

REPORT OF THE SUB-COMMITTEE
ON
METHODOLOGICAL IMPROVEMENT FOR THE BASE
REVISION OF GDP
BASE YEAR 2022-23



सत्यमेव जयते

NATIONAL ACCOUNTS DIVISION
NATIONAL STATISTICS OFFICE
MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION
GOVERNMENT OF INDIA
NEW DELHI

Acknowledgement

The Sub-Committee on Methodological Improvement for the Base Revision of GDP was constituted by the Ministry of Statistics & Programme Implementation (MoSPI) with a mandate to review the existing estimation methodology of various macro-economic aggregates and suggest improvements/refinements to the same.

This report encapsulates the key issues deliberated upon by the Sub-Committee and the recommendations that emerged from the in-depth discussions conducted over the course of ten meetings. Throughout the deliberations, the Sub-Committee endeavored to incorporate a wide range of perspectives, thereby ensuring that the discussions remained balanced and practical.

This report covers only the segments where methodological improvements have been recommended and is not an exhaustive document on methodology used in compilation of National Accounts Statistics.

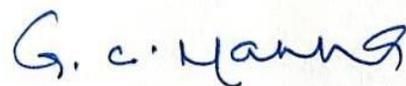
On my personal behalf and on behalf of the Sub-Committee, I wish to offer my deep appreciation and thanks to Dr. Saurabh Garg, Secretary, MoSPI for valuable suggestions in the course of various meetings. I also extend my warm appreciation to Shri N.K. Santoshi, Director General (Central Statistics) and Shri Siddhartha Kundu, Addl. Director General, National Accounts Division (NAD) for enriching the deliberations.

I am indebted to recognize the dedicated efforts of Deputy Directors General, Directors and staff of the NAD, National Statistics Office, MoSPI for their dedicated efforts in organizing the meetings, undertaking analytical exercises, and bringing background of earlier methodologies. I extend my special thanks to each one of them.

I would also like to place on record my sincere thanks to all the members of the Sub-Committee for their active participation and constructive suggestions. I am thankful to the Secretariat for successful conduct of the meetings and logistic support.

Finally, I gratefully acknowledge the contribution of Ms Kratika Mittal, Member Secretary of the Sub-Committee. Without her consistent hard work, this Report would not have taken shape on time.

(Dr. G. C. Manna)



Chairperson of the Sub-Committee and
Professor, Institute for Human Development &
Senior Advisor, NCAER

February, 2026
New Delhi

Abbreviations

AIDIS	All India Debt & Investment Survey
ASI	Annual Survey of Industries
ASUSE	Annual Survey of Unincorporated Sector Enterprises
CC	Compilation Category
CCS	Cost of Cultivation Studies
CE	Compensation of Employees
CFC	Consumption of Fixed Capital
CIS	Change in Stocks
ELIM	Effective Labour Input Method
FISIM	Financial Intermediation Services Indirectly Measured
GDP	Gross Domestic Product
GFCE	Government Final Consumption Expenditure
GFCF	Gross Fixed Capital Formation
GVA	Gross Value Added
GVAPW	Gross Value Added Per Worker
GVAPEW	Gross Value Added Per Effective Worker
HCES	Household Consumption Expenditure Survey
HWE	Hired Worker Establishments (units with at least one hired worker)
IC	Intermediate Consumption
LC	Livestock Census
LI	Labour Input
LLP	Limited Liability Partnership
MCA	Ministry of Corporate Affairs
MoSPI	Ministry of Statistics & Programme Implementation
NAD	National Accounts Division
NFPC	Non-Financial Private Corporate / Corporations
NIC	National Industrial Classification
OAE	Own Account Establishments (units without any hired worker)
PFCE	Private Final Consumption Expenditure
PLFS	Periodic Labour Force Survey
PUC	Paid-Up Capital
RSE	Relative Standard Error
SNA	System of National Accounts
SUT	Supply and Use Table
XBRL	eXtensible Business Reporting Language

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Chapter 1: Introduction

Introduction:

1. 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 role of the Committee was to advise MoSPI, among other things, on inclusion of new data sources for improving the estimates of National Accounts, on the methodology for compilation and presentation of National Accounts Statistics for purposes of economic analysis and policy and on implementation of the latest UN standards.
2. Under ACNAS, following 5 Sub-committees (first four dealing with ongoing 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

Constitution and Composition of the Sub Committee for Methodological Improvement:

3. With a view to improve upon the methodology of compilation of estimates, a sub-committee of the Advisory Committee on National Accounts Statistics (ACNAS) on Methodological Improvements was constituted as per order No. U-11014/9/2023-NAD-2B dated 27.9.2024 (copy enclosed in the annexure) with following composition and terms of reference:

Dr. G. C. Manna, IHD – Chairperson	Non-Official
Dr. J. Dennis Rajakumar, EPW	Non-Official
Dr. Mausumi Das, DSE	Official
Prof. Partha Ray, NIBM	Official
Dr. Chetan Ghate, ISI	Official
Principal Adviser, DSIM, RBI	Official
Representative from DEA	Official
DDG, CDM, MCA	Official
DDG, MSME	Official
Director, DES, Tamil Nadu	Official
Director, DES, Tripura	Official
Director, DES, Uttar Pradesh	Official
DDGs from NAD	Official
Member Secretary: Ms. Kratika Mittal, Director, NAD	Official

Terms of Reference (TOR) of the Sub-Committee:

4. Terms of Reference of the Sub-Committee are as follows:

- i. To advise on the methodology for compilation and presentation of National Accounts Statistics for purposes of economic analysis and policy including methodology for seasonal adjustment of quarterly national accounts and methodology for back series.
- ii. To advise on estimation of different macro-economic indicators related to specific segments of economy.
- iii. To review the existing methodology being used in estimation of various macro-economic aggregates.
- iv. Refinement in methodology, inter-alia, for estimating Non-financial Private Corporate Sector and unorganized sector for manufacturing and services, for compilation of seasonally adjusted Quarterly National Accounts as well as Quarterization of Benchmark estimates for both Production (Institutional sector wise) and Expenditure side.
- v. Feasibility of compiling Chain Based estimates.
- vi. Documentation and writing of report of the sub-committee.
- vii. To advise on any other relevant matter referred to the sub-committee by the Committee.

Meetings of the Sub-Committee:

5. Ten meetings of the Sub-Committee (25.10.2024, 06.12.2024, 16.04.2025, 16.06.2025, 01.08.2025, 23.09.2025, 15.10.2025, 27.10.2025, 04.11.2025 and 14.11.2025) were held, the proceedings of which are annexed at the end.

Report Structure:

6. The report contains five chapters. Chapter 1 gives the composition and terms of references of the Sub-Committee on methodological improvements. Chapter 2 describes methodological changes introduced in new series in institutional sectors as well as in industries from the production side. Chapter 3 describes changes in compilation of expenditure side components. Changes in other macro-economic aggregates like CFC and Savings have been highlighted in Chapter 4. The last chapter, i.e. Chapter 5 deals with methodological updates specific to Quarterly National Accounts.

Chapter 2: Production Side Aggregates

A. Institutional Sectors

I. Non-Financial Private Corporations (NFPC)

1. 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 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:

Change in mapping of variables for estimation of XBRL companies

2. Companies file their financial returns with MCA in either of the two formats: eXtensible Business Reporting Language (XBRL) format (following C&I or INDAS taxonomies) or Non-XBRL format. Companies listed on Indian Stock Exchange, or having turnover more than 100 crores, or PUC more than Rs.5 crores are mandatorily required to use XBRL format. 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.
3. 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 components for variables like other expenses was not available at the time of last base year revision, it was mapped to IC following residual method after removing its sub-components which were not in the nature of IC.

