector establishments and households'²³ conducted by NSSO during July–December 2025, covering construction activity undertaken by the unincorporated sector and own-account construction by households have been used for estimating the GVA.

²³ Report of the 'Pilot study on construction activities in unincorporated sector establishments and households' available on MoSPI's website (<https://www.mospi.gov.in/publications-reports>).

For other households, production data of materials used in construction along with E-way Bill data has been used to estimate the availability of input materials used in construction in the State/UT. The total GVO of other households is then allocated among the States/UTs using the State/UT-wise ratios of availability of construction material. The State/UT-wise GVA to GVO ratio from 'Pilot study on construction activities in unincorporated sector establishments and households' have been used for estimation of GVA of other households.

Estimated number of households and dwellings:

State-wise estimated number of households are derived using projected population from M/o Health and Family Welfare Population Projections as on 1st October of the FY and average household size derived from AIDIS. The GVO in residential buildings (i.e. dwellings) is obtained using the Capital expenditure derived from AIDIS multiplied by estimated number of households. This estimate is at current prices and is extrapolated to FY 2022-23 and subsequent financial years using growth in number of dwellings and price effect (composite index of materials, service input and labour cost on constructing dwellings weights for which have been derived from Pilot Study on Construction conducted by MoSPI in 2025). The relevant item level Producer Price Indices (for material inputs) and Consumer Price Index (for factor inputs and service inputs) have been used for constructing the composite index.

The first step is to estimate number of dwellings in the economy for the benchmark year (when AIDIS was conducted). In absence of Census data, the number of dwellings has been estimated using projected population from M/o Health and Family Welfare as on 1st October of the FY and average household size from NSS survey. Since not all households have dwellings, the proportion of households having dwellings have been worked out from Multiple Indicator Survey (NSS-78th round) and applied on the estimated number of households to arrive at estimated number of households with dwellings. In order to account for locked and vacant houses, the number of estimated households are adjusted using proportion of locked and vacant census houses from Census-2011 in absence of any other estimate for number of locked and vacant dwellings in the economy. Thus, the estimated dwellings are the sum of estimated households with dwellings and estimated locked and vacant dwellings.

For FY 2022-23, the average household size has been estimated using results of Household Consumption Expenditure Survey (HCES) conducted in 2022-23. Applying the average household size to the projected population from M/o Health and Family Welfare Population Projections as on 1st October, 2022, estimated households are derived. The estimated number of households are then adjusted with proportion of households with dwellings (from HCES 2022-23) and applying proportion of locked and vacant census houses from Census-2011. This gives estimate of dwellings in the economy for FY 2022-23. Same estimation methodology has been followed in subsequent years for estimation of number of dwellings.

Plantation:

The estimation of GVA of Plantation Activities have been derived using year-wise increment in plantation crop-wise area under plantation provided by DESs and M/o Agriculture & Farmer's Welfare and State/UT-wise and plantation crop-wise cost structure (expenditure per hectare) provided by NABARD. The plantation/ crop-wise cost structure provided by NABARD is available separately for each State/UT-wise by NABARD for each FY and hence this dynamic cost structure has been used for estimation of state-wise GVA of Plantation Activities.

Mineral Exploration:

Mineral Exploration: GVA of Mineral Exploration for State/UT is sum of All India GVA of Mineral Exploration (NDE) multiplied by the State share of GVA in All India GVA of Mining (NDE) and All India GVA of Mineral Exploration (PC) multiplied by State share of GVA in All India GVA of Mining (PC).

GVA attributed to Quasi-Corporations has been allocated among the States/UTs using the methodology followed for 'other households' elaborated above. The GVO (total expenditure reported) and GVA (wage expenditure) in respective construction activities under MGNREGA scheme are directly assigned to the respective State/UT. Similarly, Capital Transfers to individuals pertaining to housing schemes implemented by central and respective state govts. are directly assigned to the respective States/UTs.

29.4.2.6 Non- Financial Services

The methodology for compilation of institutional sector wise GVA is explained para 29.4.1, as applicable.

29.4.2.7 Ownership of dwelling

GSVA for the ownership of dwellings is equivalent to State-wise gross rental of the residential census houses less corresponding cost of repairs and maintenance. Methodology adopted for rural and urban sectors are given below:

A. Urban:

Number of dwellings in the base year is estimated using Ministry of Health & Family Welfare (MoHFW) projected population figures along with average household size derived from the Household Consumption Expenditure Survey (HCES) 2022–23.

State-wise gross rental for 2022-23 = No. of residential houses (urban) × rent per household as obtained from HCES for the base year 22-23.

For the subsequent years, gross rental is estimated using rent per household extrapolated with CPI Housing (urban) and number of dwellings extrapolated using inter survey growth rate of urban number of dwellings (derived from HCES 2022-23 and 2023-24).

B. Rural:

The GSVA is compiled using the user cost approach. In this approach, the net operating surplus is imputed using the opportunity cost principle; i.e., the net operating surplus is imputed on the basis of what owner occupiers could have earned on alternative investments. Then, the dwelling costs are added to the imputed net operating surplus to obtain the imputed rent. These costs include: consumption of fixed capital (CFC) for dwellings, expenditures on ordinary maintenance and repair of dwellings. Thus, the user cost approach consists of estimating each of the expenditure that owners of dwellings would need to take into account in fixing a market rent if they decided to rent their dwellings to other people rather than to live in them themselves. For estimating net operating surplus, if 'r' is the chosen reference rate of return and NFCS represents Net Fixed Capital Stock of dwellings, then Net Operating Surplus (Imputed) = $r \times \text{NFCS}$. It is recommended to use a real, risk-free rate of return for imputed the Net Operating Surplus component of the User Cost Method, rather than using the actual market mortgage/borrowing rate directly. Hence, the rate of interest on Public Provident Fund is being used as rate of return. The estimates of repair and maintenance are derived using results of AIDIS and NFCS of rural dwellings compiled using Perpetual Inventory Method (PIM). For this purpose, the ratio of repair and maintenance to value of stock of rural dwellings has been compiled from AIDIS and this ratio is then applied to Net Fixed Capital Stock which is estimated using Perpetual Inventory Method (PIM). Thus, GVA is the sum of Net Operating Surplus (Imputed) and CFC. The all-India GVA of OD (Rural) is allocated in proportion to the GSVA estimated using user cost approach. In order to compile GVO, intermediate consumption (in the form of actual running costs of maintaining the dwelling and repairs and maintenance) are added to GVA. For GSVA of Rural OD, the PIM is implemented State/UT-wise wherein the GFCF (which is essentially the GVO) of Rural Residential Buildings (RRB) is used in the estimation of Net Fixed Capital Stock. For constant price estimation, state-specific price indices compiled while estimating GVO of Rural Residential Buildings are used as deflator. This is a composite index based on prices of construction materials provided by State/UT DES (in respect of cement, steel, bricks and timber), Producer Price Index for remaining material inputs and CPI-General for services and wages. The net fixed capital stock and CFC are estimated at constant price while implementing PIM using this index. The rate of return of the base year is applied on the net fixed capital stock at constant prices to get the operating surplus at constant prices.

29.4.2.8 Private household as employer

For Private Households with employed persons, GSVA is estimated following production approach using PLFS data following similar methodology as adopted at national level described in Chapter 20. Brief description is as follows –

Adjusted labour input (Adj LI) is computed separately for rural and urban areas of the State as:

$$Adj LI = \frac{\text{Total workforce in NIC code 97}}{\text{Total estimated population from PLFS}} \times \text{projected population} \dots\dots (29.4)$$

GSVA estimates for private households with employed persons is compiled as the product of average annual earning and adjusted Labour Input (Adj LI), as shown below:

$$GVA = GVAPW \times Adj LI \dots\dots(29.5)$$

where,

$$GVAPW = \frac{\text{Annual wage}}{\text{Total number of workers}} \dots\dots(29.6)$$

29.4.2.9 Public Administration and Defence

Central Government : Methodology given in Supra Regional Sector in para no. 29.5.

State Governments & Local Bodies : Estimates of GVA at current prices compiled using cost of production approach and directly allocated to the concerned State/UT.

Autonomous Institutions : Estimates of GVA are compiled using the cost of production approach for the centre and for state autonomous institutions. Allocation in case of Central Autonomous Institute is done on the basis of location. GVA of State Autonomous institution is directly allocated to the concerned State/UT.

29.5 GVA of Supra Regional Sector

Certain economic activities extend across State and Union Territory boundaries, making it difficult to attribute their entire value added to a single State or UT based solely on the location of production. Such activities are classified as Supra-Regional Sectors. These sectors generally include Central Government Administration, Railways, Public Communication and Services related to broadcasting and Financial Services Sectors.

All India estimates are allocated to the states on the basis of relevant indicators.

29.5.1 Central Government: State-wise estimates in Central Government Sector are given at Table 29.2.

Table 29.2 State-wise estimates in Central Government Sector

Sector	State-wise Estimates
Central Government Sector	NVA (directly estimated and received from CGA) + Allocation of CFC in proportion of CoE (Compensation of Employees)
	GSVA= NVA + CFC

29.5.2 Financial Services

The institutional coverage comprises Deposit-Taking Corporations/Commercial Banks, including Public Sector Banks, Private Sector Banks, Regional Rural Banks, Foreign Banks, Small Finance Banks and other banks; Non-Banking Financial Corporations, comprising Central Financial Corporations and State Financial Corporations; Non-Banking Financial Companies, including Central and State Financial Companies; Post Office Savings Banks (POSB); Co-operative Credit Societies; Insurance Corporations, comprising Life Insurance, Postal Life Insurance (PLI), Non-Life Insurance and the Employees' State Insurance Corporation (ESIC); Banking Department of the Reserve Bank of India (RBI); Employees' Provident Fund Organisation (EPFO); and Money Lenders. The State-wise GVA estimates for this sector are prepared separately for the Sub-Sectors as given in Table 29.3.

Table 29.3 State-wise estimates in Financial Services

S. No.	Subsectors of Financial Services	Indicators used for allocation to the States
1.	Deposit Taking Corporations/Commercial Banks	Compensation of employees: State-wise Salary and wages Operating Surplus: Sum of Deposits and Credit Outstanding of Scheduled Commercial Banks published by RBI
2. Central Non-Banking Financial Corporations (IRDA, SEBI, PFRDA, NABARD, SIDBI, NCDC, OIDB, EXIM, NHB)		
2.1	Insurance Regulatory and Development Authority of India (IRDAI), Securities and Exchange Board of India (SEBI), Pension Fund Regulatory and Development Authority (PFRDA)	Direct allocation using State-wise information available in the Annual Reports
2.2	Small Industries Development Bank of India (SIDBI)	The total GVA is allocated on the basis of state-wise disbursement available in their annual report.
2.3	National Cooperative Development Corporation (NCDC)	The total GVA is allocated on the basis of State-wise assistance released under Central and Corporation-sponsored schemes.
2.4	Oil Industry Development Board (OIDB)	The total GVA is allocated on the basis of state-wise loan outstanding.
2.5	Export-Import Bank of India (EXIM Bank)	The total GVA is allocated on the basis of State-wise number of employees.
2.6	National Housing Bank (NHB)	The total GVA is allocated on the basis of State-wise wages and salaries.

S. No.	Subsectors of Financial Services	Indicators used for allocation to the States
2.7	National Bank for Agriculture and Rural Development (NABARD)	The total GVA is allocated on the basis of state-wise disbursement reported in annual report.
3.	State Non-Banking Financial Corporations	State-wise information is directly available from annual report.
4.	Central & Other Non-Banking Financial Companies	Paid-up capital (MCA Data)
5.	State Non-Banking Financial Companies	State-wise information is directly available from annual report.
6.	Banking Department of RBI	State-wise Wages & Salaries received from RBI
7.	Postal Life Insurance (PLI)	State-wise Wages & Salaries from PLI
8.	Post Office Saving Banks (POSB)	Gross collection under Small Saving Schemes from Postal Department
9.	Employees' State Insurance Corporation (ESIC)	Compensation of Employees: State-wise Wages & salaries received from ESIC Operating surplus: Revenue expenditure excluding wages & salaries as supplied by ESIC
10.	Life Insurance	Individual New Business (Life) Underwritten- from the Annual Handbook of IRDAI
11.	Non-Life Insurance	Total Premium-from IRDAI
12.	Cooperative Societies	Salaries, Net Profits, Branches from RBI and NAFSCOB
13.	EPFO	State-wise Net New Payroll
14.	Money Lender	State wise Ratio of Sum of amount outstanding taken from All India Debt and Investment Survey (AIDIS), 2019, 77 th Round of NSS (January 2019 to December 2019)

29.5.3 Communication and Services Related to Broadcasting

The State-wise GVA estimates for this sector are prepared separately for the sub-sectors as given in Table 29.4.

Table 29.4 State-wise estimates in Communication and Services Related to Broadcasting

S. No.	Public Communication	Indicator for Allocation of GVA
1.	Post	Compensation of Employees: State-wise wages and salaries of Postal Staff is available directly from CGA. Rent: All India Rent is distributed among States/UTs based on number of post offices from D/o Posts. CFC: All-India CFC/Depreciation is allocated based on State-wise CoE proportions.
2.	BSNL	State-wise information on Revenue from Operations and Expenses directly available from BSNL GVA = Revenue/Output- Expenses
3.	MTNL	Compensation of Employees: salaries and wages of employees working in MTNL, Delhi and MTNL, Mumbai Operating surplus: In proportion to the State-wise gross blocks
4.	Powergrid Teleservices Ltd. (PowerTel)	State-wise information on Revenue from Operations and Expenses directly available from Powergrid Teleservices limited
5.	Prasar Bharati	In ratio of State-wise salary and wages of the employees of Prasar Bharati
6.	Bharat Broadband Network Limited (BBNL), RailTel Corporation (Central NDEs)	Estimates of Central NDEs are allocated to States using the State-wise data on No. of employees and Gross Block. Compensation of Employees is distributed on the basis of the number of employees in each State, while Operating Surplus (OS = GVA - CE) is distributed in proportion to the State-wise gross block of that NDE.
7.	Film Corporation of Respective State	In the case of single-state NDEs, the entire GVA is allocated to that State/UT.
8.	Other State NDEs	GVA of State NDE will go directly to that State.

29.5.4 Railways (Transport)

The GSVA of Railway (Transport) is estimated as the sum of value added by (i) Departmental Enterprises (DE) (ii) Private Railways and (iii) Non-Departmental Enterprises (NDE) engaged in railway transport services. The State-wise GVA estimates for this sector are prepared as per the details given in Table 29.5.

Table 29.5 State-wise estimates in Railways

S. No.	Institution	Indicator
1.	Departmental Enterprises	1. Compensation of Employees and Operating Surplus of Departmental Enterprises is distributed among zones based on Zone-wise Salary-wages and Capital at charge. 2. Zonal Passenger GVA is distributed among states using Vehicle-kilometers per route per day for passenger traffic. 3. Zonal Freight GVA is distributed among states using Net tonne-kilometres per route per day for goods traffic.
2.	Non-Departmental Enterprises	Methodology given in A.3 of 29.4.1
3.	Private Railway	GVA of Private Railways among States/UTs is allocated using State-wise outward supply as reported in GST data.

29.6 Allocation of Product Taxes and Product Subsidies

The State-wise allocation of product taxes and product subsidies are given in Table 29.6.

Table 29.6 State-wise Allocation of Product Taxes and Product Subsidies

Product Taxes	Allocation Indicator Methodology
State Product Taxes	As available from respective state budget
GST	Total GST reported in the budget allocated on the basis of the state-wise share of total tax collection available on GST Portal.
Union Excise Duty	Based on the state-wise share of manufactured petroleum products
Custom Duty	Custom duty on petroleum products distributed in state-wise sale of petroleum products. Remaining duty allocated based on state-wise share of imported item as reflected in ASI.
Remaining Central Product taxes	Based on state-wise GSVA at basic prices (excluding GSVA in public administration and other services like health, education).
State product subsidy	As available from respective state budget
Fertilizer subsidy	Distributed to states based on state-wise production of fertilizer
Remaining Product Subsidy (5%-6%)	Remaining product subsidy distributed over the states based on their share in total GSVA at basic prices (excluding GSVA in public administration and other services like health, education).

29.7 Compilation of CFC:

Estimates of consumption of fixed capital are obtained at national level using Perpetual Inventory Method (PIM). This is a method of constructing estimates of CFC (and the net fixed capital stock) from a time series of gross fixed capital formation (GFCF). PIM is used for state wise allocation of CFC from General Government, DE, NDE and most of the unincorporated sector for all the industries. Industry-wise and institutional sector-wise allocation of CFC (at current prices) among

States/UTs is given in table below. Constant price estimates of CFC are compiled using same deflators as used in compilation of asset-wise CFC used at National Level for industries and institutional sectors. However, for Ownership of Dwellings (Rural), state-specific price indices compiled while estimating GVO of Rural Residential Buildings are used as deflator. Table 29.7 gives the industry-wise and institutional sector-wise method for estimation of CFC for use in compilation of net aggregates at State/UT level.

Table 29.7 Industry-wise and institutional sector wise method for estimation of CFC for use in compilation of net aggregates at State/UT level

S. No.	Industry	Methodology
1.	Agriculture	
1.1	Crops	
(i)	Departmental Enterprises and Non-Departmental Enterprises	Stock of fixed assets calculated on the basis of capital outlay for irrigation DE (State Budget) added to base year stock figure as per existing method and to be duly adjusted GFCF and CFC using Perpetual Inventory Method (PIM). In case of NDE, Blades Method to construct the base year stock of assets and then PIM is implemented for estimation of CFC in subsequent years.
(ii)	Private sector excluding plantation	Using results of AIDIS,2019 on stock of capital assets to estimate value of stock of assets in base year. The stock is to be extrapolated using growth in GSVO of Corp sector in subsequent years and based on the derived state-wise share of estimated stock, CFC is to be allocated.
1.2	Livestock	Using total stock of live animals along with stock value of capital assets from AIDIS,2019.
1.3	Forestry & logging	For GG and DE: Value of stock of fixed assets in base year to be estimated using Blades method and PIM to be used for subsequent years.
		For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.
		For Private Sector: GSVO of forestry
1.4	Fishing and aquaculture (Private Corp and Household)	GSVO for Fishing and Aquaculture
2.	Mining & quarrying	For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.
		GSVO of Private Corporations is to be used for allocating the all-India CFC of private corporations among the States/UTs.
		For Minor Minerals: Based of GSVO
3.	Manufacturing	
3.1	Organised Manufacturing	For DE: PIM method constructed using time series of stock of fixed assets.
		NDE , Pvt Corp, ASI-Non Corporate: PIM method constructed using time series of stock of fixed assets.
3.2	Unincorporated manufacturing	Using Blades Method and results of ASUSE, value of stock of assets is to be estimated in base year in respect of industries covered in ASUSE and PIM to be used in subsequent years.

S. No.	Industry	Methodology
4.	Electricity, Gas, Water supply & other utility services	For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.
		For Household Sector: Using results of ASUSE, net value of stock of assets is to be estimated in base year in respect of industries covered in ASUSE and PIM is to be implemented in subsequent years.
		For own account electricity generation, State/UT-wise installed capacity (data from M/o New and Renewable Energy) is to be used as an indicator for allocating all-India CFC.
		For Biogas, all India CFC allocated using State/UT-wise number of biogas plants. For Private Corporations : GSVA is to be used as an indicator for allocation of all-India CFC.
5.	Construction	For GG: Value of stock of fixed assets in base year to be estimated using Blades method and PIM to be used for subsequent years.
		For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.
		For Quasi Corp & Household Sector: Using results of Pilot Survey on Construction (conducted by NSS along with ASUSE in 2025), state-wise value of stock of assets is to be estimated and the state-wise share so derived is to be used as indicator for allocation in subsequent years.
		Since data on GFCF is not available, PIM cannot be implemented. For Private Corp: Using GSVA
6.	(i) Trade & repair services (ii) Hotels & restaurants (iii) Road Transport (iv) Services incidental to transport (v) Storage (vi) Communications (vii) Financial Services (viii) Real Estate and Professional Services (ix) Education (x) Health (xi) Other Services excluding education and health	For DE: Value of stock of fixed assets in base year to be estimated using Blades method and PIM to be used for subsequent years.
		For NDE: From Analysis of State NDE Reports, DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.
		For Quasi and Household Sector: Using results of ASUSE, value of stock of assets is to be estimated in base year in respect of industries covered in ASUSE and CFC is estimated using PIM.
		For Private Corp: Using GSVA
7.	Railways	Using data on State-wise estimated Capital at charge
8.	Water Transport, Services Incidental to transport and Storage	For DE: Value of stock of fixed assets in base year to be estimated using Blades method and PIM to be used for subsequent years.
		For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years.

S. No.	Industry	Methodology
		For Private Sector (PC, Quasi-Corporations and Household Sector) : Using GSVA
9.	Air Transport	For NDE: From Analysis of State NDE Reports, using DPE publication for Central NDEs, the value of stock is to be estimated for base year and PIM to be used in subsequent years. For Private Corp: Using GSVA
10.	Ownership of dwellings	For Ownership of Dwellings (Rural), CFC estimated using PIM by estimating the Value of stock of residential buildings estimated using results of AIDIS, 2019. For Ownership of Dwellings (Urban), using GSVA
11.	Public administration & defence	Value of stock of fixed assets in base year estimated using Blades method and PIM used in estimation of CFC for subsequent years.

CHAPTER 30

DATA DISSEMINATION

30.1 Introduction

The dissemination of National Accounts Statistics (NAS) is the final stage of the national accounts compilation process and constitutes an integral component of the official statistical production cycle. While the compilation of national accounts aims at producing reliable, comprehensive and internationally comparable estimates of macroeconomic aggregates, dissemination ensures that these statistics are made available to users in a timely, transparent and accessible manner. Effective dissemination enhances the usefulness of official statistics by facilitating evidence-based policymaking, economic analysis, research, business planning and informed public discourse.

In India, the Ministry of Statistics and Programme Implementation (MoSPI), through the National Statistics Office (NSO), is responsible for the compilation and dissemination of National Accounts Statistics. The dissemination framework has evolved considerably over time in response to growing user requirements, technological advancements and international best practices. The framework aims to ensure equal and simultaneous access to official statistics, maintain transparency regarding methodologies and revisions, and provide users with comprehensive metadata to facilitate proper interpretation of the estimates.