4. 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 following changes were proposed in the existing mapping of variables with SNA aggregates:

Variable	Existing Mapping	Proposed 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

Change in ratios used in estimation of Non-XBRL companies

5. As mentioned above, 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.
6. 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, it has been decided that the ratios will be re-calculated each year in the new series.

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

7. 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.
8. At the time of last 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.
9. With the availability of MGT data, the current business activities of a company can be captured. The above-mentioned information available in MGT forms may be used to assign the industrial activity code to the companies based on major economic activity reported in MGT form.

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

10. 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 proposed for segregating various aggregates, including Output, IC and GVA are summarized in the table given below:

Aggregate	Method of segregation
Output	In proportion to industry-wise Output-turnover ratio as per single activity companies; Multi activity Output thus obtained is then pro rata adjusted to company level total
IC	In proportion to industry-wise Input-Output ratio as per single activity companies; Multi activity IC thus obtained is then pro rata adjusted to company level total
GVA	Derived figure
Compensation of Employees	In proportion to industry-wise CE- GVA ratio as per single activity companies; Multi activity 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; Multi activity Net Production Tax thus obtained is then pro rata adjusted to company level total
Operating Surplus	Derived figure
Property Income Received	In proportion to industry-wise Property Income Received-OS ratio as per single activity companies; Multi activity Property Income Received thus obtained is then pro rata adjusted to company level total
Property Income Paid	In proportion to activity wise OS
Balance of Primary Income	Derived figure

Aggregate	Method of segregation
Other Current Transfer Received	In proportion to industry-wise Other Current Transfer Received – OS ratio as per single activity companies; Multi activity Other Current Transfer Received thus obtained is then pro rata adjusted to company level total
Other Current Transfer Paid	In proportion to activity wise OS
Income Tax Paid	In proportion to activity wise OS
Savings	Derived figure

Change in the multiplier

11. 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).

12. The following formula was used to arrive at the estimates:

$$\begin{aligned}
 & \textit{Aggregate}_{population} \\
 &= \textit{Aggregate}_{reporting_PLC} \times \frac{(\textit{Global PUC})_{PLC}}{(\textit{Reporting PUC})_{PLC}} \\
 &+ \textit{Aggregate}_{reporting_NPLC} \times \frac{(\textit{Global PUC})_{NPLC}}{(\textit{Reporting PUC})_{NPLC}}
 \end{aligned}$$

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

13. However, the availability of frame of active companies and MGT data has enabled MoSPI 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 was felt more appropriate to apply a scaling up factor at Industry x Size Class level.

Use of LLP data

14. With the availability of frame of active Limited Liability Partnerships (LLP), LLPs are being covered comprehensively in the new series. Estimates of LLPs have been compiled using Production approach. The frame of active LLPs is now being shared by MCA along with industry code as per NIC 2004/NIC 2008. In order to account for non-reporting LLPs, multiplier based on variable 'Obligation to contribution', available in both frame and reporting set, has been used.

II. Financial corporations

15. The GVA estimates of Financial Services Sector are compiled at different sub-sector levels as per SNA classification separately for 9 sub-sectors viz. Central Bank; Deposit taking Corporations except Central Bank; Money Market Funds (MMF); Non MMFs; Other Financial Intermediaries except insurance corporations and pension funds (ICPF); Financial Auxiliaries; Captive financial institutions and money lenders; Insurance Corporations; and Pension funds. The sub-sector wise proposed data sources and methodology for compilation of estimates in the new series were presented before the Sub-Committee along with the results. The details as approved by the Sub-Committee/ ACNAS are given below wherein the major changes are given in italics:

16. S-121: Central Bank

SNA Classification.	Central Bank
Classification according to India	Reserve bank of India (RBI)
Data Source	Annual Report of RBI
Current price estimates	Cost method Output = IC + CE + CFC + Net taxes on production
Constant Price Estimates	<ul style="list-style-type: none">• <i>Volume indices of deflated CE may be computed and using the same, volume extrapolation of Output and GVA may be done.</i>• <i>For deflating CE, CPI (G) may be used.</i>

17. S-122: Deposit taking Corporations except Central Bank

SNA Classification.	Deposit taking Corporations except Central Bank
Classification according to India	Nationalized Banks, Domestic Private Sector Banks, Foreign Banks, Regional Rural Banks, Cooperative Banks, Post Office Savings Bank etc.
Data Source	<ul style="list-style-type: none"> ● Statistical Table related to Banks in India (STRBI) published by the RBI ● NABARD, NAFSCOB ● Budget Documents ● Earlier, in case of nationalized public sector banks, Annual Report of concerned bank was being analysed. <i>Now, it is proposed to use RBI data for compiling estimates in respect of these banks from Statistical Table related to Banks in India (STRBI) published by the RBI.</i>
Current price estimates	<p>Production Approach:</p> <p>Output – Intermediate Consumption (IC) = Gross Value Added (GVA)</p> <p>Output = FISIM + Actual Receipt (AR)</p> <ul style="list-style-type: none"> ● For Deposit-Taking Enterprises, FISIM is calculated as: FISIM = FISIM on loans + FISIM on deposits ● For Non-Deposit-Taking Enterprises, FISIM is calculated as: FISIM = FISIM on loans <p>For FISIM calculation, the lending rate (LR) and deposit rate (DR) of S-122 and S-125 are used. The harmonic mean of LR and DR is applied to determine the reference rate (RR).</p>

Constant Price Estimates	<p><u>For all entities except POSB:</u></p> <p><i>FISIM</i></p> <ul style="list-style-type: none"> • <i>Average aggregate Credits and deposits to be deflated using CPI(G)</i> • <i>Volume measures of FISIM on loans (base year prices) to be computed as under:</i> <i>Volume measures of FISIM on loans=Deflated average aggregate Credits X (LR of Base year-RR of Base year)/100</i> • <i>Volume measures of FISIM on deposits (base year prices) to be computed as under:</i> <i>Volume measures of FISIM on deposits=Deflated average aggregate Deposits X (RR of Base year-DR of Base Year)/100</i> • <i>By adding Volume measures of FISIM on credits and Volume measures of FISIM on deposits, Volume measures of total FISIM can be computed.</i> <p><i>Actual Receipt (AR)</i></p> <ul style="list-style-type: none"> • <i>Yearly Banking Services Price Indices (Direct) to be computed as average of the corresponding experimental monthly indices and using the same the Actual Receipts can be deflated.</i> • <i>Accordingly output at base year prices can be computed as sum of deflated Actual Receipts and Volume measures of total FISIM</i> • <i>Then volume indicator of the Output so derived can be computed which can be used to extrapolate GVA.</i>
	<p><u>For Post office saving bank:</u></p> <ul style="list-style-type: none"> • <i>The Volume indices of the Number of Subscribers will be used to extrapolate Output and GVA at constant price.</i>

18. S-123 & S-124: Money Market Funds (MMF) & Non MMF Investment Funds

SNA Classification.	Money Market Funds (MMF) & Non MMF Investment Funds
Classification according to India	Money Market Funds (MMF) & Non MMF Investment Funds
Data Source	P/L accounts and Balance Sheets are received from SEBI For both MMF & Non-MMF

Current price estimates	Cost method Output = IC
Constant Price Estimates	<i>Output at constant price will be derived as under:</i> <ul style="list-style-type: none"> ● <i>Investments to be deflated using CPI(G)</i> ● <i>Then volume indicator of the deflated investments will be used to extrapolate Output.</i>

19. S- 125: Other Financial Intermediaries except insurance corporations and pension funds (ICPF)

SNA Classification.	Other Financial Intermediaries except insurance corporations and pension funds (ICPF)
Classification according to India	Public Sector Non-banking financial corporations (NBFCs) and State financial corporations (SFCs) Private NBFCs
Data Source	Annual Report of concerned Financial Corporation. <i>Annual Returns obtained from MCA.</i>
Current price estimates	For public sector NBFCs and SFCs, the production approach, as outlined above in S-122, is used. <i>For Private NBFCs, it is planned to use MCA data and annual report of HDFC Ltd. (for 2022-23 only).</i>
Constant Price Estimates	<ul style="list-style-type: none"> ● <i>Output to be deflated with CPI (G)</i> ● <i>Then volume indicator of the deflated output to be used to extrapolate GVA.</i>

20. S- 126: Financial Auxiliaries

SNA Classification.	Financial Auxiliaries
Classification according to India	SEBI, IRDAI, Stock Exchanges, Stock Brokers & AMC, Insurance agents, <i>Admn Funds of EPFO, etc.</i>
Data Source	Annual Report of concerned Financial entities. <i>ASUSE data, MCA data.</i>

Current estimates	price	<p>Production / Income Approach based on annual reports/accounts (except Insurance agents)</p> <p><i>For Insurance agents (Covered in S-126), the Output will be 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 (moving average of three years) will be used.</i></p> <p><i>Further Administration funds of organizations like Coal Mines Provident Fund Organisation (CMPFO) and Seamen's Provident Funds Organisation (SMPFO) to be included in line with that of EPFO.</i></p>
Constant Estimates	Price	<ul style="list-style-type: none"> ● <i>Output to be deflated with CPI(G)</i> ● <i>Volume indices of deflated output will be used to extrapolate GVA.</i>

21. S-127: Captive financial institutions and money lenders

SNA Classification.	Captive financial institutions and money lenders.	
Classification according to India	Moneylenders and remaining unorganised segment except insurance agents	
Data Source	ASUSE, AIDIS	
Current estimates	price	<p><u>Moneylenders</u></p> <p><i>For current price estimates of S-127:</i></p> <ul style="list-style-type: none"> ● <i>Lending rate: using the data on Amount outstanding (including interest) and Annual Rate of Interest from Visit 1 and Visit 2 data of AIDIS 2019.</i> ● <i>Stock of loan: Using inter-survey growth b/w latest AIDISs.</i> ● <i>Output = FISIM using reference rate of S-122&S-125</i> ● <i>IC: Using moving average of the ratio of IC to Output from ASUSE (moving average of three years)</i> <p><i>For the remaining unorganised segment, the estimates of GVA (Output-IC) will be prepared from ASUSE.</i></p>
Constant Estimates	Price	<ul style="list-style-type: none"> ● <i>Output to be deflated with CPI(G)</i> ● <i>Volume indices of deflated output will be used to extrapolate GVA.</i>

22. S-128: Insurance Corporations

SNA Classification.	Insurance Corporations
Classification according to India	Insurance Corporations including Postal Life Insurance (PLI)
Data Source	Public: Annual Financial Statement from annual reports of Insurance companies. Private: Data received from IRDAI. Budget documents.
Current price estimates	<p>The Production Approach is used to calculate Gross Value Added (GVA), as follows:</p> $\text{GVA} = \text{Output} - \text{Intermediate Consumption (IC)}$ <p>Output (in general):</p> <ul style="list-style-type: none"> ● Output = Premiums less reinsurance <i>plus</i> ● Premium Supplements: Interest received, dividends received, and net profit from the sale of investments <i>plus</i> ● Miscellaneous Receipts: Business receipts and redemption receipts ● <i>Less</i> Adjusted Claims: Claims and surrenders, interest paid, net accruing liability (or change in actuarial reserves), bonus to policyholders <p>Intermediate Consumption (IC) (in general):</p> <ul style="list-style-type: none"> ● Management expenses ● Commission to agents ● Bank charges ● Repair and maintenance ● Other miscellaneous expenses
Constant Price Estimates	<ul style="list-style-type: none"> ● <i>Output to be deflated using CPI(G)</i> ● <i>Volume indices of deflated Output will be used to extrapolate GVA</i>

23. S- 129: Pension funds

SNA Classification.	Pension funds (PF)
Classification according to India	Pension funds
Data Source	Annual Report EPFO, NPS, <i>Coal Mines Provident Fund Organisation (CMPFO), Seamen's Provident Fund Organisation (SMPFO) etc.</i>
Current price estimates	Cost Method Output=IC <i>For EPFO, CMPFO, SMPFO etc. only Contribution Funds is considered in this Sub Sector and Admin. Funds will be considered in the Sub Sector S-129. Further for Contribution funds the output will be computed as the value of the intermediate consumption.</i>
Constant Price Estimates	<ul style="list-style-type: none">• <i>Yearly Banking Services Price Indices (Direct) to be computed as average of the corresponding experimental monthly indices.</i>• <i>Using the same the Output may be deflated.</i>

24. Computation of FISIM using Reference Rate:

In the 2011-12 series, FISIM is computed using Reference Rate (RR) approach. i.e. $FISIM = (LR - RR) * \text{average stock of loans} + (RR - DR) * \text{average stock of deposits}$,

where RR = harmonic mean of lending rate and deposit rate based on average loan & deposits based on S-122 and S-125 entities. The same will be continued in 2022-23 series.

25. Allocation of FISIM among Industries & Households:

Using the sector-wise loan and deposit from financial institutions as indicator, total FISIM is allocated to different activities/industries including households.

III. General Government

26. The general government sector consists of institutional units that produce and provide non-market public and community services, which are primarily funded by compulsory payments imposed on institutional units belonging to other sectors. As government provides services on non-market basis, output of this sector is valued by the sum of the costs incurred in the production, i.e. as the sum of Compensation of employees (CE), Intermediate consumption and Consumption of fixed capital (CFC).
27. The major improvements done in estimation of this sector in the new series are summarized below:

Adjustment for pension entitlements:

28. Net value added for government is taken as the compensation of employees which includes salary, wages, benefits and pension. In national accounts, for defined benefit pension schemes, present value of increase in pension entitlements due to service in current period are considered a part of compensation of employees. Accordingly, present value of the future pension entitlement for the serving employees is required to be imputed for each accounting period. In the 2011-12 series, the annual pension outgo to retired employees was treated as a proxy for the present value of increase in pension entitlement of the serving employees due to service in current period.
29. At present, two pension schemes are in operation for govt employees - Old Pension Scheme (OPS), a defined benefit plan and New Pension Scheme (NPS) (2004 recruitments onwards), a defined contribution plan. With the introduction of NPS, contribution from government towards pension of such employees as well as employees' own contribution is directly available in the budget and is considered while compiling compensation of employees. In view of this, proportionate adjustment in pension disbursed through OPS (proxy when entire workforce is under OPS) needs to be done. The value of pension payment as per OPS being included in Compensation of Employees should taper off in the same manner as number of serving employees under OPS.
30. Accordingly, a factor based on length of service (39 years), has been applied to pension amount paid as per OPS. With a view to keep the divergence minimum between 2022-23 old series vs 2022-23 new series, average length of service was determined as 39 years by the Sub-Committee as the entry point in most of the government services is either 18 years or 21 years and retirement age is 60 years. With each passing year, after implementation of NPS, an additional 1/39th portion of OPS pension reported in budget document will be adjusted 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. In cases where OPS is still operational, no adjustments have been made (e.g. some States and Armed forces covered under Ministry of Defence).