National Accounts Statistics are disseminated in accordance with internationally accepted standards, particularly the System of National Accounts (SNA 2008), while also meeting the requirements of the International Monetary Fund (IMF) Special Data Dissemination Standard (SDDS). Dissemination practices are also guided by the United Nations Fundamental Principles of Official Statistics, which emphasize professional independence, scientific methods, impartiality, transparency and statistical confidentiality.

The dissemination programme covers annual and quarterly estimates of Gross Domestic Product (GDP), Gross Value Added (GVA), institutional sector accounts, capital formation, consumption expenditure, saving, capital stock, Supply and Use Tables (SUT), and several other macroeconomic aggregates. These estimates are disseminated through multiple channels, including press releases, statistical publications, online databases, machine-readable datasets, Application Programming Interfaces (APIs) and metadata repositories.

30.2 Objectives of Data Dissemination

The dissemination of National Accounts Statistics seeks to achieve the following objectives:

- (i) To provide timely and reliable macroeconomic statistics for evidence-based policy formulation and economic planning.
- (ii) To ensure equal and simultaneous access to official statistics for all users.
- (iii) To promote transparency in statistical compilation by providing comprehensive methodological documentation and metadata.

- (iv) To facilitate economic research, academic studies and business decision making through easy access to statistical information.
- (v) To meet national and international reporting obligations.
- (vi) To improve public understanding of the country's economic performance.
- (vii) To encourage wider use of official statistics through modern digital dissemination platforms.

30.3 Principles Governing Dissemination

The dissemination of National Accounts Statistics follows internationally accepted principles of official statistics and is designed to ensure transparency, impartiality, quality and accessibility.

30.3.1 Equal and Simultaneous Access

National Accounts releases are made available simultaneously to all users through publicly accessible dissemination platforms. No user or institution is provided privileged access to the estimates prior to their official release. This practice supports impartiality and equal access to official statistics and strengthens public confidence in the statistical system.

30.3.2 Timeliness

National Accounts Statistics are disseminated according to a pre-announced release calendar published by MoSPI. Adherence to a fixed release schedule enables policymakers, financial markets, researchers and other users to plan their analytical activities and contributes to the credibility of official statistics.

30.3.3 Transparency

Transparency is a fundamental characteristic of the dissemination framework. The methodological basis of National Accounts Statistics is documented to enable users to understand the concepts, classifications, data sources and estimation procedures underlying the estimates. The methodological documentation covers, viz., (i) concepts and definitions; (ii) classifications adopted; (iii) data sources; (iv) estimation methodology; (v) assumptions used in compilation; (vi) revision practices; and (vii) significant methodological improvements.

30.3.4 Accuracy and Reliability

Only estimates that have undergone established validation, consistency checks and quality assurance procedures are disseminated. Preliminary estimates are clearly identified, and subsequent revisions are carried out as improved and more comprehensive data sources become available.

30.3.5 Statistical Confidentiality

The dissemination of National Accounts Statistics fully complies with the provisions relating to statistical confidentiality. Individual records collected through surveys or administrative sources are never disclosed directly or indirectly. Published statistics represent aggregated estimates that preserve the confidentiality of individual respondents.

30.3.6 User Orientation

The dissemination programme is designed to address the diverse requirements of users, including Government departments, academia, researchers, businesses, international organisations, financial institutions and the general public. Statistics are disseminated in multiple formats and at varying levels of aggregation to cater to different analytical needs.

30.4 National Accounts Dissemination Framework

The dissemination framework of India's National Accounts Statistics is organized around a comprehensive set of annual and quarterly statistical outputs. The framework ensures consistency between successive releases while providing progressively improved estimates as more complete source data become available.

30.4.1 Reference Period

National Accounts Statistics are compiled and disseminated for the various reference periods as per the details in **Table 30.1**.

Table 30.1 Reference Period for National Accounts Statistics

Estimates	Reference Period
Annual Estimates	Financial Year (April–March)
Quarter I	April–June
Quarter II	July–September
Quarter III	October–December
Quarter IV	January–March

The use of the financial year as the reference period ensures consistency with Government finance statistics, corporate financial reporting and other major economic statistics in India.

30.4.2 Major Dissemination Products

MoSPI disseminates a comprehensive range of National Accounts products covering both annual and quarterly macroeconomic aggregates. The principal dissemination products include:

- (i) National Accounts Statistics (NAS) Annual Publication;
- (ii) Releases of Annual Estimates and Quarterly Estimates of GDP as per Advance Release Calendar;
- (iii) Supply and Use Tables (SUT);
- (iv) Statistical Report on Value of Output from Agriculture and Allied Activities;
- (v) Methodological and other specialised publications.

30.4.3 Users of National Accounts Statistics

National Accounts Statistics are extensively used by a wide spectrum of stakeholders. Major users includes, Central and State Governments for macroeconomic policy formulation and fiscal

planning; Reserve Bank of India for monetary policy and financial stability assessment; International organisations such as the United Nations, International Monetary Fund, World Bank, Asian Development Bank and OECD; Research institutions and universities for empirical economic analysis; Private sector organisations, financial institutions and rating agencies for investment analysis and market assessment; and Media and the general public for understanding trends in economic growth and structural transformation. The growing diversity of users has led to continuous improvements in dissemination practices, including enhanced digital access, improved metadata, machine-readable datasets and interactive dissemination platforms.

30.4.4 Release Calendar

An important feature of the dissemination framework is the adoption of a pre-announced release calendar. The release calendar informs users in advance of the expected dates of major National Accounts releases and provides predictability regarding the availability of official estimates.

The dissemination schedule balances the need for timely information with the availability of increasingly comprehensive source data. Accordingly, annual estimates are released in successive stages, with each stage incorporating additional information from administrative records, surveys, annual financial statements and other statistical sources. The successive release of Advance, Provisional, Revised and Final Estimates enables users to obtain timely macroeconomic information while allowing the estimates to be progressively improved.

30.4.4.1 Release Schedule of Annual National Accounts Estimates

National income estimates are disseminated in five stages during the compilation cycle as given in **Table 30.2**.

Table 30.2 Release Schedule of Annual National Accounts Estimates

Estimates	Frequency	Release Schedule
First Advance Estimates (FAE)	Annual	Released on 7 th January (or the preceding working day if 7 th January is a holiday), before completion of the financial year.
Second Advance Estimates (SAE)	Annual	Released on 28 th February (or the last working day of February), incorporating additional information available during the financial year.
Provisional Estimates (PE)	Annual	Released on 7 th June (or the preceding working day if 7 th June is a holiday) after the end of the financial year.
First Revised Estimates (FRE)	Annual	Released with a time lag of about 11 months after the reference financial on 28 th February (or the last working day of February).
Final Estimates (FE)	Annual	Released with a time lag of about 23 months after the reference financial year on 28 th February (or the last working day of February).

The successive release of estimates reflects the gradual availability of complete information from annual surveys, audited financial statements, Government accounts, tax records and other administrative databases.

30.4.4.2 Release Schedule of Quarterly Estimates of GDP

Quarterly estimates of Gross Domestic Product (GDP) provide timely information on short-term movements in economic activity and facilitate continuous monitoring of economic performance during the financial year.

The quarterly estimates are disseminated approximately 60 days after the end of the reference quarter, in accordance with the established release schedule as per the **Table 30.3**.

Table 30.3 Release Schedule of Quarterly Estimates of GDP

Quarter	Reference Period	Release Schedule
Quarter I	April–June	Last working day of August
Quarter II	July–September	Last working day of November
Quarter III	October–December	Last working day of February (along with Second Advance Estimates)
Quarter IV	January–March	On 7 th June (or the preceding working day if 7 th June is a holiday) along with Provisional Annual Estimates

30.4.4.3 Advance Release Calendar

To provide users with greater predictability regarding the availability of official statistics, MoSPI publishes an Advance Release Calendar at the beginning of each financial year specifying the dates of major National Accounts releases.

An illustrative release calendar for 2026–27 is presented in **Table 30.4**.

Table 30.4 Advance Release Calendar of GDP Estimates of GDP

Dates	Release
5 th June 2026	Provisional Estimates of GDP for FY 2025–26, and Quarter IV GDP Estimates
31 st August 2026	Quarter I GDP Estimates (FY 2026–27)
30 th November 2026	Quarter II GDP Estimates (FY 2026–27)
7 th January 2027	First Advance Estimates of GDP (FY 2026–27)
26 th February 2027	Second Advance Estimates (FY 2026–27), Quarter III GDP Estimates (FY 2026–27), First Revised Estimates (FY 2025–26), and Final Estimates (FY 2024–25)

The Advance Release Calendar enables Government agencies, financial institutions, international organisations, researchers and other users to anticipate the availability of official macroeconomic statistics and plan their analytical activities accordingly.

30.5 Revision Policy

Revision is an integral component of the National Accounts compilation process. Since many important data sources become available only after varying time lags, estimates released initially are based on the best information available at that point in time. As additional and more comprehensive data become available, the estimates are revised to improve their accuracy and consistency. The revision policy adopted by MoSPI is systematic and consistent with international best practices, including the recommendations of the System of National Accounts (SNA 2008) and the IMF's Quarterly National Accounts Manual. Each statistical release clearly identifies the revision status of the estimates and provides explanatory notes describing significant changes arising from updated data or methodological improvements.

30.5.1 Objectives of Revisions

The principal objectives of revising National Accounts estimates are to incorporate updated administrative and survey data; replace provisional indicators with audited and finalized information; improve sectoral estimates using more comprehensive source data; maintain consistency between annual and quarterly estimates; incorporate methodological refinements; improve benchmark estimates; and enhance the overall quality and reliability of national accounts statistics. Revision should, therefore, be viewed as an essential quality assurance mechanism rather than a correction of earlier estimates.

30.5.2 Revision of Quarterly GDP Estimates

Quarterly estimates undergo systematic revisions to incorporate improved information and to maintain consistency with the annual estimates.

Quarter I (April–June) : Quarter I estimates are first released on the last working day of August. They are subsequently revised while releasing Quarter III estimates in February, at the time of release of the Provisional Annual Estimates in June, and during subsequent revisions of annual National Accounts estimates.

Quarter II (July–September) : Quarter II estimates are first released on the last working day of November. They are subsequently revised during the release of Quarter III estimates, at the time of release of the Provisional Annual Estimates, and during subsequent revisions of annual National Accounts estimates.

Quarter III (October–December) : Quarter III estimates are released together with the Second Advance Estimates at the end of February. They are subsequently revised at the time of release of the Provisional Annual Estimates and during subsequent revisions of annual National Accounts estimates.

Quarter IV (January–March) : Quarter IV estimates are released simultaneously with the Provisional Annual Estimates on 7th June, or the preceding working day if 7th June is a holiday. Since Quarter IV completes the annual accounting cycle, these estimates are subsequently revised when revisions are made to the annual National Accounts estimates.

30.5.3 Consistency between Annual and Quarterly Estimates

An important objective of the revision policy is to ensure consistency between annual and quarterly estimates. As improved annual benchmarks become available, the quarterly estimates are benchmarked to the revised annual totals. This process ensures coherence across different frequencies of national accounts statistics and enhances the analytical usefulness of the estimates.

30.5.4 Communication of Revisions

The revision status of estimates is clearly identified in each statistical release. The accompanying explanatory information, as appropriate, provides details on the reference period; the revision status of the estimates; the principal data sources used; significant methodological changes, if any; revisions arising from improved source data; and the reasons for major revisions. This enables users to distinguish between revisions arising from the incorporation of improved source information and those arising from methodological or other changes.

30.6 Dissemination Channels and Products

MoSPI disseminates National Accounts Statistics through a combination of statistical releases, publications and digital platforms. The dissemination system has progressively evolved from traditional printed publications to digital mechanisms that provide downloadable datasets, historical time series, metadata, machine-readable data and API-based access.

30.6.1 Press Releases

Press Releases (Press Notes) constitute the primary medium for the dissemination of major National Accounts estimates. They are released at 4:00 PM on the scheduled release date to ensure simultaneous public access. The Press Releases provide concise information on:

- (i) Gross Domestic Product (GDP);
- (ii) Gross Value Added (GVA);
- (iii) sector-wise growth performance;
- (iv) expenditure components of GDP;
- (v) major economic trends;
- (vi) comparisons with previous periods; and
- (vii) important revisions and methodological changes.

The Press Notes are designed to provide policymakers, financial markets, media organisations and the general public with timely information on the performance of the economy.

30.6.2 National Accounts Statistics (NAS) Publication

The National Accounts Statistics (NAS) publication is the principal annual publication containing detailed estimates of national income and related macroeconomic aggregates. It provides comprehensive statistical tables covering:

- (i) National income aggregates;

- (ii) Gross Value Added by economic activity;
- (iii) Institutional sector accounts;
- (iv) Capital formation;
- (v) Consumption expenditure;
- (vi) Saving;
- (vii) Capital stock;
- (viii) External sector accounts;
- (ix) Government accounts;
- (x) Household sector accounts; and
- (xi) Quarterly national accounts.

The publication serves as the principal reference document for researchers, Government departments, international organisations and academic institutions.

30.6.3 eSankhyiki Portal

National Accounts Statistics are also disseminated through the eSankhyiki portal, which serves as a centralised platform for dissemination of official statistical information. The portal enables users to browse macroeconomic indicators; download statistical tables; access historical time-series; search datasets through the data catalogue; obtain metadata associated with individual datasets; and access machine-readable datasets through APIs. The portal improves the discoverability, accessibility and usability of National Accounts data.

30.6.4 Data Catalogue

The Data Catalogue forms an integral component of the eSankhyiki dissemination framework. It enables users to identify datasets based on subject, frequency, reference period and statistical domain. Each catalogue entry provides information on the product, description, periodicity, frequency and available download options. The catalogue facilitates efficient discovery of datasets and supports wider use of official statistics.

30.6.5 Application Programming Interface (API)-based Dissemination

To facilitate automated dissemination and integration of official statistics into analytical systems, MoSPI provides Application Programming Interfaces (APIs) through the eSankhyiki portal. The APIs enable users to retrieve National Accounts data directly into statistical software, dashboards and analytical applications without manual downloading of datasets. The API-based dissemination framework promotes, machine-to-machine communication; automated data extraction; reproducible research; development of customized dashboards; and interoperability with external statistical systems.

30.6.6 Metadata Repository

Metadata accompanying the datasets provides users with the information necessary for appropriate interpretation and use of the statistics. The metadata repository associated with the dissemination system provides information on, as applicable:

- (i) concepts and definitions;
- (ii) statistical units;
- (iii) accounting framework;
- (iv) classifications;
- (v) data sources;
- (vi) compilation methodology;
- (vii) estimation procedures;
- (viii) revision policy;
- (ix) quality information; and
- (x) limitations of the estimates.

The availability of metadata alongside statistical datasets helps users understand the scope, coverage and methodological basis of the disseminated statistics.

30.6.7 Other Publications and Reports

In addition to the National Accounts Statistics publication, MoSPI disseminates specialised publications and reports relating to National Accounts. These include:

- (i) Statistical Report on Value of Output from Agriculture and Allied Activities;
- (ii) Supply and Use Tables (SUT);
- (iii) Methodological reports;
- (iv) Base Year Revision reports;
- (v) Sources and Methods publications;
- (vi) Discussion Papers; and
- (vii) Frequently Asked Questions (FAQs).

These publications provide additional statistical, analytical and methodological information for users.

30.7 Statistical Statements in the National Accounts Statistics Publication

The National Accounts Statistics publication contains an extensive set of statistical statements covering macroeconomic aggregates and institutional sector accounts. The statements are organised into chapters to facilitate systematic presentation and use of the estimates.

Chapter 1: Macroeconomic Aggregates

This chapter presents the aggregates such as, GDP and GVA; National Income; Per Capita Income; Capital Formation; Price and Quantum Indices; Institutional Sector Accounts- Key economic indicators; and Sequence of Accounts for the Total Economy.

Chapter 2: Non-Financial Corporations

This chapter presents sequence of accounts separately for (i) Public Non-Financial Corporations - Departmental Enterprises; Non-Departmental Enterprises; and (ii) Private Non-Financial Corporations..

Chapter 3: Financial Corporations

The chapter provides detailed sequence of accounts separately for Public Financial Corporations; and Private Financial Corporations.

Chapter 4: General Government

The chapter includes Sequence of Accounts for General Government; Value Added by Central and State Governments; and Classification of Government expenditure according to the Classification of the Functions of Government (COFOG).

Chapter 5: Households

This chapter presents Household Sequence of Accounts; Private Final Consumption Expenditure; Individual Consumption Expenditure by Households and General Government; and Household Financial Assets and Liabilities.

Chapter 6: Rest of the World

This chapter contains Sequence of Accounts for Rest of the World; and External Transactions Accounts; and Selected aggregates of External Transactions at constant prices.

Chapter 7: Aggregates by Economic Activity

The chapter presents detailed statistics on Output; Intermediate Consumption; Gross Value Added; Consumption of Fixed Capital, Compensation of Employees; Operating Surplus; Capital Formation; Gross Fixed Capital Formation; Change in Stocks; and Capital Stock, compiled separately for Public Sector, Private Corporations and Households.

Chapter 8: Disaggregated Industry Estimates

The final chapter provides detailed industry-wise estimates covering separate statements for Agriculture; Livestock; Forestry; Fishing; Mining; Manufacturing; Electricity, Gas, Water Supply and Other Utility services; Construction; Trade, Repair Services, and Hotels and Restaurants; Transport; Storage, Communication, and Services related to Broadcasting; Financial Services;

.Real Estate, Ownership of Dwelling, and Professional Services; Other Services. This chapter also include statements on industry-wise estimates of General Government, Departmental Enterprises and Non-departmental Enterprises, and Quarterly & Provisional Estimates of GDP.

Overall, the National Accounts Statistics publication presently contains more than 70 detailed statistical statements, making it the most comprehensive official publication on India's macroeconomic accounts.

30.8 Metadata and Methodological Documentation

Metadata and methodological documentation form an essential part of the dissemination framework. While statistical tables provide the estimates, accompanying documentation provides the information necessary for their proper interpretation, comparison and use.

The explanatory documentation accompanying major dissemination products covers, as appropriate; scope and coverage; accounting framework; concepts and definitions; industrial classifications; sector classifications; valuation principles; data sources; estimation methodology and procedures; and revision practices.

For major methodological improvements and base year revisions, MoSPI also publishes detailed methodological reports explaining conceptual changes, new or revised data sources, changes in estimation procedures and their impact on the estimates. The Sources and Methods of National Accounts publication serves as the principal methodological reference for users seeking a detailed understanding of the compilation of India's National Accounts. Whenever significant methodological changes are introduced, the relevant documentation is updated or supplemented so that users can understand the changes and their implications for the estimates and time series.

30.9 User Engagement and Communication

Effective dissemination extends beyond the publication of statistical estimates and includes continuous engagement with users to improve the relevance, accessibility and quality of official statistics. MoSPI interacts with users through various mechanisms, includes, publication of Frequently Asked Questions (FAQs); methodological reports; discussion papers; meetings of Advisory and Methodological Committees; technical workshops; seminars and conferences; consultations with researchers and academic institutions; and responses to user queries received through official communication channels.

Feedback received from users is considered, as appropriate, in methodological improvements, enhancement of dissemination products and future development of the National Accounts system. Continuous interaction with stakeholders ensures that the dissemination programme remains responsive to the evolving needs of policymakers, researchers, businesses and the wider statistical community while maintaining the principles of professional independence, transparency and statistical quality.

30.10 Dissemination of Back Series

A base year revision necessitates the compilation and dissemination of back series estimates to maintain the continuity of long-term time series and facilitate historical comparisons. Back series estimates are prepared by applying, to the extent possible, the revised concepts, classifications and methodologies of the new series to earlier years. This enables users to analyse long-term economic trends within a consistent statistical framework. The methodology adopted for preparing the back series is finalized in consultation with the Advisory Committee on National Accounts Statistics and is documented separately for users. The dissemination of back series estimates ensures consistency in historical analysis and enhances the analytical value of National Accounts Statistics.

30.11 International Reporting

National Accounts Statistics compiled by MoSPI contribute to various international statistical programmes and databases. India regularly reports National Accounts Statistics to international organisations in accordance with internationally accepted classifications, accounting standards and reporting frameworks. Major international organisations receiving National Accounts data includes, United Nations Statistics Division (UNSD); International Monetary Fund (IMF); World Bank; Organisation for Economic Co-operation and Development (OECD); Asian Development Bank (ADB); and other regional and international statistical organisations.

Participation in international reporting contributes to improved international comparability of macroeconomic statistics, enhanced credibility of official statistics, harmonization with global statistical standards and wider dissemination of India's economic statistics.

Annexures

SUMMARY OF ESTIMATION PROCEDURE USED FOR COMPILATION OF NATIONAL ACCOUNTS IN THE NEW SERIES WITH BASE YEAR 2022-23

The estimation procedures adopted for the base year 2022–23, as well as those adopted for current and constant prices, are presented in this section in a tabular format. The tables also provide the assumptions made and ratios adopted in the present series. These tables have been presented in six **Annexures** as follows:

Annexure – I	Gross Value Added (GVA) at basic prices
Annexure – II	Private Final Consumption Expenditure (PFCE)
Annexure – III	Government Final Consumption Expenditure (GFCE)
Annexure – IV	Saving
Annexure – V	External Transaction Account
Annexure – VI	Capital Formation
Annexure – VII	Economic Activity/ Expenditure Component-wise list of Indicators used in QNA

Gross Value Added (GVA) at basic prices

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Crop Sector				
(a) Value of output				
(1) Major and Minor Crops				
(i) Major crops	♦ Production: Ministry of Agriculture & Farmer Welfare (M/oAgFWs) ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(ii) Minor crops	♦ Production: Ministry of Agriculture & Farmer Welfare (M/oAgFW) & State DESs ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(iii) Small millets	♦ Production: Ministry of Agriculture & Farmer Welfare (M/oAgFW) & State DESs ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	In case of non-availability of prices, the same may be estimated as weighted average price of jowar, bajra, barley, and ragi, with weight being their respective production quantities.