Enhanced coverage of Autonomous institutions:

31. 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 recipient institutions also generate additional resources on their own to meet their expenditure for payment of salaries, pension, office expenses and acquisition of fixed assets. Details of such expenses are not available in the budget documents. Therefore, it becomes imperative to analyse the accounts of AIs for compilation of estimates of value added, capital formation and consumption expenditure.
32. 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 analyzed 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 along with imputation for the rest.
33. Further, in case of States, earlier, only 6 States provided the data for state autonomous bodies. Now in the revised series, 16 States have provided the estimates. To account for remaining States, the aggregates of analysed States' AIs have been scaled up using the ratio - grant provided to all state autonomous bodies as reported in the States' budget documents / grant provided to analysed States' autonomous bodies.
34. Similarly, in case of local bodies, earlier, 16 States were providing the estimates of local bodies. For base year and for subsequent years, estimates were extrapolated with the growth observed in the grants provided to the local bodies. In the revised series, 20 States have provided the direct estimates and to account for remaining States, the aggregates of analysed States' local bodies have been scaled up using the ratio - grant provided to all States' local bodies as reported in the States' budget documents /grant provided to analysed States' local bodies.

Re-classification of institutional units in various institutional Sectors:

35. The issue of classification of institutional units in various institutional sectors has been examined and it has been found that some of the institutional units currently under General Government Sector, over a multi-year period, have generated significant revenue from their operations which is not only sufficient in meeting their operating expenses but also results in profit. Such units will be classified as market producers and reclassified as public corporations in place of General Government.
36. Similarly, some institutional units currently classified as a market producer are heavily dependent on subsidies from the GoI and have significantly lower revenue compared to expenses over a multi-year period. Such units will be classified as non-market producers and reclassified in General Government Sector from Non-financial (Public) Corporate Sector.
37. The classification of institutional units in various institutional sectors will be continuously reviewed throughout the series and updated from time to time.

Coverage of non-government educational institutes:

38. Government provides significant grants to non-government educational institutes. While analyzing State budget documents, these are treated as transfer 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, it was proposed and also agreed by the Sub-Committee that the grant provided for salary purpose be included in the GVA of unincorporated sector after duly adjusting the grant in aid reported by educational institutes covered under ASUSE.

Imputation of accommodation provided by government in lieu of HRA:

39. To accurately capture the compensation to government employees who receive government accommodation instead of House Rent Allowance (HRA), imputation has been done in the new series for the value of the housing service provided by Government to its employees. This ensures that the compensation of these employees and hence valuation of services provided by government is properly captured in estimates of Output for General Government. The value of housing service provided by the government has been computed by cost of production approach. In the present series no such imputation was being done.

IV. Households

40. In the current 2011-12 series, GVA estimates in respect of unincorporated segments of manufacturing and certain services sectors are 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 'effective' labour input / workforce estimates (i.e. total of principal and subsidiary workers engaged in an activity) from Employment and Unemployment Survey (EUS) 2011-12 and gross value added per effective worker (GVAPW) in corresponding activity using Enterprise Survey (ES) 2010-11. For subsequent years, base year GVA estimates at economic activity level are extrapolated using appropriate indicators (for further details see Changes in Methodology and Data Sources in the New Series of National Accounts, Base Year 2011-12, Central Statistics Office, 2015).
41. For the new series, keeping in mind the availability of data for estimation of GVA for unorganized sector, it is decided that the estimates of 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) will be used. The issue regarding different survey periods of ASUSE and PLFS in contrast to the requirement of FY 2022-23 onwards in new series of National accounts was also discussed in detail. As sub-round wise multiplier is available from PLFS, estimating workforce for the required FY is possible. On the contrary, ASUSE surveys till 2023-24 do not give sub-round wise multiplier. Further, as only GVAPW, which is a ratio estimate, will be used industry-wise from ASUSE, sub-committee recommended the proposal of using GVAPW from existing rounds of ASUSE without any adjustment, while mentioning the underlying assumption of ratio estimates behaving consistently across the quarters/sub-rounds outside survey period. The approved methodology for arriving at GVAPW estimates will be followed in subsequent years, until sub round wise multiplier becomes available from ASUSE survey.
42. In the Labour Input Method (LI Method), compiling GVAPW from the Enterprise Survey, it is assumed that there is equal contribution from all categories of workers engaged in an economic activity i.e. the productivity of an employer, hired worker, or unpaid family worker is equal. The ELI 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 NSS 67th round - Survey on Unincorporated Enterprises, 2010-11.
43. A nested Cobb-Douglas function was used for computing the weights of different categories of workers as follows:

$$Y = A K^\beta [L2 + \delta_1 L1 + \delta_2 L3]^\alpha \dots\dots\dots (1)$$

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

$$\text{Log } Y = \text{Log } A + \beta \text{Log } K + \alpha \text{Log } [L2 + \delta_1 L1 + \delta_2 L3] + YS \dots\dots\dots (2)$$

where

Y = GVA

K = capital

L1 = Owner

L2 = Hired worker (formal + informal)

L3 = Helper

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

44. The coefficients of labour terms, δ_1 and δ_2 , in this equation give the relative marginal productivities which are used as conversion factors for conversion of “owners” and “helpers” in terms of hired worker for computation of “effective labour input”. δ_1 and δ_2 in equation (2) are the conversion factors (or relative marginal productivity) of the owner and helper categories of workers respectively in terms of hired worker.

45. δ_1 and δ_2 were used for computing GVA per effective worker as GVA from 67th round / [L2 + δ_1 L1 + δ_2 L3]. The same conversion factors were used on the number of different types of workers as estimated from NSS 68th round Employment and Unemployment Survey (EUS) (duly adjusted for projected population, as per Population Census 2011) for getting effective LI engaged in that particular activity.

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

47. Concordance between codes given for workers EUS (2011-12) and ES (2010-11) is given as under:

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

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

49. The Effective LI method based on establishment was modified in a few categories of non-financial services, namely, education, health, water transport, storage, real estate, renting of machinery, computer & related services, legal and accounting services, by using effective LI and the GVA per effective worker (GVAPEW) of rural establishments and *urban directory* establishments (establishments with 6 or more workers), as the case may be. This method is referred as “modified effective LI method”.

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

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

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

51. In the new series of NAS with base year 2022-23, GVA for unincorporated sector is proposed to be estimated using data from Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS). In the third meeting of this Sub-Committee on methodological improvements results based on direct estimates of GVA from ASUSE and the same based on LI method were presented. As per suggestion from the Sub-Committee, ELI method was also explored and findings presented before the Sub-Committee. Details of different approaches / methodologies are mentioned below, along with the recommendations of the Sub-Committee. The current exercise has been done to arrive at National level estimates for the economic activities/industries covered in ASUSE.

Option 1: Annual GVA estimates for unincorporated sector are compiled directly from ASUSE 2022-23 and 2023-24 as the estimated aggregate GVA at the compilation category (CC) level based on ASUSE (with no use of the PLFS data for the corresponding years).

Option 2: GVA estimates are compiled CC and sector wise, using LI Method, wherein GVAPW is estimated using ASUSE and number of workers (principal status plus subsidiary status) from PLFS data. Existing compilation categories, prevalent in the 2011-12 series and being continued in the 2022-23 series, are prepared by grouping economic activities at three/four/five-digit level as per NIC 2008. Annual GVA estimates are prepared by aggregating the CC X State wise estimates. The Sub-Committee recommended the continuation of the existing list of CCs in view of the fact that the all-India estimates of GVAPW at the CC level based on the ASUSE were quite reliable in terms of the relative standard errors of the estimates.

Option 3: GVA estimates are compiled CC and sector wise, as per ELI Method using a nested Cobb-Douglas production function. Two stage weighted least square estimation method was applied to arrive at the estimates. Model Expression is:

$$L = \delta_0 + \delta_1 L2 + \delta_2 L3 \dots\dots\dots (1)$$

$$Y = A K^\alpha \hat{L}^\beta \dots\dots\dots (2)$$

where,

Y = GVA

K = capital; L (L1 + L2 +L3) = Labour

L1 = Owner

L2 = Hired worker (formal + informal)

L3 = Helper

52. In the first stage, eq (1) is fitted to estimate total workers using category wise worker information (i.e. L1, L2 and L3), along with corresponding marginal productivity from ASUSE data, at individual CC and sector level. Weighted least square method was applied where weights are taken as multipliers.

53. In the second stage, \hat{L} from eq (1) is used in the Cobb Douglas production function for different compilation category, separately for rural and urban sectors. Eq (2) is modified as follows:

$$Y = A K^\alpha [\hat{\delta}_0 + \hat{\delta}_1 L2 + \hat{\delta}_2 L3]^\beta \dots\dots\dots(3)$$

After taking the natural log of eq. (3),

$$\text{Log } Y = \text{Log } A + \alpha \text{Log } K + \beta \text{Log } [\hat{L}] \dots\dots\dots(4)$$

By using equation (4), α and β are estimated using weighted least square where multipliers are taken as weights.

Using $\hat{\delta}_1, \hat{\delta}_2, \hat{\alpha}$ and $\hat{\beta}$, contribution of L1, L2, L3 and capital in GVA are compiled.

54. Combining GVA(L1), GVA(L2), GVA(L3) and GVA(K) along with the workforce estimates of L1, L2 and L3 using PLFS data (adjusted with projected population based on Population Census 2011) for corresponding ASUSE survey year, GVA by ELI method for different CC

and sectors are compiled. Concordance between codes given for workers in PLFS and ASUSE is given as follows:

Sl.No.	Description	Code in PLFS	Code in ASUSE
1	working owner	11 & 12	781
2	formal hired worker	31	782
3	informal hired worker	51	783
4	Unpaid family member (including helper)	21	784+785

55. All India estimates for FY 2022-23 and 2023-24 based on different options were placed before the Sub-Committee. After detailed deliberations, it was observed that estimates derived using the three methods/options are diverging widely when compared with the estimates released as the NAS figures.
56. Major reason for divergence can be broadly attributed to (a) change in coverage as in the proposed methodology and (b) the use of estimated GVAPW or GVAPWE uniformly for all the establishments considering the entire database of ASUSE and PLFS (related to unincorporated sector), as opposed to the truncated approach adopted in the 2011-12 series considering urban directory establishments i.e. establishment with only 6 or more workers, which is a meagre 5% of the entire sample of ASUSE.
57. Another possible reason for divergence is use of different indicators for each of these industries to move the base year estimates in order to arrive at the subsequent year GVA estimates in absence of regular unincorporated enterprise surveys (for example, using growth rate of private corporate sector to estimate GVA of unincorporated Hotels & restaurants industry). Similarly, using GST /erstwhile sale tax growth rate is being used as an indicator for moving the base year estimates of wholesale and retail trade.
58. The Sub-Committee recommended not to adopt Option 1 (i.e. direct GVA estimate from the ASUSE) since the Enterprise Surveys quite often result in the workforce estimates having a downward bias. As regards the other two methods / options (i.e. LI Method and ELI Method), after extensive discussions within the Sub-Committee and subsequently in the Advisory Committee on National Accounts Statistics (ACNAS), it was recommended that, in principle, the Labour Input (LI) Method as opposed to the ELI Method may be adopted in the 2022-23 series for deriving GVA estimates uniformly across all industries using ASUSE and PLFS data. The primary reason behind not using the ELI method in the 2022-23 series is that the application of this method on the ASUSE 2022-23 data resulted in significant variations in the values of δ_1 and δ_2 across the States studied, which were difficult to interpret. However, on the LI Method recommended for use, Chairman and other members of the Sub-Committee

emphasized the need for a detailed comparative assessment of estimates derived using different variants of LI method considering ancillary information on earnings of own account establishments from PLFS before finalizing the methodology to decipher if the GVAPW from ASUSE captures the labour productivity for own account enterprises appropriately.

59. Based on the above recommendation of the Sub-committee, GVA estimates were subsequently presented before the Sub-Committee using the following three approaches:

- i. Method 1 - Labour Input (LI) method compiled separately for rural and urban sectors: Gross Value Added (GVA) was estimated using GVAPW from ASUSE data and workforce estimates obtained from PLFS. The calculations were carried out separately for rural and urban sectors, and further disaggregated by corresponding CC categories. By multiplying sector-specific productivity with respective workforce figures, GVA estimates for each sector were obtained. Aggregating sector wise estimates, total GVA for unincorporated sector was obtained.
- ii. Method 2 - Labour Input (LI) method based on OAE and HWE separately: In this approach, sector and compilation category-wise GVA estimates were compiled separately for Own Account Establishments (OAE – without any hired worker) and Hired Worker Establishments (HWE – with at least one hired worker), using separate productivity differentials for OAE and HWE from ASUSE and corresponding workforce estimates from PLFS. GVA contributions of OAEs and HWEs were then aggregated to arrive at the overall sectoral GVA. Between Method 1 and Method 2, the Sub-Committee favored Method 2 in view of its GVA calculations at a more disaggregated level as compared to the approach followed in Method 1. However, in an attempt to study the GVAPW estimates of OAE from ASUSE in comparison with the average annual earnings from PLFS for own account workers, Sub-Committee suggested to have this comparison for two separate categories of enterprises (and corresponding households):
 - a. Category-I: Own-account enterprises with no helpers/unpaid worker and
 - b. Category-II Own-account enterprises with at least one unpaid worker/helper

Since Block 6 of PLFS records current weekly status information at NIC two-digit level, the above results were presented before the Sub-Committee using estimated annual earnings based on self-employed and unpaid family workers (current weekly status codes 11 and 21 of Block 6 of ASUSE). Comparison of GVA from ASUSE for OAE (with no unpaid worker and with at least one unpaid worker) was made with respective average annual earnings of these households with self-employed members (with and without unpaid family worker).

From the above exercise, it was observed that for most of the NIC two-digits, average annual gross earnings of own account workers from PLFS were higher in comparison to

average GVA per OAE of ASUSE. This indicated that there might have been a downward bias in the GVA estimates for OAEs derived from ASUSE.

iii. Method 3 - Labour Input (LI) method with at least one hired worker:

In continuation to the aforementioned two approaches and keeping in view the likelihood of under-estimation of GVAPW of OAEs by the ASUSE as noted above under Method 2, LI method was applied considering only those establishments with at least one hired worker (HWE) in both rural and urban sectors separately for the purpose of estimation of GVAPW as per Method 3. This approach used around 25% of records covered in ASUSE, instead of full coverage of Method 2. Productivity differentials from ASUSE were calculated for each sector and CC, along with corresponding workforce estimates from PLFS duly adjusted using the projected population figures (keeping in view the likely issue of underestimation of population / number of workers in the PLFS). Aggregating over compilation categories, GVA was estimated industry wise.