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(iv) Other Pulses	- Production: Ministry of Agriculture & Farmer Welfare (M/oAgFW) & State DESs - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	In case of non-availability of prices, the same may be estimated as weighted average price of arhar, urad, moong, lentil and horsegram, with weight being their respective production quantities.
(2) Commercial Crops				
(i) Tea	- Production of processed tea: Tea Board - Prices: State DESs	Value of output = current year production of raw tea $\times$ current year price	Value of output = current year production of raw tea $\times$ base year price	Production of raw tea = processed tea / 0.225
(ii) Coffee	- Production: Coffee Board - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	
(iii) Rubber	- Production: Rubber Board - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	
(iv) Cashew Nut and Cocoa	- Production: Directorate of Cashewnut and Cocoa Development Board - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	
(v) Opium	- Production: Central Bureau of Narcotics - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	
(vi) Arecanut	- Production: Directorate of Arecanut and Spices Development - Prices: State DESs	Value of output = current year production $\times$ current year price	Value of output = current year production $\times$ base year price	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(vii) Flowers (separately for cut flowers and spike)	♦ Production of cut flower: Ministry of Agriculture & Farmer Welfare (M/oAgFW) ♦ Production of spike: State DESs ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(3) Miscellaneous Crops				
(i) Other Cereals	♦ Area: State DESs	Value of output = area × current year value per hectare (VPH)	Value of output = area × base year value per hectare	Value per hectare = average value per hectare of the crops: jowar, bajra, barley, and ragi in reference year
(ii) Other Sugars (excluding Palmyra)	♦ Area: State DESs	Value of output = area × current year value per hectare	Value of output = area × base year value per hectare	Value per hectare = VPH of sugarcane and <i>gur</i> in reference year; using area of sugarcane
(iii) Other Oilseeds	♦ Area: State DESs	Value of output = area × current year value per hectare	Value of output = area × base year value per hectare	Value per hectare = average VPH of linseed, sesamum, castor seed, nigerseed and safflower in reference year
(iv) Other Fibres	♦ Area: State DESs	Value of output = area × current year value per hectare	Value of output = area × base year value per hectare	Value per hectare = average VPH of sanhemp and mesta in reference year
(v) Other Drugs and Narcotics	♦ Area: State DESs	Value of output = area × current year value per hectare	Value of output = area × base year value per hectare	Value per hectare = average of VPH of Tobacco leaf, Tobacco stem and opium

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
				(Rajasthan & Madhya Pradesh) For other States, VPH = average of VPH of Tobacco leaf, Tobacco stem
(vi) Other Condiments and Spices	♦ Area: State DESs	Value of output = area × current year value per hectare	Value of output = area × base year value per hectare	Value per hectare = average of VPH of dry chillies, ginger, cardamom and black pepper in reference year
(vii) Other Dyes & Tanning Material	♦ Area: State DESs ♦ Value per hectare: State DESs	Value of output = area × Value per hectare in current year	Value of output = area × Value per hectare in the base year	
(viii) Other Fruits	♦ Production: Ministry of Agriculture & Farmer Welfare (M/oAgFW)	Value of output = current year production × current year price	Value of output = current year production × base year price	Price = weighted average price of all fruits for which individual data is available in reference year.
(ix) Other Vegetables	♦ Production: Ministry of Agriculture & Farmer Welfare (M/oAgFW)	Value of output = current year production × current year price	Value of output = current year production × base year price	Price = weighted average price of all vegetables for which individual data is available in reference year.
(x) Tobacco stem	♦ Production of tobacco leaves: M/oAgFW	Value of output = current year production × current year price	Value of output = current year production × base year price	Production = 86.63% of production of tobacco leaves and Price = 50%

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
	♦ Prices of tobacco leaves: State DESs			of the price of tobacco leaves
(xi) Toddy	♦ MPCE of Toddy: HCES 2022-23 and 2023-24; MPCE of 2023-24 will continue till results of next HCES is available. ♦ Projected Population: Report of the Technical Group on Population Projections National Family Health Survey (NFHS).	Value of output = value of consumption of toddy per annum per person in current year (fixed from 2023-24) × population in the current year	Value of output = value of consumption of toddy per annum per person in the base year × population in the current year	Value of consumption of toddy per annum per person = Monthly Per Capita Expenditure of toddy in the year of survey × 12 MPCE of 2023-24 will continue till results of next HCES is available.
(xii) Fodder	♦ Production: Indian Grassland and Fodder Research Institute (IGFRI) study ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	Updated State-wise fodder productivity rates from a study conducted by the Indian Grassland and Fodder Research Institute (IGFRI), Jhansi, in July 2021.
(xiii) Grass	♦ Production: IGFRI study ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	Updated State-wise grass productivity rates from a study conducted by the Indian Grassland and Fodder Research Institute (IGFRI), Jhansi, in July 2021.

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(xiv) Miscellaneous food and non-food Crops	- Area: State DESs - Value per hectare: State DESs	Value of output = area × Value per hectare in current year	Value of output = area × Value per hectare in the base year	
(xv) Poppy husk	Area and VPH: State DESs	Value of output = area × Value per hectare in current year	Value of output = area × Value per hectare in the base year	
(4) By products	- Area: M/oAgFW - Value per hectare: CCS from M/oAgFW for available crops	Value of output = area × Value per hectare in current year	Value of output = area × Value per hectare in base year as per CCS 2022-23	
(5) Other products				
(i) <i>Gur</i>	- Production of sugarcane: M/oAgFW - Conversion rates: Based on Study - Prices: State DESs	Value of output = current year production of <i>gur</i> × current year price	Value of output = current year production of <i>gur</i> × base year price	State-wise conversion rates (for Karnataka, Maharashtra and Tamil Nadu) applied on production of sugarcane used for converting sugarcane into <i>gur</i> . Rates are based on the study conducted in Karnataka, Maharashtra and Tamil Nadu as major sugarcane producing States with reference period 2023-24. National average conversion rate used for remaining States.

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(ii) Palmyra	♦ Production and prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(iii) Bagasse	♦ Yield rates: Based on study ♦ Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	Based on studies conducted in Karnataka, Maharashtra and Tamil Nadu, State-wise production of bagasse is estimated as State-wise yield rate × State-wise quantity of sugarcane used for <i>gur</i> production.
(iv) Backyard farming (kitchen garden i.e. Homestead land raising for crop and having area less than 0.01 H)	♦ Net sown area: LUS from M/oAgFW ♦ State-wise percentage area under Backyard farming (kitchen garden): NSS Survey on AIDIS	Value of output = Area under Backyard farming (kitchen garden) × value of output per hectare of fruits and vegetables in current year	Value of output = Area under Backyard farming (kitchen garden) × value of output per hectare of fruits and vegetable estimated at base year prices	State-wise area under Backyard farming (kitchen garden) = State-wise rate × net sown area
(b) Inputs (Crop Sector)				
(1) Seed				
(i) Paddy, Wheat, Jowar, Bajra, Barley, Maize, Ragi, Gram, Arhar, Urad, Moong, Lentil, Safflower, Sesamum, Soyabean, Sunflower, Groundnut, Niger seed, Rapeseed & Mustard, Cotton, Onion, Potato, Jute.	♦ Seed rate: CCS from M/oAgFW ♦ Area under the crop: M/oAgFW ♦ Output Producer Price Index (OPPI): M/o Commerce and Industry	Value of Seed = Area × VPH (Seed rate in Rs. Per hectare) at current prices In case CCS is not available for the current year, Value per hectare of current year = Value per hectare of reported year from CCS × (OPPI	Value of Seed = Area × VPH (Seed rate in Rs. Per hectare) at base prices	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		current/ OPPI reported year) of respective crop.		
(ii) Beans, Bitter gourd, Bottle gourd, Brinjal, Cabbage, Cauliflower, Green chilies, Coriander, Cucumber, Garlic, Ginger, Okra/Lady finger, Green peas, Pumpkin/Sitaphal, Radish, Tomato, Turmeric, Beetroot, Carrot, Watermelon, Castor, Linseed, Sweet Potato, Tapioca, Small millets	♦ Seed rate: NSS Survey on Land & Livestock Holdings and Situation Assessment Survey (SAS) 2019 ♦ Area: M/oAgFW ♦ OPPI: M/o Commerce and Industry	Value of Seed = Area × VPH (Seed rate in Rs. Per hectare) at current prices. Value per hectare of current year = Value per hectare of reported year from SAS × (OPPI current/ OPPI reported year) of respective crop.	Value of Seed = Area × VPH (Seed rate in Rs. Per hectare) at base prices	
(2) Pesticides	♦ Consumption and prices: Directorate of Plant Protection, Quarantine & Storage ♦ OPPI: M/o Commerce and Industry	Value of input = State-wise consumption × current year price; OPPI used for extrapolation till current year prices are received	Value of input = State-wise consumption × base year price	
(3) Repair & Maintenance for Crop Sector	♦ Average cost of Repair and Maintenance on (i) Orchards & Plantation Resources, (ii) Wells & Irrigation, (iii) Agricultural Machinery & Implement and (iv) Transport	Benchmark/Base year estimates (as derived from AIDIS) moved with the estimates of capital stock of farm business at current prices.	Benchmark/Base year estimates (as derived from AIDIS) moved with the estimates of capital stock of farm business at constant prices.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
	Equipment: All India Debt and Investment Survey (AIDIS)			
(4) Electricity	◆ Consumption of electricity for agricultural purposes: Central Electricity Authority ◆ Price per unit of electricity in agriculture sector: State DESs	Value of electricity inputs = electricity consumption in the current year × current year price	Value of electricity inputs = electricity consumption in the current year × base year price	
(5) Chemical Fertilizers	◆ Consumption and Prices: Fertilizer Association of India	Value of inputs = quantity consumed in the current year × current year price	Value of inputs = quantity consumed in the current year × base year price	
(6) Diesel oil	◆ Number of tractors: M/oAgFW ◆ Number of diesel engines: ILC, 1997 and ILC, 2003 ◆ Consumption of diesel oil per diesel engine and per tractor and price: CCS from M/oAgFW	Value of inputs = no. of diesel engines/tractors in the current year × consumption per diesel engine/tractor in the current year × price of diesel oil in current year	Value of inputs = no. of diesel engines/tractors in the current year × consumption per diesel engine/tractor in the current year × price of diesel oil in base year	As no updated data on the number of diesel engines are available beyond ILC 1997 and 2003, number of diesel engines in 2016-17 as estimated using intercensal growth is used.
(7) Irrigation charges	◆ Receipts of Government from sale of water: State Government Budget ◆ Gross irrigated area: Land use Statistics (LUS) from M/oAgFW	Total receipts in the relevant head from sale of water.	Base year estimates are moved with State-wise gross irrigated area by Government Canals.	
(8) Market charges for crops	◆ State DES	Market charges = State-wise percentage of value of output	Market charges = State-wise percentage of value of output of	State-wise estimated percentage of market

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		of selected crops (for States which have reported data) at current prices. Market charges =3.22% of value of output of crops (for remaining States) at current prices.	selected crops (for States which have reported data) at base prices. Market charges =3.22% of value of output of crops (for remaining States) at base prices.	charges (i.e. 3.22%) to value of output has been derived using information on market margins conducted by erstwhile DES(Ag) during 2004-05.
(9) Feed of livestock for Crop Sector	◆ Age-wise Species-wise Population: ILC 2012 and 2019 from Department of Animal Husbandry and Dairying (DAHD) ◆ Prices of Dry Fodder, Green Fodder and Concentrates: CCS from M/oAg&FW ◆ OPPI: M/o Commerce and Industry	Value of Feed = Per animal annual Consumption rates of Adult Male Cattle & Adult Male Buffalo × Current Year price × population of these categories. Current Year price = Base Year Prices of Roughages and Concentrates inflated with growth rate of relevant items of OPPI.	Value of Feed = Per animal annual Consumption rates of Adult Male Cattle & Adult Male Buffalo × Base Year price × population of these categories.	Population of Adult Buffalo (Male) and Adult Cattle (Male) is available for categories in Livestock Census as (i) Used for breeding only, (ii) Used for agriculture only, (iii) Used for agriculture & breeding only, (iv) Used for Bullock cart / Farm operation, (v) Others. For crop sector, bifurcation of feed consumed by livestock is estimated using the share of population of adult male cattle and adult male buffalo as per use categories.

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(10) Organic Manure	- Population: ILC, 2012 and 2019 - Prices, evacuation rate for dung, utilization rate for dung cake & dung manure: State DESs	Value of dung manure as estimated in livestock sector at current prices.	Value of dung manure as estimated in livestock sector at constant prices.	
2. Irrigation System				
Operation of Government Irrigation system	- Budget documents of State Governments - Annual Reports of NDEs	Estimates of GVA at current prices estimated using the production approach.	Base year estimates are moved with the index of gross irrigated area.	
3. Livestock Products				
(a) Value of Output				
(i) Milk (Cattle, Buffalo and Goat), hen eggs and Wool	- Production: Department of Animal Husbandry and Dairying (DAHD) - Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(ii) Camel milk	- Production: State DESs - Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(iii) Duck eggs	- Production: DAHD - Prices: State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	States where ISS does not cover duck eggs - Production= 3.5% of hen eggs in case of Gujarat; Production = 3% of hen egg in case of Goa, Mizoram, Daman & Diu and Dadra & Nagar Haveli.

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(iv) Meat (Registered + Unregistered)	♦ Production: DAHD and State DESs ♦ Prices: State DESs	Value of output = production (after adjusting the quantity produced in manufacturing sector) × current year price	Value of output = production (after adjusting the quantity produced in manufacturing sector) × base year price	
(v) Meat (Products and by- products) (includes fats, edible offals & glands, hides & skins, heads & legs of slaughtered animals)		Animal-wise Meat (Product and by- product) estimated as % of Value of Meat at current price.	Animal-wise Meat (Product and by-product) estimated as % of Value of Meat at base year price.	Proportion of meat taken as meat product and by-product - Cattle (16.0%), Buffalo (14.49%), Goat (21.59%) Sheep (23.05%) and Pig (9.4%) (Based on a study by NRCM, Hyderabad on Meat Products and Meat by-products, 2013-14).
(vi) Poultry Meat	♦ Poultry population: ILC, 2012 and 2019 ♦ Production of eggs: DAHD ♦ Prices: State DESs	Value of output is estimated separately for four components (a) chicken and ducklings killed, (b) adult fowls killed, (c) adult ducks killed and (d) other poultry killed multiplied by the respective price per bird.	Same procedure as adopted for the current price estimates, but the prices used are the respective base year prices.	(a) chickens & ducklings killed = <i>total poultry of current year</i> (chicks survived + 50% of hens & cock population + 50 % of ducks & drakes population + population of chickens & ducklings+ 62.5 % of other poultry) - <i>total poultry of next year</i> (population of hens

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
				+cocks + ducks + drakes + chickens + other poultry), <i>where</i> chicks survived = 1/3rd of eggs kept for hatching (eggs kept for hatching = fixed ratio × total egg production) (b) adult fowls killed = 50% of population of hens & cocks (c) adult ducks killed = 50% of population of ducks & drakes (d) other poultry killed = 37.5 % of other poultry
(vii) Fats from Fallen Animals (only for cattle and buffalo)	♦ Mortality rates: Directorate of Marketing & Inspection (DMI) reports ♦ Population: ILC, 2012 and 2019	Value of output = Number of Fallen animal × yield rate × current year price	Value of output = Number of Fallen animal × yield rate × base year price	
(viii) Cattle hides, Buffalo hides, Goat skin and Sheep skin (fallen animals)	♦ Mortality rates: DMI Reports ♦ Population: ILC, 2012 and 2019	Value of output = Number of Fallen animal × current price of hides/ skin per animal	Value of output = Number of Fallen animal × base year price of hides / skin per animal	
(ix) Camel hair/Goat hair /Pig bristles	♦ Population: ILC, 2012 and 2019	Value of output = yield rate × population of camel/goat/pig × current year price	Value of output = yield rate × population of camel/goat/pig × base year price	Yield rate of hair Camel - 800 gm. per animal per year (as

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
	◆ Yield rates for goat hair: DMI Reports ◆ Prices: State DESs			available for single-humped camel) Pig Bristles: For pig bristles 155gm per pig per year
(x) Dung and Droplet (a) Dung Fuel (b) Dung Manure	◆ Population: ILC, 2012 and 2019 ◆ Prices, evacuation rate for dung, utilization rate for dung cake & dung manure: State DESs	Production of dung = population of cattle, buffalo, sheep and goat × evacuation rate (a) dung fuel Value of output = $0.4 \times$ utilisation rate for estimating dung used for making cakes × dung production × current year price (b) dung manure Value of output = utilisation rate for estimating dung used for manure purpose × dung production × current year price	Same procedure as adopted for the current price estimates, but the prices used are the respective base year prices.	Evacuation rate for sheep and goat have been derived from a study conducted by Central Institute for Research on Goats and National Centre for Agricultural Economics and Policy Research, New Delhi, during 2013, on "Positive Environmental Externalities of Livestock in Mixed Farming Systems of India".
(xi) Other Products - Silk -Ere, Tussar, Muga, Mulberry and Honey & Bee Wax	◆ Production and Prices of Silk: State DESs ◆ Production of honey from M/oAgFW (Horticulture Statistics Division) and Prices from State DESs	Value of output = current year production × current year price	Value of output = current year production × base year price	
(xii) Increment in livestock	◆ Population: ILC, 2012 and 2019 ◆ Prices: State DESs	Value of output = additions to livestock population during the year × current year price	Value of output = additions to livestock population during the year × base year price	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(b) Inputs – Livestock				
(1) Repair and maintenance for livestock and operational costs	Average cost of Repair and Maintenance on (i) Barns; (ii) Animal Sheds and (iii) other miscellaneous costs: All India Debt and Investment Survey (AIDIS).	Benchmark estimates (as derived from AIDIS) moved with the estimates of capital stock of farm business at current prices + Value of Operational Cost at current prices.	Benchmark estimates (as derived from AIDIS) moved with the estimates of capital stock of farm business at constant prices + Value of Operational Cost at constant prices.	Value of Operational Cost = 0.25% of value of output at current/constant prices of (milk, poultry meat, skin and hides, eggs, wool, silk, honey and increment in livestock).
(2) Market charges for Livestock	- Number of slaughtered animals: DAHD - Municipal charges per slaughtered animal: State DESs	Market charges = rates in rupees per animal in current year × no. of slaughtered animals	Market charges = rates in rupees per animal in base year × no. of slaughtered animals	Assumed to be fixed till revised by State Governments.
(3) Feed of livestock for Livestock Sector	- Age-wise Species-wise Population: ILC, 2012 and 2019 - State-wise average price for Dry Fodder, Green Fodder and Concentrates: earlier CCS (inflated using relevant OPPI)	Value of Feed = Species-wise and Category-wise per animal annual feed Consumption value for base year (inflated using relevant OPPI) × Species-wise and Category-wise population	Value of Feed = Species-wise and Category-wise per animal annual feed Consumption value for base year × Species-wise and Category-wise population	(i) Existing feed for cattle is apportioned for indigenous and crossbred species using share of category and species wise feed rate available from Agricultural Development and Rural Transformation Centre (ADRTC), Bengaluru report. (ii) Green fodder consumed by livestock is adjusted in proportion to increase in

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
				production of grass and fodder. (iii) Quantity of dry fodder and concentrate is adjusted as per feed quantity of green fodder. (iv) Updated quantity of feed is then combined with price of feed and population of animal per year to estimate value of total feed. (v) For livestock sector, feed consumed by livestock is estimated as value of total feed minus the value of feed of livestock for crop sector.
4. Forestry				
(a) value of output				
(1) Industrial wood from Forests	♦ Production and Prices: State DESs	Recorded: Value of output = production × current year price Total = 1.1 × Value of output of recorded production.	Base year constant price GSVA estimates will be extrapolated using quantum indices (using State level production/quantity) to arrive at constant price estimates of current year.	Value of output of unrecorded production = 0.1 × value of output of recorded production

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(2) Industrial Wood from Trees outside forest (TOF)	♦ Production of TOF: Biennial publication - India State of Forest Report (ISFR) from Forest Survey of India ♦ Prices: State DESs	Value = Estimated production (Projection using potential production from TOF in the year of survey and State-wise CAGR of Growing Stock of TOF) × (Current year price of Industrial Wood from TOF)	Base year constant price GSVA estimates will be extrapolated using quantum indices (using State level production/quantity) to arrive at constant price estimates of current year.	State Governments provided the prices of industrial wood from TOF on the basis of a survey conducted of registered saw mills in their respective states.
(3) Fuelwood	♦ Monthly Per Capita Quantity of Firewood consumed from HCES 2022-23 and 2023-24 ♦ Population: Population Projection Report published by M/o Health & Family Welfare. ♦ Prices: State DESs ♦ OPPI: M/o Commerce and Industry	Value of Output: Total Value of Firewood at Current Price - Value of agricultural by products used as firewood at Current Price	A quantum index is derived by deflating the current year value of output using OPPI ("Firewood"). Base year constant price GVA estimates are then extrapolated using growth in the deflated output to obtain estimates at constant prices for the current year	For the subsequent years, in the absence of updated HCES data, the results of HCES 2023-24 will be retained, with appropriate adjustments made based on the projected population.
(4) Non-Timber Forest Products				
(i) Minor forest products	♦ Value of Output: State DESs ♦ OPPI: M/o Commerce and Industry	Value of output estimates are directly furnished by the State DESs.	A quantum index is derived by deflating the current year value of output using OPPI ("Other Forestry Products"). Base year constant price GVA estimates are then extrapolated using growth in the deflated output to obtain estimates at constant prices for the current year.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(ii) Fodder from forest	- Percentage of Livestock dependent on forest for fodder: Study conducted by FSI - OPPI: M/o Commerce and Industry	Value of Roughages (as estimated for input - fodder consumed by livestock in crops & livestock sectors) at current year price $\times$ livestock dependent on forest for fodder.	A quantum index is derived by deflating the current year value of output using OPPI ("Fodder"). Base year constant price GVA estimates are then extrapolated using growth in the deflated output to obtain estimates at constant prices for the current year.	The value of fodder from forests has been updated using FSI study "Assessment of Dependence of Inhabitants of Forest Fringe Villages on Forests (2018-19)". State-level shares of fodder from forests are applied to annual livestock fodder consumption to estimate fodder derived from forests.
(b) Inputs of forestry	Budget documents of State Governments	Input-output ratio to be derived from State budget documents.		
5. Fishing				
(a) value of output				
(1) Marine fish, inland fish and prawns	- Production: Department of Fisheries (DoF) - Production, disposals and prices: State DESs	Value of output = Quantity of fish sold in raw form $\times$ current price + quantity of salted fish let-out $\times$ current price + quantity of sun-dried fish let-out $\times$ current price + quantity of fish let-in for freezing $\times$ current price	Base year constant price GSVA estimates will be extrapolated using quantum indices (using State level production/quantity separately for marine, inland, prawn and disposal related items) to arrive at constant price estimates of current year.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(2) Subsistence fish	♦ Production and Prices: State DESs	Value of output = Production of subsistence fish × current price	Base year constant price GSVA estimates will be extrapolated using quantum indices (using State level subsistence quantity) to arrive at constant price estimates of current year.	Production of subsistence fish= 0.125 × production of inland fish (for the States where production of subsistence fish is not reported).
(b) inputs				
(1) Marine fish (Raw form/Salting let-out/Sun dried let-out, Frozen let-in)	♦ Input output ratio: Study on input cost of marine fisheries conducted by Central Marine Fisheries Research Institute (CMFRI), Kochi	State-wise Input-output ratios of marine fish to be used.		State-wise input-output ratios based on the report of CMFRI study, covering 11 major marine fish producing States, have been used. For remaining States national average input-output ratio have been used.
(2) Inland fish (Raw form/Salting let-out/Sun dried let-out, Frozen let-in) & Subsistence Fish	♦ Input-output ratio: Study on input cost of inland fish production conducted by CIFRI, Barrackpore, Kolkata	State-wise Input-output ratios of Inland Fish to be used. 1% input cost is used for subsistence fishing.		State-wise input-output ratios based on the report of CIFRI study, covering 12 major inland fish producing States, have been used. For remaining States, national average input-output ratio have been used.
(3) Prawns (Raw form/Salting let-out/Sun	♦ Input output ratio: Study on input cost of marine	For marine prawns, input-output ratio of marine fish is		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
dried let-out, Frozen let-in)	fisheries conducted by CMFRI and CIFRI	applied, while for inland prawns, input-output ratio of inland prawns is used.		
6. Mining & Quarrying				
Major minerals other than salt	◆ Non-Departmental Enterprises: Annual Reports of NDEs ◆ Non-Financial Private Corporations : MCA database	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of Central and State Non-Departmental Enterprises (NDEs). GVA and related aggregates compiled using the MCA-21 database.	Volume extrapolation using mineral-wise index of production compiled by Indian Bureau of Mines.	
Salt Mining	◆ State/UT Directorates of Economics & Statistics (DES); Indian Salt Manufacturers Association-ISMA (quantity & price); Annual Survey of Industries – ASI (input rate)	GVO estimated using quantity and price data on salt mining provided by State/UT DES and the Indian Salt Manufacturers Association; GVA derived by applying the input rate (ratio of input to output) compiled from ASI establishments under NIC-2008 code 08932 (Salt production by evaporation of sea water or other saline waters) to the value of output.	Volume extrapolation has been carried out using the index of production compiled from the quantity data provided by State DES/ISMA.	
Minor Minerals other than sand	◆ State/UT Directorates of Economics & Statistics (DES) – sourced from State Geological/Forest/Revenue	Value of output of minor minerals (excluding sand) compiled from data provided by State/UT DES; GVA	Volume extrapolation has been carried out using the index of production compiled from the quantity data provided by State DES.	Average input rate of major non-metallic major minerals (from IBM data) is used for estimating GVA at