60. After detailed deliberations on all the proposed approaches, the Sub-committee felt that a simple and uniform approach for arriving at the estimates of GVA of unincorporated / household sector may be adopted. Accordingly, Method 3 was recommended to be adopted uniformly for compilation of GVA of unincorporated / household sector.
61. In addition to the aforementioned method, the following exclusion criteria will be adopted while estimating GVA per worker from ASUSE data –
 - a. where GVA is negative at establishment level
 - b. where GVA per worker is less than the wage rate of hired worker at the establishment level
62. While estimating GVA at compilation category using GVAPW from ASUSE and corresponding work force estimate from PLFS, three years moving average of GVAPW from ASUSE will be used to avoid sampling fluctuations, wherever necessary (except in base year).
63. Also, it was decided that share of GVA for quasi & household establishments will be kept stable CC-wise, unless there is any clear trend emerging from the data.

B. Industries:

Estimates are compiled institution-wise for each industry, with a uniform methodology applied across industries, except for a few industries in the Household Sector viz. Agriculture, Construction, Ownership of Dwellings and Activities of households as employers of domestic personnel. Only those industries where methodological improvements have been recommended namely Agriculture, Construction and Activities of households as employers of domestic personnel are covered here. Industry-wise detailed methodology will be available in sources and methods document.

I. Agriculture:

1. The sector comprises four sub-sectors viz., (i) Crops (ii) Livestock (iii) Forestry and Logging and (iv) Fishing and Aquaculture. The estimation procedure primarily relies on the direct (bottom-up) approach. Gross Value of Output (GVO) of these sub-sectors are compiled State-wise using production data provided by the respective Ministries/Departments and price data from respective State Directorates of Economics and Statistics (DES). GVA estimates are obtained by deducting intermediate consumption, sourced from various agencies, from GVO. The major improvements proposed in estimation of this sector in the new series are summarized below:

Bifurcation of feed of livestock into crop and livestock sectors

2. In the 2011-12 series, estimation of Livestock feed has been done using consumption approach rather than production approach. The procedure uses the following source data:
 - Animal feed consumption rate (Dry Fodder, Green Fodder, and Concentrates) from a research study done on “India’s Livestock Feed Demand: Estimates and Projection”, jointly conducted by Centre of Economics and Social Research and National Centre for Agricultural Economics and Policy Research, published in the year 2010;
 - Livestock population as per ILC-2012 and ILC-2019; and
 - Price of feed calculated from the Cost of Cultivation Studies (CCS), 2010-11.
3. For distribution of feed of livestock between crop and livestock sub-sectors, it was assumed that feed of livestock used for crop production would be the total feed consumed by total population of Adult Buffalo (Male) and Adult Cattle (Male). From total feed of livestock, value of feed consumed by livestock used for crop production is subtracted to arrive at value of feed consumed by livestock for livestock sector.

4. However, data for population of Adult Buffalo (Male) and Adult Cattle (Male) is available under following categories in Livestock Census 2019 published by Ministry of Fisheries and Animal Husbandry, GOI:

- 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

5. 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:

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

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

Seed rate as input for crop sector

6. Sub-Committee was informed that seed rates for 24 major crops are available annually from Cost of Cultivation Studies (CCS) conducted by the Ministry of Agriculture and Farmers Welfare (MoAgFW). For the remaining crops, in the 2011-12 series, seed value estimation is carried out using value of seed per hectare from benchmark studies conducted by MoAgFW and some States along with corresponding area. In those cases where prices for current year are not available, corresponding WPI is used to estimate the same. However, detailed reports of the studies conducted earlier were not available.

7. It was informed that in the 2011-12 series, share of seed value for crops not covered under CCS is relatively insignificant, in comparison to those already available from CCS. Hence, it was proposed to restrict the estimation of value of seed as input cost to only those crops for which seed rate is available from CCS. Also, it was informed that coverage in “other crops” varies from State to State and the same got reduced in the new series. Further, since no information regarding amount or value of seed used for other crops is available, it is proposed to remove other crops from seed estimation in 2022-23 series.

8. Sub-Committee agreed to the proposal of continuing use of CCS data and removal of ‘other crops’ from seed value estimation. However, Sub-Committee suggested adopting some updated information for remaining crops. Sub-Committee also emphasized that although

contribution of non-CCS crops is insignificant in the 2011-12 series, excluding them entirely would result in incomplete coverage of input cost of crop sub-sector.

9. Accordingly, information on seed rate was also explored from various ICAR Institutes and Ministry of Agriculture & Farmer Welfare which mainly provides data on recommended seed rates based on cropping pattern and requirement and distribution of certified/quality seeds respectively. In absence of actual quantity of seed used along with corresponding market prices, the Sub-committee was informed that available data could not be utilized to arrive at total seed value as input of crop sector.
10. On further analysis, seed value for some crops (not used in the 2011-12 series) are proposed to be included from Situation Assessment Survey (SAS) of Agricultural Households conducted during 2019 by the NSS. Mostly, information on fruits and vegetables were available from SAS 2019 survey and including the same is resulting in better coverage for seed value estimation. The aforementioned observations were presented in the ACNAS. Use of SAS along with CCS data for computing seed rate of crop sector was approved by ACNAS.

Consumption of Diesel in tractor and diesel engine

11. In the 2011-12 series, the consumption of diesel oil in crop sub-sector was estimated using the number of tractors and diesel engines in use along with their respective per-unit consumption norms. The data on the number of tractors is obtained from the Ministry of Agriculture and Farmers Welfare (MoAgFW), while the number of diesel engines was estimated based on information from Indian Livestock Census (ILC) conducted in 1997 and 2003. The norms of diesel consumption per tractor and per diesel engine were established using data collected from the Cost of Cultivation Studies (CCS) for the base year 2011–12. For subsequent years, these consumption norms have been updated by applying number of tractors and number of diesel engines in use for agriculture and movement in the Wholesale Price Index (WPI) for diesel, thereby adjusting the base year estimates to reflect price and usage trends over time.
12. Sub-Committee was informed that both MoAgFW and State Directorates of Economics and Statistics (DES) have been requested to provide updated information on the number of diesel engines in crop sector and on diesel consumption by tractors and diesel engines. MoAgFW shared State wise sample count of diesel engines and tractors along with total consumption of diesel oil for the States under coverage of CCS. It was proposed that using the aforementioned information consumption of diesel oil per tractor and per diesel engine can be updated in the new series, along with corresponding price of diesel oil. Given that no updated data on the number of diesel engines are available beyond ILC 1997 and 2003, it was proposed to retain the same number of diesel engines as previously assumed since 2016-17. The proposals were approved by the Sub-Committee.

Price of Trees Outside Forests (TOF) for subsequent year

13. Production of industrial wood from TOF is estimated using the biennial publication - India State Forest Report (ISFR) published by Forest Survey of India (FSI). For the intermittent years, all India growth rate of growing stock of TOF is applied across States to arrive at production estimates. Corresponding prices were collected from 2013 ISFR, and in the subsequent years, prices of TOF were extrapolated using growth observed in the price of Industrial Wood from State Forest Department (SFD) with respect to corresponding base year price. Source of production data in new series will remain the same. However, it has been proposed and recommended by Sub-Committee on Regional Accounts that for intermittent years, State-wise growth rate of growing stock of TOF will be used to arrive at production estimates, instead of the current practice of using all-India growth rate. Prices of TOF for base year of new series have been sought from State Directorate of Economics & Statistics (DES). For subsequent years, if prices are not available from DES, it was proposed that the growth observed in the price of Industrial Wood from State Forest Department (SFD) with respect to corresponding base year price, will be applied on base year price of TOF (same as 2011-12 series). The proposal was accepted by Sub-Committee.
14. However, Sub-Committee recommended that a study may be conducted in future for collecting State-wise price of TOF, if the information is not available from the States regularly.