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
	Departments; Indian Bureau of Mines (IBM) (input rate)	estimated by applying the input rate to the value of output.		current prices from GVO provided by States/UTs in absence of data on input rate for minor minerals.
Sand Mining	♦ GVO of sand estimated indirectly from consumption in Construction and manufacturing sector, Supply Use Table (SUT) for Trade & Transport Margin (TTM); IBM (input rate), ASI, ASUSE	Output of sand mining estimated indirectly by estimating value of sand consumed in construction and value of sand used as input in Manufacturing is derived using ASI and ASUSE results. Total output of sand mining is the sum of sand consumed in construction (TTM-adjusted) and sand used in Manufacturing; GVA at current prices estimated by applying the input rate (derived from the average input rate for major non-metallic minerals using IBM data) to the value of output.	Volume extrapolation has been carried out using the index of production compiled from the quantity data provided by State DES.	Average input rate of major non-metallic major minerals (from IBM data) is used for estimating GVA at current prices from GVO provided by States/UTs in absence of data on input rate for minor minerals.
7. Manufacturing				
Departmental Enterprises	♦ Budget Documents	GVA/GVO and related aggregates estimated through detailed analysis of Budget Documents	Compilation category-wise GVO and Input structure derived using results of Annual Survey of Industries are applied on the	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	compilation category-wise GVO and Input estimated using institutional sector approach. Compilation category -wise and item-wise output and input are deflated by relevant item level Producer Price Index, from M/o Commerce & Industry, and then aggregated to arrive at constant price GVO and Input for respective compilation category.	
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database. Estimates of compilation category-wise GVO and GVA are derived using results of ASI	GVA at constant prices for the compilation category is difference between deflated GVO and Input. For compilation category 'Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats' and 'Manufacture of pharmaceutical; medicinal chemicals and botanical products', single extrapolation has been used (base year GVA extrapolated by growth in the constant price GVO).	
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of Annual Survey of Industries (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9 : Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		
Quasi-Corporations and Households	♦ ASUSE, MoSPI ♦ PLFS, MoSPI ♦ Population Projections from M/o Health and Family Welfare	GVAPW (estimated compilation category-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		projections from M/o Health and Family Welfare)		
8. Electricity				
Departmental Enterprises	♦ Budget Documents	GVA/GVO and related aggregates estimated through detailed analysis of Budget Documents	Volume extrapolation applied separately for Renewable and Non-Renewable electricity generation separately using the growth in the Index of Industrial Production (IIP) for renewable and non-renewable generation.	
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of ASI (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9 : Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Quasi-Corporations and Households	♦ ASUSE, MoSPI ♦ PLFS, MoSPI Population Projections from M/o Health and Family Welfare	GVAPW (estimated compilation category-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
Own Account Electricity Production by Households	♦ Results of Household Consumption Expenditure data, Installed Capacity from M/o New & Renewable Energy	The estimate for 2022-23 and 2023-24 have been arrived from HCES 2022-23 and 2023-24 using Per capita consumption and Population projection data. For subsequent years, the base year estimates of consumption of electricity are moved forward using M/o New & Renewable Energy data on growth in installed capacity electricity sold (in KWH) under schemes implemented for households (PM Surya Ghar and Off-grid Solar/ KUSUM) and per unit price.		
9. Gas				
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through	Volume extrapolation method based on consumption of Natural	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		detailed analysis of the Annual Reports of NDEs.	Gas sourced from Petroleum planning and Analysis Cell, M/o Petroleum & Natural Gas.	
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of ASI (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9 : Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		
Household Sector Biogas production:	♦ Khadi and Village Industries Commission (KVIC), M/o New & Renewable Energy, ♦ M/o Rural Development, Department of Drinking Water & Sanitation	GVA is estimated using average production per plant worked out from the total value of production of biogas and the number of biogas plants reported by KVIC and applying GVA to GVO ratio provided by KVIC.	Volume extrapolation using growth in the biogas plants installed.	
10. Water Supply				
General Government/ Departmental Enterprises	♦ Budget Documents	GVA/GVO and related aggregates estimated using	Single extrapolation method separately for Public (General	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		cost of production approach through detailed analysis of Budget Documents	Government, NDE) using CPI(IW) and Private sector (Private Corporate, ASI Non-Corporate, Quasi and Household) using CPI (Water Charges)] has used.	
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of ASI (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9 : Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		
Quasi-Corporations and Households	♦ ASUSE, MoSPI ♦ PLFS, MoSPI ♦ Population Projections from M/o Health and Family Welfare	GVAPW (estimated compilation category-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		projections from M/o Health and Family Welfare)		
11. Remediation (Recycling)				
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Single extrapolation wherein GVO is deflated by composite PPI based index covering items Basic Iron and Steel and casting of iron and steel, fabricated metal products, paper and plastic products and growth in deflated output is used for extrapolating base year GVA estimates.	
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of ASI (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9 : Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		
Quasi-Corporations and Households	♦ ASUSE, MoSPI ♦ PLFS, MoSPI ♦ Population Projections from M/o Health and Family Welfare	GVAPW (estimated compilation category-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		projections from M/o Health and Family Welfare)		
12. Sewerage				
General Government/ Departmental Enterprises	♦ Budget Documents	GVA/GVO and related aggregates estimated using cost of production approach through detailed analysis of Budget Documents	Single extrapolation using CPI(General)	
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
ASI-Non Corporate	♦ Annual Survey of Industries	GVO and GVA estimated from results of ASI (type of organisation code 1: Individual Proprietorship 2. Partnership 8: Co-operative Society 9: Others (including Joint Family (HUF), Trusts, Wakf Boards, Handlooms, KVIC etc.)		
Quasi-Corporations and Households	♦ ASUSE, MoSPI ♦ PLFS, MoSPI ♦ Population Projections from M/o Health and Family Welfare	GVAPW (estimated compilation category-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		projections from M/o Health and Family Welfare)		
13. Construction				
Total Commodity Flow	♦ Annual Survey of Industries, Annual Survey of Unincorporated Sector Enterprises, Supply use tables (for trade and transport margins), Cement Production using DPIIT, Product Taxes (from D/o Revenue), Import and export data using DGCI&S.	Estimates compiled from the availability of input materials through the commodity flow method. Inter-industry ratios for constructing commodity flow are derived from ASI and ASUSE. The availability of each of the material input is worked out using the production (+) import (-) export (-) inter-industry consumption + TTM adjustment + Taxes on products to arrive at the value of material inputs at market price. The material inputs consumed by General Government, DE, and Private Corporations, the material inputs available for use of the unincorporated sector are estimated by residual approach.	Material input wise availability derived using commodity flow is deflated by relevant PPI and services input deflated by CPI. GVO to Input ratio derived in base year is then applied to deflated input (material + services) to arrive at GVO at constant prices. Difference between GVO at constant price and deflated input gives the GVA at constant prices.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
General Government, Departmental Enterprises	♦ Budget Documents	GVA/GVO and related aggregates estimated using cost of production approach through detailed analysis of Budget Documents		
Non-Departmental Enterprises	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporations	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Quasi-Corporations and Households	♦ Pilot Survey on Construction, NSSO	The material inputs available for unincorporated sector are supplemented by service inputs using results of Pilot Survey on Construction to arrive at total inputs (material + services). The GVO to Input ratio from this survey is used to arrive at GVO. GVA is compiled as difference between GVO and input for unincorporated sector. The GVO and GVA are then bifurcated into quasi-corporations and households using share in GVO and GVA		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		of quasi-corporations and households in GVO and GVA estimated from Pilot Survey on Construction, NSSO.		
Plantation	♦ State-wise Incremental Area under plantation from M/o Agriculture & Farmers Welfare & State DESs and State-wise, Plantation-wise per hectare expenditure on setting up plantation from NABARD	GVO = sum of Incremental Area (in hectares) x Expenditure per hectare. GVA= Sum of State-wise and Plantation-wise GVA to GVO Ratio x State-wise and Plantation-wise GVO.	The GVO at constant prices for plantation activity is derived as the sum of State-wise and Plantation wise Incremental area x base year average expenditure per hectare. GVA at constant prices for plantation is compiled by using the State-wise and Plantation wise GVO at constant prices multiplied by the GVA to GVO ratio of base year (from NABARD) data.	
Mineral Exploration	♦ Output estimated for NDE and Private Corporations from analysis of annual reports and MCA database	GVA = GVO x GVA to GVO ratio derived on the basis of companies engaged in mineral exploration activities	GVO at constant prices for mineral exploration is derived by deflating the GVO at current prices by CPI (combined) index. The GVA at current prices is then derived by using single extrapolation.	
14. Trade & Repair services				
Departmental Enterprises (DE)	♦ Budget documents	GVA/GVO and related aggregates estimated using income approach through	Single extrapolation based on an index derived using Output Producer Price Index (OPPI),	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		detailed analysis of Budget Documents	from Department for Promotion of Industry and Internal Trade (DPIIT) with TTM, from Supply Use Table (SUT) 2022-23, as weights.	
Non-Departmental Enterprises (NDEs)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
15. Hotel & Restaurant				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Single extrapolation method using relevant items of CPI, MoSPI.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Unincorporated Enterprises (including cooperative, quasi and household sector)	◆ ASUSE from MoSPI ◆ PLFS from MoSPI ◆ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
16. Road transport				
Departmental Enterprises (DE)	◆ Budget documents	GVA/GVO and related aggregates estimated using income approach through detailed analysis of Budget Documents	Volume extrapolation based on an index derived from the Stock of commercial vehicles (based on 15 years data) from Society of Indian Automobile Manufacturer (SIAM)	
Non-Departmental Enterprises (NDE)	◆ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporate (NFPC)	◆ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	◆ ASUSE from MoSPI ◆ PLFS from MoSPI ◆ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
17. Water transport				
Departmental Enterprises (DE)	♦ Budget documents	GVA/GVO and related aggregates estimated using income approach through detailed analysis of Budget Documents	Volume extrapolation based on an index derived from information on cargo handled at major and minor ports from “Update on Indian Port Sector” publication of M/o Ports, Shipping & Waterways	
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
18. Air transport				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Volume extrapolation method using air volume index compiled using information on domestic and international ton kilometers	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.	performed by passenger and freight from 'Performed Monthly Traffic and Operating Statistics of Indian Carriers' by Directorate General of Civil Aviation (DGCA)	
19. Services Incidental to Transport				
Departmental Enterprises (DE)	♦ Budget documents	GVA/GVO and related aggregates estimated using income approach through detailed analysis of Budget Documents	For DE, NDE and NFPC, volume extrapolation using combined growth of GVA at constant price estimates for road, water and air transport is used as indicator. For unincorporated, volume extrapolation using combined growth of GVA at constant price estimates for road and water transport is used as indicator.	
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
20. Storage				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Single extrapolation based on an index compiled using information on average capacity utilized and warehousing charges, obtained from Centre and State Warehousing Corporations.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		

21. Postal & Courier activities				
Departmental Enterprises (DE)	♦ Budget documents	GVA/GVO and related aggregates estimated using income approach through detailed analysis of Budget Documents	Single extrapolation method using relevant items of CPI, MoSPI.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
22. Telecommunication				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Volume extrapolation using the information on minutes of usage and data usage from ‘Performance indicator Report’ of Telecom Regularity Authority of India.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
23. Broadcasting & publishing services				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Single extrapolation method using relevant items of CPI, MoSPI.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
24. Real estate & Professional services				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.	Single extrapolation method using relevant items of CPI, MoSPI.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
25. Ownership of Dwelling				

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Unincorporated Enterprises (including cooperative, quasi and household sector)	◆ Household Consumption Expenditure Survey (HCES) 2022-23 and 2023-24. ◆ Drinking Water and Sanitation, Hygiene and Housing Condition Survey, 2018 ◆ All India Debt & Investment Survey ◆ Population Projection Report from M/o Health & Family Welfare	Urban: Dwelling estimates are based on projected population from M/o health & family welfare report, and average household size along with rent per dwelling as derived from HCES 2022-23 and 2023-24, adjusted for households with dwellings from HCES and employer-provided housing using Drinking Water and Sanitation, Hygiene and Housing Condition Survey. For subsequent years, dwellings are estimated using inter-survey growth of HCES (2022-23 and 2023-24) and rent is extrapolated using CPI (Housing). Finally, urban residential GVA at current price is derived by deducting repair and maintenance costs, based on AIDIS 2019, from gross rental value. In case of Rural, user cost approach is applied for	At constant prices, gross rental estimates for urban areas are calculated by multiplying the base-year rent per dwelling (HCES 2022-23) by the estimated number of dwellings for current year. GVA at constant price is then obtained by subtracting repair and maintenance expenses at constant prices from gross rental estimates. For rural dwellings, user cost approach is used for estimation wherein GVA is the sum of operating surplus, derived by applying a risk-free rate of return in the base year on the stock of rural dwellings at constant prices (compiled using Perpetual Inventory Method (PIM)), and CFC at constant prices.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		estimation of GVA wherein the operating surplus is derived by applying a risk-free rate of return on the stock of rural dwellings at current prices (compiled using Perpetual Inventory Method (PIM) and results of AIDIS & estimates of GVO of Rural Residential Buildings). The GVA is sum of the operating surplus at current prices and Consumption of Fixed Capital at current prices.		
26. Education				
General Government	♦ Budget documents	GVA/GVO and related aggregates estimated using cost of production approach through detailed analysis of Budget Documents	Single extrapolation method using relevant items of CPI, MoSPI.	
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through detailed analysis of the Annual Reports of NDEs.		
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
27. Health				
General Government	♦ Budget documents	GVA/GVO and related aggregates estimated using cost of production approach through detailed analysis of Budget Documents	Single extrapolation method using relevant items of CPI, MoSPI.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.		
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)		
28. Other services				
Non-Departmental Enterprises (NDE)	♦ Annual Reports of NDEs	GVA/GVO and related aggregates estimated through	Activities of membership organisations: Single	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		detailed analysis of the Annual Reports of NDEs.	extrapolation method using relevant items of CPI, MoSPI.	
Non-Financial Private Corporate (NFPC)	♦ MCA database	GVA and related aggregates compiled using the MCA-21 database.	Recreational, Cultural and Sporting activities: Single extrapolation method using relevant items of CPI, MoSPI.	
Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ ASUSE from MoSPI ♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	GVAPW (estimated industry-wise using ASUSE data) x Workforce (estimates from PLFS adjusted for population projections from M/o Health and Family Welfare)	Personal Services and other services: Single extrapolation method using relevant items of CPI, MoSPI.	

29. Private household with employed persons

Unincorporated Enterprises (including cooperative, quasi and household sector)	♦ PLFS from MoSPI ♦ Population Projection from M/o of Health & Family Welfare	National level GVA estimate is compiled for NIC Code-97 using Labour Input (LI) method using PLFS. GVA is compiled as average salary/wage earned by employees engaged in NIC Code-97, estimated from PLFS, combined with the corresponding workforce derived from PLFS adjusted with projected population.	GVA at constant prices is compiled by the single extrapolation method using index of relevant items of CPI, MoSPI.	
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Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
30. Financial Services				
(1) Central Bank	♦ Annual report of RBI	GVA/GVO and related aggregates estimated using sum of cost Method.	Volume indices were computed using CE deflated by the CPI (General) index	
(2) Deposit taking corporations	♦ STRBI data from RBI for Nationalized Banks, Domestic Private Sector Banks, Foreign Banks, Payment Banks, Urban Cooperative Banks and Small Finance Banks. ♦ Annual accounts of RRBs and Rural Cooperative Banks from NABARD. ♦ Annual report of PACS from NAFSCOB	GVA/GVO and related aggregates estimated using production approach.	For Deposit-taking Corporations, average aggregate credits and deposits are deflated using the CPI (General) to derive volume measures of FISIM on loans and deposits based on spread of base-year lending, deposit, and reference rates. Actual Receipts are deflated using BkSPI (Direct). Output at base-year prices is computed as the sum of deflated Actual Receipts and the volume measures of total FISIM.	
(3) Post Office Saving bank (POSB)	♦ Budget Documents	GVA/GVO and related aggregates estimated using production approach.	The Volume indices of the Number of Subscribers are used to extrapolate Output and GVA at constant price.	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
(4) Other Financial Intermediaries except Insurance Corporations and Pension Funds	◆ Annual reports of SFCs and Public sector NBFCs. ◆ Annual Returns obtained from MCA for Private sector NBFCs.	GVA/GVO and related aggregates estimated using production approach.	Single extrapolation using CPI (G).	
(5) Financial Auxiliaries	◆ Annual Report of concerned Financial entities like SEBI, IRDAI, IFSCA, Stock brokers and asset management companies ◆ Admin. Funds of PFOs ◆ MCA data ◆ Annual accounts of Insurance companies (for Insurance Agents)	Production Approach based on annual reports/accounts (except Insurance agents). For Insurance agents, the Output was computed using the current method i.e. the total value of commission to agents reflected in respect of public and private sector companies of life and non-life insurance to be treated as Actual Receipts (AR). Further for computing IC, moving average of the ratio of IC to Output from ASUSE was used.	Single extrapolation using CPI (G).	
(6) Captive financial institutions and money lenders	◆ ASUSE, ◆ AIDIS	For Moneylenders: Lending rate: AIDIS 2019 Stock of loan: Using inter-survey growth b/w latest AIDISs.	Single extrapolation using CPI(G).	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
		Output = FISIM using reference rate of S-122 & S-125 IC : Using moving average of the ratio of IC to Output from ASUSE. For the remaining unorganised segment, the estimates of GVA (Output-IC) was compiled using ASUSE.		
(7) Life Insurance	◆ Annual reports of LIC and ◆ Private life insurance companies	GVA/GVO and related aggregates estimated using production approach.	Single extrapolation using CPI (G)	
(8) Postal Life Insurance	◆ Budget Documents	GVA/GVO and related aggregates estimated using production approach.	Single extrapolation using CPI (G)	
(9) Non-life insurance	◆ Annual Reports of public and private Insurance Companies.	GVA/GVO and related aggregates estimated using production approach.	Single extrapolation using CPI (G)	
(10) Pension Fund	◆ Annual Report of EPFO, ◆ National Pension Scheme (NPS), ◆ Coal Mines Provident Fund Organisation (CMPFO),	GVA/GVO and related aggregates estimated using Sum of Cost Method.	Single extrapolation using BkSPI (Direct).	

Item	Data: Source	Method of estimation		Remarks
		At current prices	At constant (2022-23) prices	
(1)	(2)	(3)	(4)	(5)
	♦ Seamen's Provident Fund Organisation (SMPFO) etc. ♦ ATEPFO			
31. Public Administration and Defence				
Public Administration and Defence	♦ Budget documents from central and state Governments, annual accounts of local authorities; Annual Financial Accounts of Central Autonomous Institutions	Estimates of NVA at current prices compiled using income approach	Current price estimates deflated by the CPI (IW)	

Private Final Consumption Expenditure (PFCE)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01	Food and non-alcoholic beverages	As indicated in Para 21.6		
01.1	Food			
01.1.1	Cereals and cereal products			
01.1.1.1	Wheat and wheat products	HCES, Population Projections, CPI. For Commodity flow: details are given under section 21.3 and 21.4	Constant price estimates are inflated using: Non-PDS: Composite index of CPI of wheat/ atta Other sources, maida, suji, rawa (as per 2012 basket)/ Composite index of CPI of wheat, wheat atta Other wheat products, maida, suji, rawa (as per 2024 basket) PDS: Composite index of CPI of wheat PDS, wheat atta PDS	Direct
01.1.1.2	Rice and rice products	Same as item 01.1.1.1	Constant price estimates are inflated using:	Direct
			Non-PDS: Composite index of CPI of CPI of Rice Other sources, other rice products, <i>chira/ chidwa, muri</i>	
			PDS: CPI of rice PDS	
01.1.1.3	Sorghum and sorghum products	Same as item 01.1.1.1	Constant price estimates are inflated using: CPI of jowar and its products	Direct
01.1.1.4	Pearl Millet and Pearl Millet products	Same as item 01.1.1.1	Constant price estimates are inflated using: CPI of bajra and its products	Direct

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.1.1.5	Finger Millet and Finger Millet products	Same as item 01.1.1.1	Constant price estimates are inflated using: CPI of <i>ragi</i> and its products	Direct
01.1.1.6	Other cereals and cereal products	Same as item 01.1.1.1	Constant price estimates are inflated using: Composite index of CPI of other cereals, maize and products, small millets and their products (as per 2012 basket) Composite index of CPI of other cereals & products, maize & its products, small millets & its products (as per 2024 basket)	Direct
01.1.1.7	Bread and bakery products	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of bread (bakery), biscuits; chocolates; etc.(as per 2012 basket)/Composite index of CPI of bread (bakery), Biscuits (as per 2024 basket)
01.1.2	Meat			
01.1.2.1	Chicken	Same as item 01.1.1.1	Constant price estimates are inflated using CPI of chicken	Direct
01.1.2.2	Beef/ Buffalo meat	Same as item 01.1.1.1	Constant price estimates are inflated using CPI of beef/ buffalo meat	Direct
01.1.2.3	Pork	Same as item 01.1.1.1	Constant price estimates are inflated using CPI of pork	Direct
01.1.2.4	Mutton/ Goat meat	Same as item 01.1.1.1	Constant price estimates are inflated using CPI of goat meat/ mutton	Direct
01.1.2.5	Other meat	Same as item 01.1.1.1	Direct	Current price estimates are deflated using CPI of others: birds, crab, oyster, etc.
01.1.3	Fish and seafood	As per the details given under section 21.3 and 21.4	Commodity Flow	Current price estimates are deflated using CPI of others: CPI of fish, prawn

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
		CPI		
01.1.4	Milk, other dairy products and eggs			
01.1.4.1	Milk and other dairy products	Data from the study “Production and Utilisation pattern of Milk and Milk products in India”	Same as the method indicated in case of constant price estimates except that prices used are current prices. For obtaining current price, retail prices are moved using CPI as detailed below:	Using updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates. Since the study provided prices in respect of 2021-22 for extrapolating the same for obtaining price for 2022-23, growth in CPI of respective items is used in case of retail price as detailed below:
		Same as for production side estimates	Milk: CPI of milk liquid	Milk: CPI of milk liquid
		CPI	Other dairy products: Composite index of CPI of other milk products, condensed/powder, curd (as per 2012 basket) Composite index of CPI of condensed/powder, curd, yogurt, other milk products (as per 2024 basket). In case of ex-farm price (milk), the current year prices as calculated for the compilation of production side estimates are used.	Other dairy products: Composite index of CPI of other milk products, condensed/powder, curd (as per 2012 basket)/ Composite index of CPI of condensed/powder, curd, yogurt, other milk products etc. (as per 2024 basket). In case of ex-farm price (milk), the base year prices as calculated for the compilation of production side estimates is used.
01.1.4.2	Eggs	Same as item 01.1.1.1	Constant price estimates are inflated using CPI of eggs(no.)	Direct
01.1.5	Oils and fats			

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.1.5.1	Groundnut oil	As per the details given under section 21.3 and 21.4 CPI	Constant price estimates are inflated using CPI of Groundnut oil	Commodity Flow
01.1.5.2	Coconut oil	As per the details given under section 21.3 and 21.4 CPI	Constant price estimates are inflated using CPI of Coconut oil	Commodity Flow
01.1.5.3	Mustard oil	Same as item 01.1.1.1	Direct	By deflating current price estimates using CPI of mustard oil
01.1.5.4	Butter and Ghee	Data from the study “Production and Utilisation pattern of Milk and Milk products in India” CPI	Same as indicated against Item No. 01.1.4.1 except that the CPI considered is that of Ghee, butter.	Same as indicated against Item No. 01.1.4.1 except that the CPI considered is that of Ghee, butter.
01.1.5.5	Other edible oils	Same as item 01.1.1.1	By inflating Constant Price estimates using Composite index of CPI of refined oil, <i>Vanaspati</i> & margarine (as per 2012 basket)/ Composite index of CPI of refined oil, edible oils, <i>Vanaspati</i> & margarine (as per 2024 basket)	Direct
01.1.6	Fruits and nuts			
01.1.6.1	Banana	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of Banana	Commodity Flow
01.1.6.2	Mango	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of Mango	Commodity Flow

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.1.6.3	Coconut	Same as item 01.1.1.1	By inflating Constant Price estimates using Composite index of CPI of Coconut, green coconut	Direct
01.1.6.4	Citrus fruits	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using Composite index of CPI of orange, <i>mausami</i> , lemon	Commodity Flow
01.1.6.5	Grapes	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of grapes	Commodity Flow
01.1.6.6	Copra	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of coconut: copra	Direct
01.1.6.7	Cashew kernels	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of cashew nut	Commodity Flow
01.1.6.8	Groundnut	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of Groundnut	Commodity Flow
01.1.6.9	Other fruits	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using Composite index of CPI of jackfruit, watermelon, pineapple, guava, <i>singara</i> , papaya, <i>kharbooza</i> , pears/ <i>nashpati</i> , berries, litchi, apple, dates, other nuts, raisin; <i>kishmish</i> and <i>monacca</i> ; other fresh fruits, other dry fruits etc.	Commodity Flow
01.1.6.10	Fruit products	As per the details given under section 21.3 and 21.4	Commodity Flow	By deflating Current price estimates using composite index of CPI of all items considered under item “fruits and nuts”

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
		CPI		
01.1.7	Vegetables, tubers, plantains, cooking bananas and pulses			
01.1.7.1	Onions	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of onions	Direct
01.1.7.2	Potatoes	As per the details given under section 21.3 and 21.4 CPI	By inflating Constant Price estimates using CPI of Potato	Commodity Flow
01.1.7.3	Other vegetables and tubers	Same as item 01.1.1.1	By inflating Constant Price estimates using Composite index of CPI of radish, carrot, garlic, <i>palak</i> /other leafy vegetables, tomato, brinjal, cauliflower, cabbage, green chillies, lady's finger, <i>parwal/ patal</i> , <i>kundru</i> , gourd, pumpkin, Peas, beans, <i>barbati</i> , potato, cereal substitute: tapioca, other vegetables etc. (as per 2012 basket) / CPI of radish, carrot, garlic, <i>palak</i> /other leafy vegetables, tomato, brinjal, cauliflower, cabbage, green chillies, lady's finger, <i>parwal/ patal</i> , <i>kundru</i> , gourd, pumpkin, Peas, beans, <i>barbati</i> , potato, other vegetables, etc. (As per 2024 basket)	Direct
01.1.7.4	Vegetable products	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	By Deflating Current price estimates using Composite index of CPI of all items considered under PFCE items Onions and other vegetables and tubers
01.1.7.5	Green gram	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of <i>moong</i>	Direct
01.1.7.6	Black gram	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of <i>urad</i>	Direct

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.1.7.7	Gram whole	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of gram: whole	Direct
01.1.7.8	Pigeon peas	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of <i>arhar, tur</i>	Direct
01.1.7.9	Masoor	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of <i>masur</i>	Direct
01.1.7.10	Other pulses	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of other pulses	Direct
01.1.7.11	Gram Products	Same as item 01.1.1.1	Direct	By deflating the current price estimates using CPI of gram products (as per 2012 basket)/
				CPI of <i>besan</i> , gram products (as per 2024 basket)
01.1.8	Sugar, confectionery and desserts			
01.1.8.1	Gur	Same as item 01.1.1.1	By inflating Constant Price estimates using CPI of jaggery (<i>gur</i>)	Direct
01.1.8.2	Refined Sugar	As per the details given under section 21.3 and 21.4 CPI	Constant price estimates are inflated using: Non-PDS: CPI of sugar other sources PDS: CPI of sugar PDS	Commodity Flow
01.1.8.3	Sugar confectionery	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	Current price estimates are deflated using CPI of candy, <i>misri</i> , honey, sauce, mayonnaise, jam, jelly, prepared sweets etc.
01.1.8.4	Ice cream	Data from the study “Productions and Utilisation pattern of Milk and Milk products in India” CPI	Same as indicated against Item No. 01.1.4.1 except that the CPI considered is that of Ice cream.	Same as indicated against Item No. 01.1.4.1 except that the CPI considered is that of Ice cream.

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.1.9	Ready-made food and other food products			
01.1.9.1	Salt	HCES and Population projections CPI	Direct-ISG	Current price estimates are deflated using CPI of salt (as per 2012 basket) / Composite index of CPI of salt other sources and salt- PDS (as per 2024 basket)
01.1.9.2	Oilseeds	As per the details given under section 21.3 and 21.4 CPI	By inflating the constant price estimates using CPI of oil seeds	Commodity Flow
01.1.9.3	Spices	HCES and Population projections As per the details given under section 21.3 and 21.4 CPI	Direct-ISG	Current price estimates are deflated using CPI of spices
01.1.9.4	Sugar cane for chewing	Production side data CPI	As compiled in production side	Current price estimates are deflated using CPI of sugar other sources
01.1.9.5	Other food	Same as item 01.1.1.1	Direct	By deflating current price estimates using Composite index of CPI of baby food, pickles, <i>papad</i> , <i>bhujia</i> , <i>namkeen</i> , mixture, <i>chanachur</i> , other packaged processed food, chips (as per 2012 basket)/ Composite index of CPI of baby food, pickles, <i>papad</i> , <i>bhujia</i> , <i>namkeen</i> , mixture, <i>chanachur</i> , other packaged processed food, chips, nachos, puffs, wafers, etc. (as per 2024 basket)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
01.2	Non-alcoholic beverages			
01.2.1	Coffee, tea and cocoa drinks			
01.2.1.1	Coffee	Same as item 01.1.1.1	By inflating the constant price estimates using CPI of coffee: powder	Direct
01.2.1.2	Tea	Same as item 01.1.1.1	By inflating the constant price estimates using CPI of tea: leaf	Direct
01.2.1.3	Cocoa	Same as item 01.1.1.1	Direct	By deflating current price estimates using CPI of beverages: cocoa; chocolate.
01.2.2	Water, Soft drinks, Fruit and vegetable juices, Other non-alcoholic beverages	Same as item 01.1.1.1	Direct	By deflating current price estimates using Composite index of CPI of mineral water, cold beverages: bottled/canned , fruit juice and shake (as per 2012 basket)/ Composite index of CPI of packaged water, other cold beverages, fruit juice (as per 2024 basket)
02	Alcoholic beverages, tobacco and narcotics			
02.1	Alcoholic beverages	Same as item 01.1.1.1	Direct	By deflating current price estimates using Composite index of CPI of country liquor , foreign/ refined liquor or wine , toddy , beer
02.2	Tobacco			
02.2.1	Cigarettes	Same as item 01.1.1.1	Direct	By deflating current price estimates using CPI of cigarettes
02.2.2	Tobacco chewing	Same as item 01.1.1.1	Direct	By deflating current price estimates using CPI of leaf tobacco
02.2.3	Bidi	Same as item 01.1.1.1	Direct	By deflating current price estimates using CPI of bidi
02.2.4	Other tobacco products	Same as item 01.1.1.1	Direct	By deflating current price estimates using Composite index of CPI of

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				other tobacco products, hookah tobacco, cheroot
02.3	Narcotics			
02.3.1	Pan & its Ingredients	HCES and Population Projections CPI	Direct-ISG	Current price estimates are deflated using Composite index of CPI of <i>paan</i> : leaf , <i>paan</i> : finished, ingredients for <i>paan</i>
02.3.2	Opium	As per the details given under section 21.3 and 21.4 CPI	By inflating the constant price estimates using CPI of other intoxicants	Commodity Flow
03	Clothing and footwear			
03.1	Clothing			
03.1.1	Clothing materials	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	Current price estimates are deflated using CPI of Clothing
03.1.2	Garments , Other articles of clothing and clothing accessories	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	Current price estimates are deflated using CPI of Clothing
03.1.3	Cleaning, repair, tailoring and hire of clothing			
03.1.3.1	Cleaning, repair and hire of clothing	Same as for production side ASUSE CPI	100% of GVO of NIC 95292 and 96010 is considered as PFCE. GVO of NIC 95292 may be derived as certain % of GVO of Repair of computers and personal and household good and GVO of NIC 96010 is derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related	Current price estimates are deflated using CPI of washerman; laundry; ironing (as per 2012 basket)/ CPI of washerman, laundry, ironing, dry cleaning, dyeing (as per 2024 basket)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
03.1.3.2	Tailoring	Same as for production side	100% of GVO of NIC 14105 is considered as PFCE. This GVO is derived as certain % of GVO of Personal services including-washing, hair dressing, custom tailoring and funeral related services. This share is derived annually using ASUSE	Current price estimates are deflated using CPI of tailor
		ASUSE		
		CPI		
03.2	Footwear	As per the details given under section 21.3 and 21.4	Commodity Flow	Current price estimates are deflated using CPI of Footwear
		CPI		
04	Housing, water, electricity, gas and other fuels			
04.1	Gross rentals, equipment and material for housing			
04.1.1	Actual and imputed rental payments made for housing	Same as for production side	PFCE is computed as sum of GVO of Ownership of Dwelling and Housing services provided by the Government.	PFCE is computed as sum of GVO of Ownership of Dwelling at constant prices and Housing services provided by the Government at constant prices.
04.1.2	Services for the maintenance, repair and security of the dwelling	Same as for production side HCES Population Projections CPI	PFCE is computed as Sum of Cost of Repair & Maintenance of Dwelling (compiled as part of production side estimates) and PFCE of Security services. For the base year, PFCE of Security services is considered as 50% of the annual consumption expenditure in respect of item: Security & Driver derived from HCES-2022-23 and Population Projection of M/oHFW. Growth in respect of Output of NIC 801 from	PFCE is computed as Sum of Cost of Repair & Maintenance of Dwelling at constant prices (compiled as part of production side estimates) and PFCE of Security services at constant prices. PFCE of Security services at constant prices is derived by deflating the current price estimates using CPI of watchman charges [other cons taxes] (as per 2012 basket)/ CPI of watchmen/ security guard (as per 2024 basket)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
			ASUSE is used for extrapolation in respect of security services.	
04.1.3	Security equipment and materials for dwelling maintenance and repair	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	Current price estimates are deflated using CPI of plugs, switches & other electrical fittings
04.2	Water supply and miscellaneous services relating to the dwelling			
04.2.1	Water supply	HCES and Population projections CPI	Direct-ISG	Current price estimates are deflated using CPI of water charges
04.2.2	Refuse collection, Sewage collection, Other services related to the dwelling	Same as for production side	50% of Output of Remediation and Other Utility service	Current price estimates are deflated using IPD of GVO of Remediation & other utility services.
04.3	Electricity, gas and other fuels			
04.3.1	Electricity	HCES CEA CPI	Same as the method used for constant price estimates where prices are moved forward using CPI- electricity	For electricity, for state-wise quantity, CEA data on electricity sold (Domestic) is used and state-wise prices as derived from HCES 2022-23 are used.
04.3.2	Gas			
04.3.2.1	LPG	Indian Petroleum & Natural Gas Statistics HCES CPI	Same as method used for constant price estimates where base year retail prices are moved forward using CPI -LPG excl. conveyance (as per 2012 basket)/ LPG cylinder and piped natural gas (as per 2024 basket).	Domestic consumption from "Indian Petroleum & Natural Gas Statistics" and retail price as obtained from HCES 2022-23 are used.
04.3.2.2	Other Gas	Same as for production side CPI	PFCE is considered as 100% GVO	Current price estimates are deflated using CPI of other fuel as per 2012 basket / Fuel (biogas and <i>gobar</i> gas) as per 2024 basket

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
04.3.3	Liquid fuels	Indian Petroleum & Natural Gas Statistics HCES HCES	Same as the method for constant prices where base year PDS and retail prices are moved forward using CPI (Kerosene-PDS) and CPI (Kerosene- Other sources) respectively.	Domestic consumption separately for PDS and Non-PDS from Indian Petroleum & Natural Gas Statistics and PDS and retail price as obtained from HCES is used.
04.3.4	Solid fuels	HCES and Population Projections CPI	Direct-ISG	Current price estimates are deflated using Composite index of CPI of Coal, firewood and chips, charcoal, dung cake, other fuel (as per 2012 basket)/ Composite index of CPI of Coal, firewood and chips, charcoal, dung cake (as per 2024 basket)
05	Furnishings, household equipment and routine household maintenance			
05.1	Furniture and furnishing, carpets and other floor coverings			
05.1.1	Furniture and furnishings	As per the details given under section 21.3 and 21.4	Commodity Flow	Current price estimates are deflated using Composite index of CPI of almirah, dressing table, chair, stool, bench, table, other furniture & fixtures (couch, sofa, etc.), bedstead, cloth for upholstery, curtains, tablecloth etc.
		CPI		
05.1.2	Carpets and other floor coverings	As per the details given under section 21.3 and 21.4 CPI	Commodity Flow	Current price estimates are deflated using CPI of carpet, <i>daree</i> & other floor mattings
05.1.3	Clock and watches	As per the details given under section 21.3 and 21.4	Commodity Flow	Current price estimates are deflated using CPI of clock, watch (As per 2012 basket)/
		CPI		CPI of clock, watch, smartwatch, fitness tracker (As per 2024 basket)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
05.1.4	Repair of computer, personal & HHs goods, furniture, furnishings etc.	Same as for production side	100% of GVO of NIC 95- 95292 is considered as PFCE. GVO of NIC 95- 95292 is be derived as certain % of GVO of Repair of computers and personal and household good etc. This share is derived annually using ASUSE	Current price estimates are deflated using IPD of GVO of trade and repair services
		ASUSE		
05.2	Household textiles	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of bed sheet, bed cover (no.), mosquito net (no.), bedding: others, rug, blanket (no.), pillow; quilt; mattress (no.) (as per 2012 basket)/
				CPI of bed sheet, bed cover (no.), mosquito net (no.), bedding: others, rug, blanket (no.),
				pillow, cushion (no.), quilt; mattress (no.) (as per 2024 basket)
05.3	Household appliances	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of inverter, sewing machine, washing machine, stove; gas burner, refrigerator, electric fan, water purifier, electric iron, heater, toaster, oven & other electric heating appliances, other cooking/ household appliances, other durables (as per 2012 basket)/ Composite index of CPI of inverter, generators, stabilizers, sewing machine, washing machine, stove, gas burner, induction, refrigerator/ freezers, electric fan, water purifier,

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				electric iron, heater, toaster, micro-oven, other cooking/ household appliance, other durables (as per 2024 basket)
05.4	Glassware, tableware and household utensils	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of glassware, pressure cooker/ pressure pan, earthenware, stainless steel utensils, other metal utensils, other crockery and utensils (as per 2012 basket)/ Composite index of CPI of glassware, pressure cooker/ pressure pan, earthenware, paperware, thermocol plates, etc., stainless steel utensils, other metal utensils (non-stick cookware, etc.), other crockery & utensils (as per 2024 basket)
05.5	Tools and equipment for house and garden	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of electric bulb; tubelight, electric batteries, torch, lock (as per 2012 basket)/
				CPI of other electric bulb, tubelight, decorative lights, electric batteries, other minor durable-type goods (as per 2024 basket)
05.6	Goods and services for routine household maintenance			
05.6.1	Non-durable household goods	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of candle (no.), coir, rope, etc. , washing soap/soda/powder, other

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				washing requisites, incense (<i>agarbatti</i>), room freshener, mosquito repellent, insecticide, acid etc., other petty articles(as per 2012 basket)/ composite index of CPI of candle (no.), other petty articles, washing soap/ soda/ powder/ liquid detergent, other washing requisite, incense (<i>agarbatti</i>), room freshener, mosquito repellent, insecticide, anti-rodent, etc.(as per 2024 basket)
05.6.2	Domestic services and household services	Same as for production side CPI	100% GVO of Private households with employed persons	Current price estimates are deflated using Composite index of CPI of domestic helper/cook, sweeper
06	Health			
06.1	Health Services	Same as for production side estimates Budget documents M/o Commerce and Industry CPI	PFCE is computed as GVO-GFCE-Exports + Imports.	Current price estimates are deflated using CPI of Health
06.2	Medicines and Health products	As per the details given under section 21.3 and 21.4 CPI	Commodity flow.	Current price estimates are deflated using CPI of Health
07	Transport			
07.1	Purchase of vehicles			
07.1.1	Motor cars	E Vahan/ MoRTH CPI	Using data from <i>Vahan</i> (Sale price)	Current price estimates are deflated using CPI of motor car, jeep

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
07.1.2	Motorcycles	E Vahan/ MoRTH CPI	Using data from Vahan (Sale price)	Current price estimates are deflated using CPI of motor cycle, scooter
07.1.3	Bicycles and animal drawn vehicles	All India Cycle Manufacturers' Association As per the details given under section 21.3 and 21.4 CPI	Using data from All India Cycle Manufacturers' Association / Commodity Flow	Current price estimates are deflated using CPI of bicycle
07.2	Operation of personal transport equipment			
07.2.1	Parts and accessories for personal transport equipment	Data from study on "Public Road Transport Services and Repair & Maintenance of Household vehicles" E Vahan/ MoRTH CPI	Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the study is moved using CPI of tyres & tubes for deriving current year's cost.	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is moved using CPI of tyres & tubes for deriving base year cost.
07.2.2	Fuels and lubricants for personal transport equipment	Data from study on "Public Road Transport Services and Repair & Maintenance of Household vehicles" E Vahan/ MoRTH CPI	Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the study is moved using Composite index of CPI of petrol and diesel for deriving current year's cost.	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is moved using Composite index of CPI of petrol and diesel for deriving base year cost.
07.2.3	Maintenance and repair of personal transport equipment	Data from study on "Public Road Transport Services	Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
		and Repair & Maintenance of Household vehicles” E Vahan/ MoRTH CPI(IW)	study is moved using CPI(IW) for deriving current year’s cost.	moved using CPI(IW) for deriving base year cost.
07.2.4	Other services related to personal transport equipment	Data from study on “Public Road Transport Services and Repair & Maintenance of Household vehicles” E Vahan/ MoRTH Population projections CPI	Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the study is moved using Composite index of CPI-bus/tram fare, taxi, auto-rickshaw fare, school bus, van, etc.(as per 2012 basket)/ Composite index of CPI of bus fare for commuting to work.: periodic, bus/tram fare: occasional, auto-rickshaw/e-rickshaw fare, bus fare for school, college: periodic, bus/tram fare for commuting to work: daily, bus /tram fare for school, college: daily, taxi fare (as per 2024 basket) for deriving current year’s cost.	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is moved using Composite index of CPI-bus/tram fare, taxi, auto-rickshaw fare, school bus, van, etc.(as per 2012 basket)/ Composite index of CPI of bus fare for commuting to work.: periodic, bus/tram fare: occasional, auto-rickshaw/e-rickshaw fare, bus fare for school, college: periodic, bus/tram fare for commuting to work: daily, taxi fare (as per 2024 basket) for deriving base year cost.
07.3	Passenger transport services			
07.3.1	Passenger transport by railway	M/o Railways/ Budget documents	PFCE is computed as 90% of passenger earnings.	Base year estimates are extrapolated using growth in Passenger Kilometer.
07.3.2	Passenger transport by road	Data from study on “ Public Road Transport Services and Repair & Maintenance of Household vehicles”	Mechanised part: Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the study is moved using Composite index of CPI of bus/tram fare, taxi, auto-rickshaw fare, school bus, van, etc. (as per 2012 basket)/	Mechanised part:

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
		E Vahan, MoRTH	Composite index of CPI of bus fare for commuting to work.: periodic, bus/tram fare: occasional, auto-rickshaw/e-rickshaw fare, bus fare for school, college: periodic, bus/tram fare for commuting to work: daily, bus /tram fare for school, college: daily, taxi fare (as per 2024 basket) for deriving current year's cost.	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is moved using Composite index of CPI of bus/tram fare, taxi, auto-rickshaw fare, school bus, van, etc. (as per 2012 basket)/
		CPI	Non- mechanized part: By inflating constant price estimates using CPI of rickshaw fare	Composite index of CPI of bus fare for commuting to work.: periodic, bus/tram fare: occasional, auto-rickshaw/ e-rickshaw fare, bus fare for school, college: periodic, bus/tram fare for commuting to work: daily, bus /tram fare for school, college: daily, taxi fare (as per 2024 basket) for deriving base year cost. Non- mechanized part: PFCE is derived using share of Non-mechanised to mechanised in total annual expenditure derived from HCES 2022-23
07.3.3	Passenger transport by air	DGCA M/o Commerce and Industry Same as for production side RBI CPI	Using DGCA and BPM6 data. 100% passenger revenue adjusted for exports, imports, Travel expenses of Corporates and Government expenditure (Object Head: FTE and DTE) is considered as PFCE	Current price estimates are deflated using CPI of Air fare

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
07.3.4	Passenger transport by sea and inland waterway	Same as for production side CPI	Considered as 100% GVO of Household sector	Current price estimates are deflated using CPI of steamer, boat fare
07.3.5	Other passenger transport services	As per the details given under section 21.3 and 21.4 CPI	Commodity flow of Services Incidental to Transport using SUT	Current price estimates are deflated using IPD of GVO of Services Incidental to Transport
07.4	Transport services for goods	Data from study on “Public Road Transport Services and Repair & Maintenance of Household vehicles” E Vahan/ MoRTH CPI	Same method as adopted for constant price estimates except that cost considered are for current year. The cost from the study is moved using Composite index of CPIs indicated against item 7.3.2 (Passenger transport by road) for deriving current year’s cost.	Using data from study undertaken through JNU and E Vahan/ MoRTH. The cost from the study is moved using Composite index of CPIs indicated against item 7.3.2 (Passenger transport by road) for deriving base year cost.
08	Information and communication			
08.1	Information and communication equipment			
08.1.1	Fixed telephone equipment, Mobile telephone equipment	Same as item 01.1.1.1	Direct	Current price estimates are deflated using CPI of mobile handset
08.1.2	Information processing equipment and software excluding games	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite Index of CPI of PC/Laptop/other peripherals incl. software (As per 2012 basket)/ CPI of PC/ Laptop/ tablet, other peripherals incl. software (As per 2024 basket)
08.1.3	Equipment for the reception, recording and reproduction of sound and vision	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite Index of CPI of television, radio, tape recorder, 2-in-1(As per 2012 basket)/

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				CPI of television, other goods for recreation (As per 2024 basket)
8.2	Information and communication services			
08.2.1	Communication Services	As per the details given under section 21.3 and 21.4	Commodity flow	Current price estimates are deflated using Composite Index of CPI of telephone charges: landline, telephone charges: mobile, internet expenses (As per 2012 basket)/Composite index of CPI of telephone charges: landline, telephone charges: mobile, internet expenses (As per 2024 basket)
		CPI		
08.2.2	Television and radio licenses and fees, Subscriptions to audiovisual streaming services and rental of audiovisual content	HCES and Population projections	Direct-ISG	Current price estimates are deflated using CPI of monthly charges for cable TV connection (As per 2012 basket)/
		CPI		CPI of cable TV/DTH/set top box (As per 2024 basket)
09	Recreation, sport and culture			
09.1	Recreational durables	As per the details given under section 21.3 and 21.4	Commodity flow	Current price estimates are deflated using Composite index of CPI of camera & photographic equipment, goods for recreation and hobbies (As per 2012 basket)/Composite index of CPI of camera & photographic equipment, other goods for recreation (As per 2024 basket)
		CPI		
09.2	Other recreational goods	As per the details given under section 21.3 and 21.4	Commodity Flow	Current price estimates are deflated using Composite index of CPI of sports goods, toys etc., goods for recreation and hobbies (as per 2012

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
		CPI		basket)/ Composite index of CPI of sports goods, other goods for recreation (As per 2024 basket)
09.3	Garden products and pets			
09.3.1	Garden products, plants and flowers	HCES and Population Projections CPI	Direct-ISG	Current price estimates are deflated using CPI of flower (fresh)
09.3.2	Pets and pet products	Same as item 01.1.1.1	Direct	Current price estimates are deflated using CPI of goods for recreation and hobbies (As per 2012 basket)/ CPI of pet animals (As per 2024 basket)
09.4	Recreational and Cultural services	HCES and Population projections CPI	Direct-ISG	Current price estimates are deflated using Composite index of CPI of Cinema: new release (normal day), club fees, other entertainment (As per 2012 basket)/ Composite index of CPI of Cinema, theatre, club, gym, swimming fees & other subscription, other entertainment (mela, fair, picnic, etc.) (as per 2024 basket)
09.5	Cultural goods			
09.5.1	Musical instruments	Same as item 01.1.1.1	Direct	Current price estimates are deflated using CPI of goods for recreation and hobbies (As per 2012 basket)/ CPI of musical instruments (As per 2024 basket)
09.5.2	Audiovisual media	Same as item 01.1.1.1	Direct	Current price estimates are deflated using CPI of CD, DVD, audio/video cassette, etc. (As per

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				2012 basket)/ CPI of pen-drive, external hard disk (As per 2024 basket)
09.6	Newspapers, books and stationery	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of books, journals, newspapers, periodicals, stationery
10	Education	Same as for production side M/o Commerce and Industry CPI	Output-GFCE, adjusted for exports and imports is considered as PFCE	Current price estimates are deflated using CPI of Education
11	Restaurants and accommodation services	HCES Population Projections Same as for production side CPI	Benchmark estimates are derived from HCES 2022-23 and population projections. For extrapolating the benchmark estimates growth in GVO is used.	Current price estimates are deflated using Composite Index of CPI of tea: cups (no.), coffee: cups (no.), cooked meals, cooked snacks, hotel lodging charges
12	Insurance and financial services			
12.1	Insurance			
12.1.1	Life insurance	Same as for production side	100% of Life Insurance Output	Current price estimates are deflated using IPD of GVO of Life Insurance
12.1.2	Non-life insurance	As per the details given under section 21.3 and 21.4	Commodity flow	Current price estimates are deflated using IPD of GVO of Non-Life Insurance
12.2	Financial services			
12.2.1	Financial intermediation services indirectly measured	Same as for production side RBI	PFCE is considered as FISIM allocated to Household (personal) sector	Current price estimates are deflated using IPD of GVO of S-122-Deposit taking Corporations except Central Bank; S-125-Other Financial Intermediaries except

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				insurance corporations and pension funds; and S-127: Moneylenders and remaining unorganised segment except insurance agents
12.2.2	Explicit charges by deposit-taking corporations (S), Other financial services (S)	Same as for production side RBI	PFCE is considered as certain % of Actual Receipts (Charges). This % is derived annually using RBI data i.e. Share of Household Loan + Household Deposit in total Loan + Deposit in respect of SCBs	Current price estimates are deflated using Banking Services Price Index (BkSPI) (Direct)
13	Personal care, social protection and miscellaneous goods and services			
13.1	Personal care			
13.1.1	Electric, other appliances, articles and products for personal care	Same as item 01.1.1.1	Direct	Current price estimates are deflated using Composite index of CPI of toilet soap, toothpaste, toothbrush, comb, etc., powder, snow, cream, lotion and perfume, hair oil, shampoo, hair cream, shaving cream, aftershave lotion, sanitary napkins, suitcase, trunk, box, handbag and other travel goods (As per 2012 basket)/ Composite index of CPI of toilet soap, body-wash, hand-wash, shower gel and face wash, toothpaste, mouthwash, toothbrush, etc., powder, cream, body lotion and moisturizers, hair oil, hair colour, shampoo, conditioner, hair serum/gel and hair cream shaving cream, shaving foam, aftershave lotion, and aftershave balm, sanitary napkins,

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
				suitcase, trolley bag, duffle bag, trunk etc. (As per 2024 basket)
13.1.2	Hairdressing salons and personal grooming establishments	HCES and Population projections CPI	Direct-ISG	Current price estimates are deflated using CPI of barber, beautician, spas, etc.
13.2	Other personal effects	As per the details given under section 21.3 and 21.4 CPI	Commodity flow	Current price estimates are deflated using Composite index of CPI of umbrella, raincoat, any other personal goods (As per 2012 basket)/ Composite index of CPI of umbrella, raincoat, helmet, other personal goods (As per 2024 basket)
13.3	Other services			
13.3.1	Religious services	Same as for production side ASUSE CPI	100% of GVO of NIC 9491 is considered as PFCE. GVO of NIC 9491 is derived as certain % of GVO of Activities of Membership organisations. This share is derived annually using ASUSE.	Current price estimates are deflated using IPD of GVO/ CPI Priest (As per 2024 basket)
13.3.2	Legal services	Same as for production side CPI	Considered as 50% of Output of legal service.	Current price estimates are deflated using IPD of GVO of Legal Services/ CPI Legal (As per 2024 basket)
13.3.3	Funeral services	Same as for production side ASUSE CPI	100% of GVO of NIC 96030 is considered as PFCE. This GVO is derived as certain % of GVO of Personal services including-washing, hair dressing, custom tailoring and funeral related services. This share is derived annually using ASUSE.	Current price estimates are deflated using IPD of GVO of Personal Services/ CPI Priest (As per 2024 basket)

Item Codes	Items	Data Sources	Method of estimation	
			At Current Prices	At constant (2022-23) prices
13.3.4	Business services	Same as for production side	Considered as 100% GVO of Household sector	Current price estimates are deflated using IPD of GVO of Business Services
13.3.5	Social protection	Same as for production side ASUSE CPI	Considered as 100% of estimated Output of NIC 87 (Residential care activities) and 88 (Social work activities without accommodation).	Current price estimates are deflated using Composite index of CPI of Health & Education

Note: Though in general the CPI inflators / deflators are indicated in the table, for valuation of quantity retained for own consumption, ex-farm price of base year/ current year is used as the case may be wherever applicable. NIC referred to in the compilation methodology in respect of PFCE are NIC 2008.

Annexure-III

Government Final Consumption Expenditure (GFCE)

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
(1)	(2)	(3)	(4)
Government Final Consumption Expenditure	♦ Budget documents from central and state Governments, annual accounts of local authorities; Annual Financial Accounts of Central Autonomous Institutions	Sum of compensation of employees, net purchase of goods and services, consumption of fixed capital, social transfer in kind	Deflation of current price estimates is done separately for each of the components. CE is deflated by CPI (IW), net purchase of goods and commodities using composite weighted price index, volume extrapolation for social transfer in kind (food subsidy part).

Annexure-IV

Saving

Item	Data Sources	Method of estimation	Assumption
		At current prices	
(1)	(2)	(3)	(4)
(a) Public Corporations			
(i) DEs	♦ Budget documents	Current receipt less Current expenditure	
(ii) NDEs	♦ Annual Reports	Gross saving is the balancing item of Secondary Distribution of Income Account (in the sequence of accounts for government companies).	
(b) Private Non-financial corporations	♦ MCA21 database for Non-financial non-government companies ♦ Quasi-Corporations using results of ASUSE and ASI results for unincorporated establishments covered in ASI	Gross saving is same as the balancing item of Secondary Distribution of Income Account (in the sequence of accounts for non-financial non-government companies) - Reinvested earnings of foreign companies. In the parlance of business accounts, this is equivalent to retained profit plus depreciation provision minus reinvested earnings of foreign companies For quasi-corporations, Capital Formation estimated using results of ASUSE applied to GFCF of unincorporated sector derived using commodity flow for DOBS, ME and GFCF in Computer Software & Databases plus change in stock derived by industry of use.	
(c) Private Financial corporations	♦ RBI for Non-Government Non-Banking Finance Corporations (NGNBFCs) ♦ MCA21 database for stock brokers and asset management companies ♦ RBI for private & foreign banks	For Non-Government Finance companies, private & foreign banks, Insurance companies: gross saving is the balancing item of Secondary Distribution of Income Account (in the sequence of accounts for financial non-government companies). For Credit societies: gross saving is equal to sum of statutory reserve and other reserves.	

Item	Data Sources	Method of estimation	Assumption
		At current prices	
(1)	(2)	(3)	(4)
	◆ Annual Reports of insurance companies ◆ NABARD for credit societies ◆ Quasi-Corporations using results of ASUSE	For quasi-corporations, Capital Formation estimated using results of ASUSE applied to GFCF of unincorporated sector derived using commodity flow for DOBS , ME and GFCF in Computer Software & Databases plus change in stock derived by industry of use.	
(d) General Government	◆ Analysis of Budget documents	Current receipt less current expenditure	
(e) Household Sector		Total of Financial Saving for households (including quasi-corporations) and Saving in Physical Assets & in the form of valuables for households.	
(i) Financial Assets for households (including quasi-corporations)			
(a) Currency, Deposits	◆ Reserve Bank of India	As provided by RBI	
(b) Provident and Pension Funds	◆ Provident and Pension Fund Organisations ◆ Union Government Finance Accounts for Central & State Govt. provident fund and Public provident fund	Provident & Pension Fund = Contribution + Recoveries - Withdrawals + Interest. Central & State Govt. provident fund, Public provident fund: Excess of receipts over payments from Union Government Finance Accounts	
(c) Insurance Funds	◆ LIC annual report ◆ Union Government Finance Accounts for postal life insurance, CGEGIS & State/UT insurance ◆ RBI for Private Insurance	Life insurance from LIC: Increase in Life Fund from LIC annual report Postal life insurance, CGEGIS & State/UT insurance: Excess of receipts over payments from Union Government Finance Accounts	
(d) Shares, Debentures, Mutual Funds, Hybrid Instruments and net secondary market investments	◆ Securities and Exchange Board of India (SEBI)	As provided by SEBI	

Item	Data Sources	Method of estimation	Assumption
		At current prices	
(1)	(2)	(3)	(4)
(e) Claims on Government	♦ Union Government and State Government Finance Accounts	From the reporting in Union Government and State Government Finance Accounts	
(ii) Financial Liabilities for households (including quasi-corporations)			
(a) bank advances, loans and advances by co-operative banks & societies, loans by financial corporations & non-banking companies, loans from insurance corporations	♦ RBI	As provided by RBI	
(b) loans and advances from government	♦ Union Government and State Government Finance Accounts	From the reporting in Union Government and State Government Finance Accounts	
(iii) Saving in physical assets of households	♦ Household Capital Formation	Household investment in fixed assets is derived as residual deducting the corresponding estimates of public and private corporations from the total capital formation plus change in stock derived by industry of use	
(iv) Saving of households in the form of valuables	♦ Results of AIDIS,2019 and total valuables estimated for the financial year	Expenditure by households on acquisition of valuables	
2. Net Capital Inflow from abroad	♦ RBI	Net capital inflow is the deficit of the nation on current account in balance of payment account excluding official transfers	
3. Finances for Gross Capital Formation		Gross Saving plus Net Capital Inflow from abroad	

External Transaction Account

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
1. Export/Import of Merchandise (including net exports of goods under merchanting)	♦ Reserve Bank of India (Standard Presentation of India's Balance of Payments as per BPM6)	As received from RBI	Exports and Imports of goods at current prices are deflated using principal commodity wise unit value index for import and export respectively.
2. Export/Import of Services	♦ Reserve Bank of India (Standard Presentation of India's Balance of Payments as per BPM6)	As received from RBI	Exports of services at current prices are deflated by respective implicit price index derived from estimates for that industry using production approach. Import of services at current prices are deflated using the country-specific Service PPI/IPD (in absence of PPI) after adjusting for exchange rate fluctuations.
3. Net Factor Income from Abroad	♦ Reserve Bank of India (Standard Presentation of India's Balance of Payments as per BPM6)	Net receipt of Compensation of Employees and Property & Entrepreneurial Incomes	Current price estimates are deflated by implicit price index of export of services and import of services respectively for outward and inward flows.
4. Other Components - Transfers	♦ Reserve Bank of India (Standard Presentation of India's Balance of Payments as per BPM6)	As received from RBI	Not compiled at constant prices
5. Sequence of Account for external sector	Reserve Bank of India (Standard Presentation of India's Balance of Payments as per BPM6)	As received from RBI	Not compiled at constant prices

Annexure-VI

Capital Formation

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
A) Gross Fixed Capital Formation By Type of Asset			
1. Dwellings, Other Buildings & Structures (DOBS) Asset			
Overall Estimate	◆ Commodity flow constructed using material inputs (viz. Cement & Cement Products, Iron & Steel, Bricks & Tiles, Timber & Roundwood, Bitumen & Bitumen Mixtures/Products, Glass & Glass Products and Fixtures & Fittings, Paints and Varnishes, Sand, stone, granite, marble and Other Materials). ◆ Results of ASI and ASUSE for constructing commodity flow. ◆ Products Taxes from CBIC ◆ EXIM data (DGCI&S) for import and export ◆ Trade and Transport Margin: Supply Use Table	Through commodity flow approach, total capital formation in DOBS is compiled after subtracting the normal repair and maintenance as only New Construction forms part of GFCF.	Composite index derived by taking implicit price deflator from GVO of Construction (excluding plantation and mineral exploration) at Current and Constant Prices , which is essentially ratio of sum of current price value of material inputs, services inputs and factor costs used in construction and the sum of constant prices values of these components. Producer Price Index of relevant items are used for deflating the input wise estimate at current prices (estimated as a part of commodity flow method), service inputs are deflated by Consumer Price Index.
Institution-wise details			
General Government (GG)	◆ Budget documents of Administration Departments and Annual Reports of Autonomous Bodies	New capital outlay on DOBS as obtained from the analysis of budget documents & annual reports.	
Public Corporations	◆ Budget documents of DEs	New capital outlay on DOBS as obtained from the analysis of budget documents	
	◆ Annual Reports of NDEs	GFCF is estimated from fixed asset block of annual reports	

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
Private Corporations	♦ MCA21 database for the annual reports of Private Sector Companies	Non-government companies: GFCF is derived from MCA21 database	
	♦ RBI for private and foreign banks	Private & Foreign Banks: GFCF is estimated from details of assets and liabilities by RBI	
	♦ Annual reports from insurance companies	Insurance companies: GFCF is estimated from fixed asset block of annual reports	
	♦ NABARD for co-operative societies	Co-operative Societies: based on the data on fixed assets obtained from NABARD	
Quasi-Corporations covered in ASI	♦ ASI, detailed results for quasi-corporations (unincorporated enterprises covered under ASI)	GFCF for "Individual Proprietorship, Joint Family (HUF), Partnership, Khadi & Village Industries Commission, Handlooms, Others" is derived from ASI.	
Quasi-Corporations and Household Sector	♦ Results of ASUSE ♦ All India Debt & Investment Survey (AIDIS) 2019, for investment in rural and urban residential buildings ♦ Population Projections by M/o Health and Family Welfare and average household size from NSS Surveys (for estimating number of dwellings) ♦ Capital to output ratios (forestry, mining & quarrying, construction Industry-wise details are mentioned below.	GFCF in DOBS of households +quasi-corporations = Total value of GFCF in DOBS through commodity flow - value of GFCF in DOBS asset reported by GG, Financial & Non-Financial Public & Private Corporations. GFCF by asset (DOBS) is allocated among the quasi-corporations and Household Sector based on the reporting of net additions to DOBS assets as reported in ASUSE and using results of AIDIS.	
2. Machinery & Equipment (M&E) Asset			
Overall Estimate	♦ Detailed results of ASI and ASUSE ♦ EXIM data for imports and exports ♦ CBIC for product taxes and import duties ♦ Trade and Transport Margins from Supply Use Tables.	Total GFCF in M&E asset = Sum of ex-factory value of capital goods + TTMs + product taxes + imports of capital goods + import duty for these items - exports of capital goods (ASI and ASUSE Output adjusted for corresponding output estimated in the	

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
		manufacturing sector by adopting enterprise approach)	
Institution-wise details			
General Government (GG)	♦ Budget documents of Administration Departments and Autonomous Bodies	Capital expenditure on M&E obtained from the analysis of budget documents & annual reports	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
Public Corporations	♦ Budget documents of DEs	Capital expenditure on M&E obtained from the analysis of budget documents	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
	♦ Annual Reports of NDEs	GFCF is estimated from fixed asset block of annual reports	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
Private Corporations	♦ MCA21 database for the annual reports of Private Sector Companies	Derived from MCA21 database	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
	♦ RBI for private and foreign banks	Estimated from details of assets and liabilities by RBI	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
	♦ Annual reports from insurance companies	Estimated from fixed asset block of annual reports	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
	♦ NABARD for cooperative societies	Estimated on the basis of the data obtained on fixed assets from NABARD	Current price estimates are deflated by PPI-based composite price indices for the relevant asset
	♦ ASI detailed results for Quasi-corporations (unincorporated enterprises covered under ASI)	Derived from the data for type of organisations "Individual Proprietorship, Joint Family (HUF), Partnership, Khadi & Village Industries Commission, Handlooms, Others" from ASI.	same as above
Quasi-Corporations and Household Sector	♦ Results of ASUSE and AIDIS, capital to output ratios (forestry, mining &	GFCF in ME of households +quasi-corporations = Total value of GFCF in DOBS	same as above

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
	quarrying, construction Industry-wise details are mentioned below.	through commodity flow - value of GFCF in DOBS asset reported by GG, Financial & Non-Financial Public & Private Corporations. GFCF by asset (DOBS) is allocated among the quasi-corporations and Household Sector based on the reporting of net additions to DOBS assets as reported in ASUSE and using results of AIDIS.	
3. Cultivated Biological Resources (CBR) Asset			
Overall Estimate	◆ State-wise, Plantation-wise capital expenditure on plantations (cost structure) per hectare from NABARD ◆ Increment in area under cultivation from State DES and M/o Agriculture & Farmer's Welfare ◆ Increment in livestock from Livestock Census ◆ Value of livestock from State DES	Plantation & orchards: Incremental Area x State-wise, Plantation-wise capital expenditure on plantations (cost structure) Increment in livestock (for breeding, dairying and draught animals) used as capital asset has been estimated using Livestock Census and value of livestock as reported by State DES	For animal resources yielding repeat products, an implicit price index using the current year estimate divided by increment in livestock in current year multiplied by base year prices is compiled and is used for deflating the current price estimate of GFCF in this asset. Composite price index of PPI of relevant items and Consumer Price Index (Rural) is used for deflating the GFCF in tree, crops and plantation yielding repeat products.
Institution-wise details			
General Government (GG)	◆ Budget documents of Administration Departments and Autonomous Bodies	From the analysis of budget documents & annual reports	Deflators of relevant assets as mentioned above
Public Corporations	◆ Budget documents of DEs	From the analysis of budget documents & annual reports	Deflators of relevant assets as mentioned above
	◆ Annual Reports of NDEs	Estimated from fixed asset block of annual reports	Deflators of relevant assets as mentioned above
Private Corporations	◆ MCA21 database of Private Sector Companies	Non-government companies: GFCF-CBR is derived from MCA21 database	Deflators of relevant assets as mentioned above

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
Households		Derived as a residual from the total GFCF in CBR asset	Deflators of relevant assets as mentioned above
4. Intellectual Property Products (IPP) Asset			
Overall Estimate	♦ Total capital expenditure on Research & Development activities (R&D) ♦ Mineral Exploration & Evaluation ♦ Computer Software & Database ♦ Entertainment Literary and Artistic Originals ♦ Other IPP	Expenditure on the IPP assets as reported by institutional sectors except for computer software & databases wherein the total production + import – export of computer software and databases is used to arrive at total GFCF in this asset. The total GFCF in this asset is proportionately allocated among institutional sectors and industries.	R&D: CPI(IW) for public sector and CPI(U) for private sector Mineral Exploration & Evaluation: CPI(General) Computer Software and databases: CPI(U) Entertainment, Literary and artistic originals: CPI(Recreation) Other IPP: CPI(U)
General Government (GG)	♦ Budget documents	From the analysis of budget documents & annual reports	Deflators of relevant assets as mentioned above
Public Corporations	♦ Budget documents of DEs	From the analysis of budget documents	Deflators of relevant assets as mentioned above
	♦ Annual Reports of NDEs	Estimated from reported expenditure in annual reports on IPPs	Deflators of relevant assets as mentioned above
Private Corporations	♦ MCA21 database of Private Sector Companies	Derived from MCA21 database	Deflators of relevant assets as mentioned above
	♦ Quasi-Corporations: Reporting in ASUSE & ASI	GFCF is available separately for computer software and databases asset, under IPP, which is compiled using ASUSE. GFCF in R&D asset as reported in ASI	Deflators of relevant assets as mentioned above
Households	Reporting in ASUSE.	GFCF is available for computer software and databases asset, under IPP, which is compiled using ASUSE	Deflators of relevant assets as mentioned above
5. Change in Stock (CIS)			
General Government (GG)	♦ Budget documents of Administration Departments and Autonomous Bodies	From the analysis of budget documents & annual reports	Deflated using composite index of PPI. The composite index varies across industries depending upon the relevant

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
			items which form part of inventory for particular industry
Public Corporations	♦ Budget documents of DEs	From the analysis of budget documents	Deflated using composite index of PPI. The composite index varies across industries depending upon the relevant items which form part of inventory for particular industry
	♦ Annual Reports of NDEs	Estimated from reported expenditure in annual reports (opening and closing inventory reported). The CIS estimated at constant prices is inflated using annual composite index to arrive at CIS at current prices.	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The composite index varies across industries depending upon the relevant items which form part of inventory for particular industry. The difference in deflated closing and opening stock gives the estimate of CIS at constant prices.
Private Corporations	♦ MCA21 database for the annual reports of Private Sector Companies	Derived from MCA21 database (opening and closing inventory reported). The CIS estimated at constant prices is inflated using annual composite index to arrive at CIS at current prices.	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The composite index varies across industries depending upon the relevant items which form part of inventory for particular industry. The difference in deflated closing and opening stock gives the estimate of CIS at constant prices.
Quasi-Corporations (ASI)	♦ ASI	Estimated using (opening and closing inventory) for type of organisations "Individual Proprietorship, Joint Family (HUF), Partnership, Khadi & Village Industries Commission, Handlooms, Others" from ASI. The CIS estimated at constant prices is inflated	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The composite index varies across industries depending upon the relevant items which form part of inventory for particular industry. The difference in

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
		using annual composite index to arrive at CIS at current prices.	deflated closing and opening stock gives the estimate of CIS at constant prices.
Quasi-Corporations & Household Sector	♦ ASUSE (industries covered in ASUSE)	Closing Inventory to Output ratio derived from ASUSE multiplied by corresponding output gives the closing stock(inventory). The CIS estimated at constant prices is inflated using annual composite index to arrive at CIS at current prices.	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The composite index varies across industries depending upon the relevant items which form part of inventory for particular industry. The difference in deflated closing and opening stock gives the estimate of CIS at constant prices.
Household Sector (Crops and Livestock)	♦ Increment in livestock from Livestock Census ♦ Value of livestock from State DES	The increment in livestock (excluding those considered as fixed asset), is treated as change in stock for crop and livestock sector.	For animal resources yielding repeat products, an implicit price index using the current year estimate divided by increment in livestock in current year multiplied by base year prices is compiled and is used for deflating the current price estimate of GFCF in this asset
Mining & Quarrying	♦ Indian Minerals Year Book published by Indian Bureau of Mines	Closing inventory to Output ratio for relevant minerals multiplied by GVO estimated. This gives the estimated closing inventory for that year. The CIS estimated at constant prices is inflated using annual composite index to arrive at CIS at current prices.	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The difference in deflated closing and opening stock gives the estimate of CIS at constant prices.
Construction	♦ Pilot Survey on Construction,2025	Inventory to Output ratio worked out from Pilot Survey on Construction being conducted by NSS during Jul-Dec,2025.	Opening and Closing inventory are deflated using composite index of PPI (to remove the holding gains). The difference in deflated closing and opening stock gives the estimate of CIS at constant prices.

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
Valuables	♦ Production: ASI, ASUSE (ASI and ASUSE Output adjusted for corresponding output estimated in the manufacturing sector by adopting enterprise approach) and IBM data on gold and silver ♦ EXIM data for imports and exports ♦ CBIC for product taxes and import duties ♦ Trade and Transport Margins (TTM) from Supply Use Tables.	Total valuables at market prices = Production (adjusted for inter-industry use) + net imports + product taxes + TTM	CPI of relevant items
B) Gross Fixed Capital Formation By Industry Of Use For Household And Quasi-Corporations			
1. Crop Sector			
DOBS	♦ AIDIS 2019 results for benchmark estimate	Benchmark estimate worked out from AIDIS is moved for other years using output of crop sector.	Deflators of relevant assets as mentioned above
Machinery & equipment	♦ ASI and ASUSE	Ex-factory value of agriculture machinery & implements for the each year is taken ASI unit level data for NPCMS codes for this category. Estimate for household sector is obtained by deducting the estimate of GFCF for agricultural machinery from public & private corporations.	Deflators of relevant assets as mentioned above
Plantation & orchards	♦ State-wise, Plantation-wise capital expenditure on plantations (cost structure) per hectare from NABARD ♦ Increment in area under cultivation from State DES and M/o Agriculture & Farmer's Welfare	From total capital expenditure in plantation, GFCF in this asset reported by MCA21 database for private corporations and from budgets, annual reports for public corporations, the capital expenditure for the household sector is worked out as a residual.	Deflators of relevant assets as mentioned above

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
Increment in Livestock	♦ Increment in livestock from Livestock Census ♦ Value of livestock from State DES	From total increment in livestock (fixed asset), information on the corresponding asset from the MCA21 database for private corporations and from budgets, annual reports for public corporations, the increment in livestock for the household sector is worked out as a residual. Increment in livestock in respect of Adult Cattle Male and Adult Buffalo Male (except those retained for breeding) are apportioned to crops industry.	Deflators of relevant assets as mentioned above
2. Livestock			
DOBS	♦ AIDIS 2019	Benchmark estimate worked out from AIDIS is moved for other years with output of Livestock.	Deflators of relevant assets as mentioned above
Increment in Livestock	♦ Increment in livestock from Livestock Census ♦ Value of livestock from State DES	Same as methodology for corresponding asset of crops industry. Increment in livestock in respect of animals other than Adult Cattle Male and Adult Buffalo Male (except those retained for breeding) are apportioned to livestock industry.	Deflators of relevant assets as mentioned above
3. Forestry and logging			
Machinery & Equipment		The capital stock to output ratios for private corporations engaged in each of these activities with turnover less than Rs 2 Cr have been applied to GVO of Forestry and Logging	Deflators of relevant assets as mentioned above
4. Fishing and aquaculture			
Machinery & Equipment	♦ Intercensal growth in stock of machinery and implements between two consecutive rounds of Fisheries Census along with price adjustment for fishery implements from PPI.	Fixed stock estimated using inter-censal growth rate. GFCF is estimated as the difference between two successive years' stocks.	Deflators of relevant assets as mentioned above

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
5. Mining & quarrying			
DOBS, Machinery & Equipments	♦ The capital stock to output ratios for private corporations engaged in each of these activities and with turnover of less than Rs 2 Cr have been applied to GVO of Mining and Quarrying	Capital stock to output ratio is applied on GVO of minor minerals to get series of fixed stocks. GFCF is estimated as the difference between two successive years' fixed stock.	Deflators of relevant assets as mentioned above
6. Manufacturing (Quasi and Household Sector)			
Quasi-Corporations (ASI)	♦ ASI for quasi-corporations (unincorporated manufacturing)	Estimates for quasi-corporations are obtained from unit level data of ASI for type of organisation codes "Individual Proprietorship, Joint Family (HUF), Partnership, Khadi & Village Industries Commission, Handlooms, Others".	Deflators of relevant assets as mentioned above
Quasi-Corporations & Household Sector	♦ ASUSE	Estimates for quasi-corporations and household sector are prepared using results of ASUSE. The capital formation is compiled asset-wise for DOBS, M&E and IPP(Computer Software and databases)	Deflators of relevant assets as mentioned above
7. Electricity, gas, water supply and other utility services			
(a) Electricity: M&E (Own Account Electricity Generation)	♦ M/o New and Renewable Energy	Estimated from the increment in installed capacity (solar panels/ other renewable energy structures) multiplied by average cost per installed capacity.	Deflators of relevant assets as mentioned above
(b) Electricity (Quasi-Corporations and Households)	♦ ASUSE	Estimates for quasi-corporations and household sector are prepared using results of ASUSE. The capital formation is compiled asset-wise for DOBS, M&E and IPP(Computer Software and databases)	Deflators of relevant assets as mentioned above
(c) Gas	♦ M/o New and Renewable Energy, ♦ KVIC,	GFCF for bio gas: Number of bio-gas plants x average cost of installation	Deflators of relevant assets as mentioned above

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
	♦ M/o Rural Development, ♦ D/o Drinking Water & Sanitation		
(d) Water Supply (Quasi-Corporations and Households)	♦ ASUSE	Estimates for quasi-corporations and household sector are prepared using results of ASUSE. The capital formation is compiled asset-wise for DOBS, M&E and IPP (Computer Software and databases)	Deflators of relevant assets as mentioned above
(e) Remediation, Sewerage & Other Utility Services (Quasi-Corporations and Households)	♦ ASUSE	Estimates for quasi-corporations and household sector are prepared using results of ASUSE. The capital formation is compiled asset-wise for DOBS, M&E and IPP (Computer Software and databases)	Deflators of relevant assets as mentioned above
8. Construction			
DOBS, Machinery & Equipments	♦ The capital stock to output ratios for private corporations engaged in each of these activities and with turnover of less than Rs 2 Cr have been applied to GVO of Mining and Quarrying	Capital stock to output ratio is applied on GVO of minor minerals to get series of fixed stocks. GFCF is estimated as the difference between two successive years' fixed stock.	Deflators of relevant assets as mentioned above
9. Trade & repair services, Hotels and restaurants, Road, Water, Services Incidental to Transport, Storage, Communication & services related to broadcasting, Financial Services (only Quasi), Real estate & professional services, Education, Health and Other Services.			
Quasi-Corporations and Households	♦ ASUSE	Estimates for quasi-corporations and household sector are prepared using results of ASUSE. The capital formation is compiled asset-wise for DOBS, M&E and IPP (Computer Software and databases)	Deflators of relevant assets as mentioned above
10. Ownership of dwellings			
DOBS	♦ AIDIS, 2019 for ownership of dwellings ♦ Population Projections by M/o Health and Family Welfare and average household	Ownership of dwellings: GFCF is estimated using capital expenditure on dwellings estimate for from AIDIS, 2019. This is moved for other	Current price estimates are deflated by composite index based on PPI and CPI

Item	Data Sources	Method of estimation	
		At current prices	At constant (2022-23) prices
	size from NSS Surveys (for estimating number of dwellings) ♦ PPI and CPI	years by applying growth in number of dwellings and composite index based on PPI and CPI to account for price escalation in residential dwellings	to account for price escalation in residential dwellings

Note: The total of industry-wise GFCF of unincorporated sector (quasi-corporations + household sector) in DOBS and M&E asset derived above does not sum up to the GFCF of unincorporated sector in these assets, the difference is proportionately allocated so that sum total of GFCF of all industries match with the GFCF of unincorporated sector in derived through commodity flow method. The industry-wise GFCF of unincorporated sector for industries covered under ASUSE is split into Quasi-Corporations and Household Sector using industry-wise shares in GFCF from ASUSE.

Annexure-VII

Economic Activity/ Expenditure Component-wise list of Indicators used in QNA

Production Side Indicators

Sl. No.	Volume/ Value Indicators	Price Index for deflation/ inflation
1	Agriculture & Allied	
	- Quarterly Crop production estimates of 69 crops/crop categories. - Season-Wise production estimates of Major Livestock Products (Milk, Egg, Meat and Wool). - Quarterly production estimates of Inland and Marine Fish - Past Growth for Forestry Sector	Item-wise PPI at disaggregate level
2	Mining & Quarrying	
	Separate volume indicators for different fuel and non-fuel minerals using IIP: - IIP (Coal & Lignite) - IIP (Crude Petroleum & Natural Gas) - IIP (Metallic Minerals) - IIP (Non-metallic Minerals) - IIP (Minor Minerals)	Mineral-group wise PPI
3	Manufacturing	
	- Quarterly financial results of listed private and PSUs separately - Outward supply information from GST return by Constitution of Business	Double Deflation using Composite Price Index separately for Output and Intermediate Consumption, based on relevant item-wise output PPI
4	Electricity, Gas, Water Supply and Remediation Services	
	- IIP- Electricity - Natural Gas Consumption growth - Past year growth for Water Supply - GST data for Recycling - Past Year growth for Sewerage	- PPI (Electricity) - PPI (Natural Gas) - CPI (Water Charges) - Composite PPIs (weighted PPIs for basic metals, fabricated metal products, plastic products and paper and paper products) - CPI (General)
5	Construction	
	- Consumption of Finished Steel - IIP/ composite IIPs in various construction material inputs separately, such as Cement & Cement products; Bricks & Tiles; Timber & Roundwood; Bitumen & Bitumen Mixtures; Glass & Glass Products; Fixtures & Fittings. - For Other Materials including Service charges- IIP Infrastructure and Construction Goods	- PPI/ weighted PPIs at material input-item category level - Combined PPIs and CPI-General for Other Materials including Service charges
6	Trade and Repair Services	
	- Outward supply information from GST return by Constitution of Business - Quarterly financial results of listed retail trading companies - Domestic Sales of Vehicles of all categories	TTM-weighted PPI of relevant commodities
7	Hotels & Restaurants	
	- Quarterly financial results of listed companies for Private Corporate segment - Outward supply information from GST return by Constitution of Business	Single extrapolation using Composite CPI of relevant items

Sl. No.	Volume/ Value Indicators	Price Index for deflation/ inflation
8	Transport & Storage	
	Railway Transport - Passenger Kilometers and Net Tonne Kilometers for constant Price Estimates - Goods and Passenger earning information for current Price Estimates	
	Road Transport Stock + Sales of Commercial Vehicles	Composite CPI of relevant items
	Air Transport Domestic and International Air Traffic operating statistics (In Thousand Tonne Km.)	CPI of Air Fare
	Water Transport Cargo handled at Major & Minor ports	CPI of Boat and Steamer Charges
	Services Incidental to Transport - Combined Volume Growth of Road, Water and Air Transport at Institutional sectoral level for constant price estimation - Outward supply information from GST return by Constitution of Business for nominal estimates	
	Storage & Warehousing - Outward supply information from GST return by Constitution of Business for current price estimates	Single Extrapolation using IPD pattern in benchmark year
9	Telecommunication, Post, Courier, Cable Operator, Recording, Publishing, Broadcasting	
	- Combined Minutes of Usage and Data Usage growth for Telecommunication at constant prices - Quarterly Financial results of listed companies for current price Estimates of Telecommunication	
	- Outward supply information from GST return by Constitution of Business for Courier; Cable Operator; Recording, Publishing, Broadcasting - For Postal Activities by Department of Post, past growth	Single Extrapolation by relevant CPIs separately for Post; Courier; Cable Operator; Recording, Publishing, Broadcasting
10	Financial Services	
	- Quarterly Compensation of Employee of RBI - FISIM for Banks - FISIM on Loans for NBFCs - Revenue Growth based on Financial results of listed companies for Financial Auxiliaries and Commission information for Insurance agents - GVA growth using Public Disclosures of LIC and Non-life Insurance (Public & Private separately) Companies - Net Premium Income for Private Life Insurances Companies	- Volume index of CE deflated by CPI- General for RBI - Volume Measure of FISIM for Banks. Loan and Deposits deflated using CPI-General - Volume Measure of FISIM on Loans for NBFCs deflated using CPI-General - Volume growth based on Deflated Output or Commission on agents using CPI-General - Volume growth based on Deflated Output (for LIC and Private and Public Non-Life Insurance separately - Volume growth based on Deflated Net Premium Income for Private Life Insurances Companies. For deflation CPI-G is used as price indicator.
11	Real estate, IT and Professional services	
	- Outward supply information from GST return based on Constitution of Business - Outward supply information from CIN-wise GST data	Single extrapolation using Composite CPI of relevant services separately for various

Sl. No.	Volume/ Value Indicators	Price Index for deflation/ inflation
	Quarterly financial results of listed companies	sub-sectors and institutional sectors
12	Ownership of Dwellings	
	- Intra-year growth calculated in new base year for Urban Dwelling stock projection. - Urban rent/HH projected using CPI(Housing)-Urban - Past growth for Rural segment	
13	Public Administration	
	Compensation of Employees information for Central through PFMS and Salary & Wages information for State Govt. Employees from CAG	CPI (IW)
14	Other Services (Education, Health, Recreational, Cultural and Sporting activities, Personal Services etc.)	
	- Outward supply information from GST return based on Constitution of Business for Quasi and Household Sector - Outward supply information from CIN-wise GST data for Private Corporate - Past year growth for Public sector General Government.	Single Extrapolation using Specific CPI such as CPI (Health), CPI (Education), CPI (Recreation) etc. separately for various sub-sectors and institutional sectors
15	Product Taxes	
	Current Price Estimates: - Quarterly Net GST Revenue - Non-GST Revenue: Information on Central and State Excise duties, Custom duties and Sales tax on goods outside the tax base of GST from CGA and CAG Constant price estimates: - Volume extrapolation using relevant Volume Indicators for different tax components separately (GST, Sales Tax, Union Excise, State Excise, Service Tax, Custom Duty and Other Tax)	
16	Subsidy	
	Current Price Estimates: - Subsidy data for Central and State Government from CGA and CAG Constant price estimates: - Volume extrapolation using relevant Volume Indicators for different subsidy component (Quarterly Consumption of fertilizers for Fertilizer subsidy, IIP-Electricity for Electricity subsidy) - For Other Subsidy, deflation using Implicit Price Deflator (IPD) of overall GVA	

Expenditure Side Indicators

Sl. No.	Volume/ Value Indicators	Price Index for deflation/ inflation
1	GFCE	
	• Compensation of Employees information for Central and State Govt. • Past Year growth for Net purchases of Goods and Services and CFC • Expenditure of Food Subsidy from CGA website	• CPI (IW) for Compensation of Employees • Composite index of CPI and PPI for Net Purchases of Goods and Services • Volume Extrapolation using Food-grain offtake information for Food Subsidy part
2	PFCE	
	• HCES for base year Quarterization for majority of the items • Annual Production estimates of various agricultural commodities • Quarterly Production estimates for few agricultural commodities • Production estimates of Milk, Meat, Fish, Egg • PDS off-take of Rice and Wheat • Item-wise IIP/ Weighted IIPs of various processed foods/ manufactured items for around 25 items • Quarterly consumption of LPG • Vehicle Registration and Sales information from VAHAN and Ministry of Road Transport and Highways database for Household, Passenger and Good Transport vehicles separately • GVO/GVA growth of respective services both for current and constant Price estimates • Passenger Km. and Passenger Revenue information for railways • Import and Export of various services	Item-specific CPI for Food, Manufactured products and other relevant items (for Total 93 items/item categories)
3	GFCF	
	Dwelling, Other Buildings and Structures Output growth of Construction Sector both at current and constant Prices	
	Machinery and Equipment • Relevant IIP growth for different type of Machinery & Equipment (Transport; ICT and Other Machinery and Equipment) • Net Import of different type of Machinery & Equipment	Relevant PPI for different type of Machinery & Equipment separately
	Cultivable Biological Resources Past Growth	
	Intellectual Property Products • GVA growth for Research and Development and Computer Software and Databases and Past Growth from Remaining components • For Computer Software and Databases, Import and Export data from BoP statistics	Appropriate CPIs separately for different assets within IPP
4	Changes in Stock (CIS)	
	Quarterly indicators constructed using estimates of Output, Intermediate Consumption, and the relevant expenditure aggregates at current prices and constant prices	
5	Valuables	

Sl. No.	Volume/ Value Indicators	Price Index for deflation/ inflation
	Net import of valuables (including Gold, Silver, Diamonds and other valuable commodities)	Composite CPI of valuable items
6	Exports and Imports	
	- Quarterly Export- Import data for Goods and Services from DGCIS and RBI - BoP statistics from RBI for disaggregated service categories	- Principal Commodity-wise Export and Import UVI for Goods - Service specific IPD for relevant domestic service producing industries - Service Producer Price Indices of major trading partner countries along with exchange rates

***For complete understanding of how these indicators are constructed, defined, or interpreted, full methodology document may be referred.**

Glossary of Terms on National Accounts Statistics

Glossary of Terms on National Accounts Statistics

Term	Definition
Activity-wise Turnover	Turnover attributable to individual business activities of a multi-activity enterprise, used for segregating its economic activities.
Actual Final Consumption	The goods and services actually acquired for consumption by households, government and NPISHs, including goods and services provided as social transfers in kind.
Adjusted Disposable Income	Disposable income adjusted for social transfers in kind received by households from government and NPISHs.
Advance Estimate	An estimate prepared using the information available at the time of compilation and subject to subsequent revision as more complete data become available.
All India Debt and Investment Survey (AIDIS)	A household survey providing information on household assets, liabilities and financial and physical investment.
Annual Survey of Industries (ASI)	An annual enterprise survey providing detailed information regarding value added, value of output, employment, capital formation, and item-wise input-output details for registered manufacturing establishments.
Annual Survey of Unincorporated Sector Enterprises (ASUSE)	An enterprise survey providing information on unincorporated non-agricultural enterprises, used for estimating output, GVA, employment, capital formation and other aggregates.
AOC-4	Form used by companies for filing their financial statements and related documents with the Ministry of Corporate Affairs.
Asset Boundary	The boundary determining which goods and services qualify as assets within the SNA. For fixed assets, the asset must generally be used in production for more than one year.
Backcasting	Estimation of historical time series for years preceding the new base year using the concepts, classifications and methodology of the revised series to provide a consistent historical series.
Balance of Payments (BoP)	A systematic record of economic transactions between residents of an economy and the rest of the world during a specified period.
Balance of Primary Income	The balancing item of the allocation of primary income account, representing primary income receivable less primary income payable.
Base Year	The year selected as the reference year for a particular National Accounts series, including the valuation of constant-price estimates and the structure of relative prices.
Base Year Revision	A comprehensive revision involving the base year as well as improvements in concepts, classifications, data sources, coverage and estimation methodologies.
Basic Price	The amount receivable by the producer for a unit of output, excluding Trade and Transport Margins, and taxes on products, and including subsidies on products.
Benchmark Estimate	An estimate for a benchmark year based on relatively comprehensive and detailed source data.
Benchmark Year	A year for which detailed and comprehensive estimates are compiled and used as a basis for subsequent estimates.
Benchmark-Indicator Method	A method in which a benchmark estimate is projected using movements in an appropriate indicator.

Term	Definition
Benchmarking	The process of reconciling higher-frequency estimates with annual benchmark estimates while preserving the short-term movements indicated by quarterly data.
Blow-up / Scaling-up Factor	A factor used to scale estimates based on reporting units to account for units for which data are unavailable.
C&I Taxonomy	Commercial and Industrial Companies taxonomy used for filing financial statements under the Accounting Standards framework notified under the Companies (Accounting Standards) Rules, 2006.
Capital Account	An account showing how saving and capital transfers are used for the acquisition of non-financial assets and deriving net lending/net borrowing.
Capital Stock	The value of the stock of fixed assets available for use in production at a particular point in time.
Capital Transfers	Transfers in cash or kind made for purposes of financing the acquisition or disposal of assets and which affect the net worth of the recipient.
Centre of Economic Interest	The location within an economic territory where an institutional unit engages, or intends to engage, in economic activities and transactions on a significant scale for an extended period.
Change in Stock (CIS)	The change in the stock of inventories and other stocks held by producers during an accounting period.
CIF	It stands for Cost, Insurance and Freight. Valuation of imports at the importer's border, including insurance and freight costs from the exporter's border. Used in Indian customs statistics; requires adjustment to FOB for national accounts.
CIF Adjustment	An adjustment made to import values reported on a cost-insurance-freight basis to avoid double counting of imported insurance and transport services.
COFOG	Classification of the Functions of Government, used to classify government expenditure according to its purpose.
COICOP	Classification of Individual Consumption According to Purpose, used for classifying household consumption expenditure by purpose.
Collective Consumption	Services provided simultaneously to the community as a whole or to large groups of the population, mainly by government.
Commodity Flow Approach	An approach that traces the supply and uses of commodities to derive expenditure or capital formation estimates where direct information is inadequate.
Compensation of Employees (CE)	Remuneration payable by an employer to an employee for work performed during an accounting period, including wages, salaries and employers' social contributions.
Constant Prices	Values measured using prices of a specified reference year to remove the effect of price changes.
Consumer Price Index (CPI)	An index measuring changes over time in the prices paid by consumers for a representative basket of goods and services.
Consumption of Fixed Capital (CFC)	The decline during an accounting period in the current value of fixed assets resulting from physical deterioration, normal obsolescence or normal accidental damage.
Corporate Identification Number (CIN)	A unique identification number allotted by MCA to a company incorporated in India.
Corporate Sector Blow-up	Scaling up of estimates derived from reporting companies to cover companies in the relevant population or frame for which financial information is unavailable.
Current Account	An account recording transactions in goods, services, primary income and secondary income between residents and non-residents.

Term	Definition
Current Account Deficit (CAD)	The excess of current account payments over current account receipts.
Current Prices	Values measured using prices prevailing during the period to which the estimates relate.
Deflation	Conversion of current-price values into constant-price values using an appropriate price index.
Departmental Enterprise (DE)	An enterprise owned and operated by government as an integral part of a government department.
Direct Estimation	Estimation based directly on source data relating to the variable or activity being measured.
Disposable Income	Income available to an institutional unit or sector for consumption and saving after taking account of current transfers received and paid.
Double Deflation	A method of estimating constant-price GVA by separately deflating output and intermediate consumption and obtaining the difference between them.
Dynamic Ratio	A ratio or coefficient updated periodically using current or recent source data instead of being kept fixed at the benchmark-year level.
Economic Territory	The territory under the effective economic control of a government within which institutional units, transactions and economic activities are defined for national accounting purposes.
Enterprise	An institutional unit viewed specifically as a producer of goods and services. It may be a corporation, quasi-corporation, NPI or unincorporated enterprise.
Establishment	An enterprise, or part of an enterprise, situated at a single location and engaged in a single productive activity or in a principal productive activity accounting for most of its value added.
EXIM Data Bank	Database containing detailed commodity-wise import and export of goods.
Expenditure Approach	An approach to measuring GDP through final expenditure on goods and services, including PFCE, GFCE, GFCF, changes in inventories, valuables, exports and imports.
Exports of Goods and Services	Transactions in which goods and services are supplied by residents to non-residents.
Extrapolation	Updating a benchmark estimate for subsequent periods using an appropriate indicator of change.
Factor Payment	It includes compensation of employees, Property Income (Rent, Interest, and Dividends for Capital & Land), operating surplus/mixed income.
Final Consumption Expenditure (FCE)	Expenditure on goods and services used to satisfy individual or collective needs and wants.
Financial Account	An account recording transactions in financial assets and liabilities and showing how net lending or borrowing is financed.
Financial Asset	An asset representing a financial claim, equity or other financial instrument through which economic value is transferred between institutional units.
Financial Corporation	A corporation principally engaged in financial intermediation, risk pooling, financial services or related activities.
Financial Corporations Sector	The sector comprising resident corporations principally engaged in financial services, including financial intermediation, insurance, pension fund services and activities facilitating financial intermediation.
Financial Intermediation	The activity of obtaining funds from institutional units with surplus funds and channelling them to units requiring funds, generally through financial instruments.

Term	Definition
Financial Intermediation Services Indirectly Measured (FISIM)	The implicit service component of interest flows arising from financial intermediation, measured through the margin between reference rates and interest rates on loans and deposits.
Financial Liability	An obligation of a debtor to provide a payment or series of payments to a creditor under specified conditions.
Financial Statement Mapping	The process of mapping company-level accounting variables reported in financial statements to corresponding SNA concepts and aggregates.
Fixed Asset	A produced asset used repeatedly or continuously in production for more than one year.
Flow of Funds Approach	An approach for deriving gross capital formation from gross saving and net capital inflow from the rest of the world.
FOB	It stands for 'free on board'. Valuation of exports and imports at the exporter's border. The standard SNA valuation for both exports and imports in national accounts.
Frame of Active Companies	Annual frame/list of active companies registered with MCA. It is used to account for companies for which financial returns are not available by scaling up reporting-company estimates.
General Government Sector	The sector comprising central, state and local government units and social security funds controlled by them, primarily producing non-market services and undertaking redistribution of income and wealth.
Goods and Services Tax (GST)	A comprehensive indirect tax database on the supply of goods and services used as an important administrative data source in National Accounts compilation.
Government Final Consumption Expenditure (GFCE)	Expenditure by general government on goods and services produced for individual and collective consumption, including non-market services and social transfers in kind.
Gross Capital Formation (GCF)	The total of gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables.
Gross Domestic Product (GDP)	The sum of GVA at basic prices for all resident institutional units plus taxes on products less subsidies on products.
Gross Fixed Capital Formation (GFCF)	The value of acquisitions less disposals of fixed assets by producers during the accounting period, together with specified expenditure that adds to the value of non-produced assets.
Gross Saving	Disposable income less final consumption expenditure, or adjusted disposable income less actual final consumption.
Gross Value Added (GVA)	The value of output less intermediate consumption.
Gross Value of Output (GVO)	The total value of goods and services produced by a producer unit during the accounting period.
GSTN	Goods and Services Tax Network, the information technology platform supporting GST administration and data processing.
Household Consumption Expenditure Survey (HCES)	A household survey providing information on consumption expenditure used extensively in compiling PFCE estimates.
Household Sector	The sector comprising all resident households, including households operating unincorporated enterprises. Institutional households are also included.
HSN	Harmonized System of Nomenclature, used for classification of goods for taxation and trade purposes.
Implicit Price Deflator (IPD)	A price index obtained by dividing the current-price value of an aggregate by its corresponding volume measure.

Term	Definition
Imports of Goods and Services	Transactions in which goods and services are acquired by residents from non-residents.
Income Approach	An approach to measuring GVA by aggregating compensation of employees, operating surplus/mixed income, consumption of fixed capital and taxes less subsidies on production.
Ind AS Data	Financial statement data filed under the Indian Accounting Standards XBRL taxonomy.
Ind AS Taxonomy	Indian Accounting Standards taxonomy used for filing financial statements under the Indian Accounting Standards framework notified under the Companies (Indian Accounting Standards) Rules, 2015.
Indicator	A statistical measure used to extrapolate or update benchmark estimates for subsequent periods.
Individual Consumption	Goods and services acquired by individual households, whether purchased by households or provided as social transfers in kind by government or NPISHs.
Industry	A group of establishments engaged in the same or similar kind of productive activity.
Input–Output Ratio	The ratio of intermediate inputs to output used in estimating intermediate consumption or output in appropriate activities.
Input-Output Table	A square matrix derived from supply and use tables showing inter-industry flows; used for multiplier analysis and structural economic analysis.
Institutional Sector	A grouping of institutional units having broadly similar economic functions, behaviour and objectives.
Institutional Unit	An economic entity capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and transactions with other entities.
Intellectual Property Products (IPP)	Produced assets comprising the results of research and development, mineral exploration and evaluation, computer software and databases, entertainment, literary and artistic originals and other intellectual property products.
Intermediate Consumption (IC)	The value of goods and services consumed as inputs in the production process, excluding fixed assets whose consumption is recorded as CFC.
ITC-HS	Indian Trade Classification based on the Harmonized System, used for classifying India's international merchandise trade.
Limited Liability Partnership (LLP)	A legal business entity registered under the Limited Liability Partnership Act, 2008, having a separate legal identity from its partners.
Linking	The process of connecting estimates from different base-year series to produce a continuous time series.
LLPIN	The unique identification number allotted to a registered Limited Liability Partnership.
Market Output	Output intended for sale at economically significant prices.
Market Producer	A producer that sells most of its output at economically significant prices.
MCA-21	An e-governance initiative of the Ministry of Corporate Affairs through which companies electronically file financial statements and other statutory information. The resulting data are used in compiling National Accounts estimates for the corporate sector.
Methodological Improvement	A change in concepts, sources, coverage, estimation procedure or compilation framework intended to improve the quality, consistency or relevance of National Accounts estimates.

Term	Definition
MGT-7	Statutory annual return form containing, among other information, details of business activities and activity-wise turnover of a company.
MGT-7A	Simplified annual return form applicable to specified one-person companies and small companies.
Mixed Income (MI)	The balancing item of the generation of income account for owners of unincorporated enterprises, reflecting both remuneration for labour and return to capital.
Multi-Activity Enterprise	An enterprise engaged in more than one economic activity. In the new series, activity-wise turnover information from MGT-7/7A is used to segregate its economic activities.
Multiplier	A factor applied to an observed or benchmark variable to derive an estimate of another economic aggregate.
National Accounts	A comprehensive and integrated statistical framework for recording the economic activities and transactions of an economy, including production, income, consumption, saving, investment and transactions with the rest of the world.
Net Borrowing	The amount of resources that an institutional unit or sector needs to borrow when its net acquisition of non-financial assets exceeds the resources available from saving and capital transfers.
Net Capital Inflow from Rest of the World	Net capital received from the rest of the world for financing domestic capital formation.
Net Errors and Omissions	The statistical discrepancy arising when independently compiled balancing positions or accounts do not exactly agree because of measurement, coverage, timing, valuation or other differences.
Net Fixed Capital Formation	Gross fixed capital formation less consumption of fixed capital.
Net Lending	The amount of financial resources available to an institutional unit or sector for lending to other units when its saving and capital transfers exceed its net acquisition of non-financial assets.
Net Saving	Gross saving less consumption of fixed capital.
Net Value Added (NVA)	GVA less consumption of fixed capital.
New Series	The National Accounts estimates compiled under the revised conceptual framework, data sources and methodologies associated with the 2022–23 base year.
NIC 2008	National Industrial Classification 2008, used for classifying economic activities and industries in India.
Non-Departmental Enterprise (NDE)	A government-owned enterprise operating separately from a government department, generally as a distinct institutional unit or enterprise.
Non-Financial Corporations Sector	The sector comprising resident corporations whose principal activity is the production of market goods and non-financial services.
Non-Financial Private Corporation (NFPC)	A private corporation whose principal activity is production of non-financial goods and services.
Non-Market Output	Goods and services supplied free of charge or at prices that are not economically significant, mainly by government and NPISHs.
Non-Market Producer	A producer that supplies most of its output free of charge or at prices that are not economically significant.
Non-Produced Non-Financial Asset	An asset that comes into existence other than through a production process, such as land and certain natural resources.
Non-Profit Institutions Serving Households (NPISHs)	Resident non-profit institutions, other than those controlled by government, that provide non-market goods and services to households or the community.

Term	Definition
Non-XBRL Company	A company that files its financial statements through the applicable non-XBRL form rather than through an XBRL taxonomy.
NPCMS	National Product Classification for Manufacturing Sector, used for classifying manufactured products.
NPCSS	National Product Classification for Services Sector, used for classifying services.
Old Series	The National Accounts estimates compiled under the earlier 2011–12 base-year framework.
Operating Surplus (OS)	The balancing item of the generation of income account for corporations and other relevant market producers after deducting compensation of employees and taxes less subsidies on production from value added.
Output	Goods and services produced by an establishment during an accounting period, including output retained for own final use, subject to the production boundary of the SNA.
Output for Own Final Use	Output retained by the producer for its own final consumption or capital formation.
Output–Turnover Ratio	The ratio used to convert turnover into output for an industry, generally derived from single-activity enterprises.
Paid-Up Capital (PUC)	The amount of share capital for which shares have been issued and payment has been received by the company.
Periodic Labour Force Survey (PLFS)	A household survey providing information on labour force participation, employment and related characteristics.
Perpetual Inventory Method (PIM)	A method of estimating capital stock and CFC by accumulating past GFCF, adjusted for retirements, asset lives and depreciation.
Primary Income	Income accruing to institutional units as a result of their involvement in production or ownership of financial or natural resources, including compensation of employees, taxes less subsidies on production and property income.
Principal Activity	The activity that contributes the largest amount of value added among the activities undertaken by a producer unit.
Private Corporation	A corporation controlled by private institutional units rather than government.
Private Final Consumption Expenditure (PFCE)	Final consumption expenditure incurred by households and NPISHs.
Producer Price Index (PPI)	An index measuring changes in prices received by producers for goods and services.
Producer's Price	The amount receivable by the producer for a unit of output, excluding taxes on products and including subsidies on products, except deductible VAT, and excluding separately invoiced transport charges.
Product Balancing	The process of reconciling the total supply and total use of each product within the SUT framework.
Product Classification	A systematic classification of goods and services used to organise production, supply and use estimates.
Product Taxes Less Subsidies	Taxes on products less subsidies on products, used in the valuation and reconciliation of supply and use.
Production Approach	An approach to measuring GDP by aggregating GVA across industries and adding taxes on products less subsidies on products.
Production Boundary	The boundary defining the economic activities and outputs that are included in the production measure of the SNA.

Term	Definition
Property Income	Income receivable by an owner of a financial asset or natural resource in return for providing it to another institutional unit, including interest, dividends and rent.
Pro-rata Allocation	Allocation of an aggregate across components in proportion to an appropriate distribution variable or ratio.
Provisional Estimate	An estimate compiled using substantially available data but subject to revision when final or more comprehensive source data are received.
Public Corporation	A corporation controlled by government through ownership or other means and generally engaged in market production.
Public Private Partnerships (PPPs)	Long-term arrangements between a government unit and a private enterprise to finance, design, construct, and operate fixed infrastructure assets (such as roads, bridges, hospitals, and schools) that were traditionally provided by the public sector.
Purchaser's Price	The amount paid by the purchaser for a unit of a good or service, including trade and transport margins and taxes less subsidies on products, except deductible VAT.
Quarterly National Accounts (QNA)	National Accounts estimates compiled at quarterly frequency to provide timely information on economic activity.
Quasi-Corporation	An unincorporated enterprise that maintains a complete set of accounts and operates as if it were a separate corporation, with an economic relationship to its owner similar to that of a corporation to its shareholders.
Reference Rate	A rate used to separate the interest component from the service component embedded in financial intermediation margins.
Regional Accounts	Accounts providing estimates of major economic aggregates for individual States and Union Territories.
Resident Institutional Unit	An institutional unit whose centre of predominant economic interest is in the economic territory and which has a significant economic presence there.
Residual Estimation	Estimation of a variable as the residual after other components of an accounting identity have been estimated.
Rest of the World (RoW)	All non-resident institutional units that undertake transactions with, or have other economic links with, resident units.
Revised Estimate	An estimate updated using improved or additional source data and/or revised methodology.
SAC	Service Accounting Code used for classification of services under GST.
Saving	The balancing item of the use of income account, representing the part of disposable income that is not spent on final consumption.
Scaling-up	The process of adjusting estimates based on available reporting units to represent the complete population or frame.
Secondary Activity	An activity carried out by a producer unit in addition to its principal activity, generating products other than those of the principal activity.
Single Deflation	A method in which a current-price aggregate is divided by an appropriate price index to obtain its constant-price equivalent.
Single Extrapolation	A method in which a base-year estimate is extrapolated using an appropriate volume or quantity indicator.
Social Transfers in Kind	Individual goods and services provided by government or NPISHs to households free of charge or at economically insignificant prices.
State Domestic Product (SDP)	The measure of economic activity within the economic territory of a State or Union Territory, conceptually analogous to GDP at the national level.
State GVA	Gross value added generated by economic activities within a State or Union Territory.

Term	Definition
Statistical Discrepancy	A difference between independently derived estimates arising from differences in sources, coverage, valuation, timing, classification or measurement.
STRBI	Statistical Tables Relating to Banks in India, providing banking-sector data, compiled by RBI.
Subsidies on Production	Current transfers from government to producers intended to influence levels of production, prices or returns to production factors.
Subsidies on Products	Subsidies payable per unit of a good or service produced, sold or imported.
Supply and Use Tables (SUTs)	Integrated matrices showing the supply of goods and services from domestic production and imports and their uses as intermediate consumption, final consumption, capital formation and exports.
Supply Table	A table showing the supply of products from domestic industries and imports.
Supply–Use Balance	The accounting identity under which the total supply of a product equals its total use.
System of National Accounts (SNA)	An internationally agreed framework for compiling coherent, consistent and integrated economic accounts and macroeconomic aggregates.
Taxes on Production	Taxes that producers incur as a result of engaging in production, independent of the quantity or value of goods and services produced or sold.
Taxes on Products	Taxes payable per unit of a good or service produced, sold or imported.
Total Economy	The entire set of resident institutional units constituting an economy.
Trade and Transport Margins (TTM)	Margins charged for wholesale and retail distribution and for transporting goods from producers/importers to users.
Unit Value Index (UVI)	An index measuring changes in the average unit values of traded commodities.
Use Table	A table showing the use of products by industries as intermediate consumption and by final users as final consumption, capital formation and exports.
VAHAN	An administrative database on National vehicle registration.
Valuables	Produced assets held primarily as stores of value rather than for production or consumption, such as precious metals, precious stones, antiques and works of art.
Valuation Matrix	A matrix used to transform product values between different valuation bases, particularly basic prices, producers' prices and purchasers' prices.
Volume Extrapolation	Estimation of a constant-price series by applying changes in an appropriate volume indicator to the corresponding benchmark estimate.
Volume Measure	A measure of changes in quantities or volumes of goods and services after removing the effect of price changes.
Wholesale Price Index (WPI)	An index measuring changes in wholesale prices of goods.
XBRL	eXtensible Business Reporting Language, a standardised digital language for structuring and exchanging financial and business reporting information.



Government of India

Ministry of Statistics and Programme Implementation

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