Estimation of value of Toddy for crop sector

15. Sub-Committee was informed about the consumption approach followed for estimation of production of toddy using CES 2011-12 and projected population at sector and State level. It was proposed to use HCES 2022-23 and 2023-24 results along with 'Population Projection' report of Ministry of Health & Family Welfare. For subsequent years, till next HCES data be made available, results of HCES 2023-24 would be retained, with necessary adjustments based on the projected population, to arrive at GVO of toddy State-wise. Sub-Committee recommended the proposed methodology.
16. Sub-Committee was also briefed about the rates and ratios being used in the 2011-12 series for estimation of GVA of livestock sector. It was informed that presently, three types of animal feed are taken into consideration - dry fodder, green fodder and concentrates, along with prices collected in 2011-12 and adjusted with WPI (food grains and cattle feed). In the Sub-Committee on new rates and ratios, updated animal feed based on a study titled 'Assessment of Livestock Feed and Fodder' conducted by Agricultural Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bengaluru, which was awarded by M/o Ag&FW was presented since, at that point in time, it was the only

available rate information. Accordingly, it was recommended that the feed rates from the aforementioned study may be used in principle in the new series.

17. In the meeting of the Sub-Committee, presentation was made on the final feed consumption quantity based on the ADRTC rates which indicated higher consumption of green fodder in the economy as compared to total production. Sub-Committee suggested to explore further options to update the feed rate in consultation with the concerned Ministry.
18. Comments received from Department of Animal Husbandry on the study conducted by ADRTC, informing that feed and fodder consumption by different categories of livestock such as indigenous cattle, crossbred cattle, buffalo, goat, sheep and others will not differ significantly over the period and the existing rates may be continued to be used for forthcoming base revision to compute GVA, were presented to ACNAS.
19. However, in view of the increase in yield of milk over the years by indigenous cattle, crossbred cattle and buffaloes, it has been proposed by NAD that existing feed for cattle may be apportioned for indigenous and crossbred species using share of category and species wise feed rate available from ADRTC report. Also, grass and fodder production have increased manifold over the years and the same is being considered in the output of crop sector. Since grass and fodder is mainly used as feed of livestock, State-wise total green fodder consumed by livestock is proposed to be 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. The proposal was deliberated in detail and approved by ACNAS.

Updating market charges for crop and livestock sectors

20. The Sub-Committee was informed that market margins for crop sector are currently estimated using a fixed rate of 3.22% of the value of output, based on a 2004–05 Market Margin Study by MoAgFW. Although MoAgFW was initially requested to update the study, updated information was not available. States were later requested to provide updated crop-wise market margin data for new series, but significant variation was observed across States and crops. The Sub-Committee recommended seeking confirmation from States.
21. Accordingly, after confirmation received from States, updated market charges were presented to ACNAS for those States which had reported crop-wise market expenses. ACNAS approved the proposal of continuing use of the existing rate of 3.22 per cent of total value of output as market charges for the remaining States.

22. Sub-Committee was briefed on the existing methodology for estimating market charges as slaughtering charges fixed species-wise, along with data on the number of animals slaughtered as published by Department of Animal Husbandry and Dairying. It was also informed that States were requested to furnish slaughtering charges for FY 2022–23. The charges reported by the States largely reflected species-wise rates (primarily for cattle and buffalo) fixed by Municipal Corporations. Sub-Committee observed significant variation in the data reported across States and suggested for seeking confirmation before finalising the methodology.
23. After receiving confirmation on slaughtering charges from reported States, presentation was made to the ACNAS. It was proposed to use updated charges for States reporting data and using average of species-wise slaughtering charges for States without any updated information. ACNAS approved the proposal.

Rates and ratios remaining unchanged in agriculture and allied sector

24. In the 2011-12 series, certain rates were being used to arrive at GVO and GVA item-wise for the four sub-sectors. These rates and ratios could not be updated due to unavailability of updated information. List of items for which rates and ratios are proposed to remain unchanged is given at Annexure I.
25. After detailed deliberations, Sub-Committee acknowledged the limitation of data and accepted the proposal of keeping the ratios fixed. However, Sub-Committee recommended that a formal request may be made to the Department of Animal Husbandry & Dairying to revise the existing methodology for collection of Poultry meat in the Integrated Sample Survey (ISS). Also, it was suggested that an additional item i.e. Operational Cost for the livestock sector may be incorporated into the ISS data collection framework which can be used in future base revision exercise.

II. Construction:

26. 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.
27. In 2011-12 series, estimate of output of construction sector was 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.
28. Applying these ratios on the value of total basic construction materials used for construction activity, 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 subtracting the estimated value of output from General Government and Departmental enterprises, Public Corporations and Private Corporations from the overall output of construction.
29. In the 2022-23 series, in place of estimating the total GVO of construction industry using commodity flow, the commodity flow of material inputs is planned. Thereafter, the material inputs available to the household sector would be 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 will be used to derive the inputs used by unincorporated sector in the country. The material input to GVO and GVA to GVO ratio for the unincorporated sector will be 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 residual material inputs available for Household sector to estimate GVO and GVA of unincorporated sector.
30. Results of recent surveys namely Annual Survey of Industries (ASI), Annual Survey of Unincorporated Sector Enterprises (ASUSE), All India Debt and Investment Survey (AIDIS), Household Consumption Expenditure Survey (HCES), and studies (State-wise Unit Cost for

plantation crops from NABARD for plantation) will be used in estimating the ratios for inter-industry consumption at granular level, bifurcation of output from household sector into residential/non-residential/other construction works, kutcha/pucca construction etc.

III. Activities of households as employers of domestic personnel (NIC 97):

31. For the “**activities of households as employers of domestic personnel**”, Gross Value Added (GVA) which comprises only the compensation of employees has been computed from the PLFS (Periodic Labour Force Survey) data of NSSO, following the same approach as adopted in the 2011-12 series.
32. Since NIC 97 is not covered under the Annual Survey of Unincorporated Sector Enterprises (ASUSE) conducted by NSSO as data on private households with employed persons is generally not collected therein, given the infeasibility of treating such households as enterprises, the value added generated by this activity is taken to be the wages paid to employed persons by the households.
33. Accordingly, wage-related information has been extracted from the **Person-level files** (Visit 1) of PLFS, and the labour input for this NIC has been adjusted using projected population figures provided in the document “*Report of the Technical Group on Population Projections*” (Ministry of Health and Family Welfare). The estimation methodology is as under:

$$GVA = GVAPW * Adj LI$$

where:

$$GVAPW = \frac{\text{Annual Wage}}{\text{Total No. of Workers}} \text{ (for NIC 97)}$$

$$\text{and Adj LI for NIC 97} = \frac{\text{Total No. of workforce for NIC 97}}{\text{Total population}} * \text{Projected Polpulation}$$

Chapter 3: Expenditure Side Aggregates

I. Private Final Consumption Expenditure (PFCE)

1. 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). Estimates are published under 46 categories under 12 broad groups in the 2011-12 series. In general Commodity flow is being followed in the 2011-12 series for estimating the PFCE of most of the items i.e. Production is 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.
2. The current methodology for estimation of PFCE as well as the proposed changes were presented before the Sub-Committee. The details as approved by the Sub-Committee are given below:

Adoption of COICOP 2018 to the feasible extent

3. At its forty-ninth session, the UN Statistical Commission endorsed the revised Classification of Individual Consumption According to Purpose (COICOP), 2018 and recommended that countries use the classification as a statistical standard. As per the information available on United Nations (UN) Website the COICOP 2018 publication has undergone a final review and is being prepared for publication. The complete structure and pre-copy-editing version of the manual is available on UN's website. Accordingly, it was proposed to adopt COICOP 2018 to the feasible extent in PFCE compilation. The Sub-Committee examined the proposal to adopt COICOP 2018 in line with the recommendations of the UN Statistical Commission. Key changes include:
 - Introduction of a fourth hierarchical level (sub class level) in COICOP 2018 which resulted in considerable increase in number of categories.
 - Tailoring is now included in the title of 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".
 - Power sockets, wiring flex etc. which were earlier covered under the Division 05 (Furnishings, household equipment and routine household maintenance) are now shifted to Division 04 (Housing, water, electricity, gas and other fuels)
 - Division 07 (Transport) added a group, 07.4 (Transportation services for goods), which had previously been included in the expenditure on the goods itself and in group 08.1 (Postal services).

- 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. were moved to division 08 in COICOP 2018.
 - Division 09 (previously named Recreation and Culture) was renamed as “Recreation, sport and culture” to better reflect its content. Equipments which are now used mainly for information and communication got shifted from earlier division 09 to new Division 08 as indicated above.
 - Former division 11 Restaurants and hotels got renamed to Restaurants and accommodation services to better reflect the content of the Division.
 - Former division 12 (Miscellaneous goods and services) was split into two: division 12 (Insurance and financial services) and division 13 (Personal care, social protection and miscellaneous goods and services).
4. Accordingly, the proposed list of items for PFCE compilation for the 2022-23 series (Annexure II) as well as their mapping with the PFCE items of 2011-12 series were presented before the Sub-Committee. After detailed deliberations, the Sub-Committee approved the proposal.

Revisions to Commodity Flow

5. The following changes were proposed in respect of the Commodity flow approach which was approved by the Sub-Committee:
- Wastage ratios / percentage loss may be 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
 - Seed rate may be used as computed from Cost of Cultivation Survey
 - Not to incorporate feed separately as it may be part of Own Consumption / Inter Industry Consumption.
 - Production as compiled as part of production side estimates / as derived from SUT/ASI/ASUSE will be considered.
 - Use of HCES 2022-23 data for compiling quantity retained for own consumption.
 - Inter Industry Consumption, Trade and Transport Margin, Commodity/Item wise Output, Change in Stock, GFCF etc. will be used as compiled for Supply Use Table (SUT); otherwise Annual Survey of Industries (ASI) / Annual Survey of Unincorporated Enterprises (ASUSE) data will be used.
 - GFCE may be used from Budget documents / M/o Food and Public Distribution.

Methods of compilation of estimates and other related aspects

6. Based on the discussions held in the meeting of the Sub-Committee, the details of the approved methods and data sources in respect of different PFCE items for the 2022-23 series are given at Annexure III. A method for direct estimation of Benchmark estimates of PFCE for certain commodities from HCES 2022-23 was presented. In general, this method is proposed to be used for items which are expected to exhibit low income elasticity or consumed widely across household groups and has limited use for intermediate consumption. Considering that these items are staple or commonly used goods, the HCES data is expected to closely reflect actual household consumption patterns. Additionally, for some items where the estimates based on this method are closely aligned with existing level of PFCE, this method is proposed. In this method, the base year estimates may be prepared using the value of per capita consumption based on HCES 2022-23 and Population Projection of M/o Health and Family Welfare.
7. For Constant/ Current price estimates of subsequent years, growth in Net Marketable Surplus in Volume/ Value terms obtained from Commodity flow will be used. CPI of the respective items will be used to derive Current/Constant price estimate. This method will be used for the items against which the method is indicated as “*Direct*” in Annexure III. Also, for certain items, the method is indicated as “*Direct- ISG*” in Annexure III, it is proposed that the base year estimates may be prepared using the value of per capita consumption based on HCES 2022-23 and Population Projection of M/o Health and Family Welfare. These items are identified on the basis that in general its consumptions are likely to increase over time. For subsequent years, inter-survey growth may be used for extrapolating Base year estimates for these items. The results based on these methods were also presented before the Sub-Committee.
8. Further, for certain items against which the method is indicated as “*Commodity Flow*” in Annexure III it is proposed to use Commodity flow method for deriving the estimates. The detailed proposal for the remaining PFCE items was also presented before the Sub-Committee including the results from the Milk study undertaken through NDRI, inclusion of PFCE on Social Protection etc.
9. As regards proposal on inclusion of PFCE on Social Protection using ASUSE data, the Sub-Committee suggested that as the sample sizes in ASUSE for NIC 87 and 88 are very small it is not desirable to publish this PFCE in NAS separately. Instead, it may be combined with the PFCE of Other Services.
10. In the 2011-12 series, the PFCE estimates were published for 46 items under 12 Broad Groups in the publication National Accounts Statistics. In the new series, the PFCE estimates are planned to be compiled for around 128 items and to be published for around 49 items under 13 Broad Groups in the publication National Accounts Statistics.

PDS food items

11. It was proposed that in case of food items supplied under PDS, PFCE of PDS items will be 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 may be used. Further for PDS items, separate price relatives may be considered subject to availability. Otherwise, PDS price may be kept same as that of base year and Price may be updated on availability of new price data. Sub-Committee agreed with the proposals.

PFCE Estimation for Road Transport Sector

12. The Sub-Committee was informed that for compiling PFCE in respect of mechanized passenger road transport, repair and maintenance of personal transport equipments etc., following information is used:
 - Earning per vehicle for different types of commercial vehicles
 - Percentage of total earnings attributable to households use
 - Cost on fuels, lubricants, repairs & maintenance of personal vehicles etc.
13. For getting updated information on these items, MoSPI has entrusted a study to Centre for the Study of Regional Development, Jawaharlal Nehru University (JNU). The study is planned to consider 5 States viz., Uttar Pradesh, Maharashtra, Tamil Nadu, Gujarat, Karnataka and NCT of Delhi and the field work of the study is currently progressing. It was proposed that the results from the study may be utilized for compiling estimates in respect of Parts and accessories for personal transport equipment, Fuels and lubricants for personal transport equipment, Maintenance and repair of personal transport equipment, Other services related to personal transport equipment (New item), Passenger transport by road (mechanized), Transport services for goods (To be shifted to Div.7 from former Div.8). For non-mechanized part of passenger transport by road, PFCE may be derived using HCES 2022-23 expenditure share of Non-mechanized to Mechanized. The Sub-Committee agreed with the above proposal.

Use of VAHAN Data

Deriving vehicle stock

14. Apart from the above data requirement from the study being undertaken by JNU, data on the stock of vehicles is needed vehicle type-wise. Earlier a proposal for using Vahan registration data for deriving Vehicle stock was discussed in the meeting of Sub-Committee I.
15. It was apprised that Financial Year-wise, Vehicle category x Vehicle class -wise registration data was available on Vahan portal for all States except Telangana. A tentative mapping is prepared to derive data according to Vehicle type-wise. Using data from Road Transport Year Book 2019-20, share of Telangana separately in the Total number of newly registered transport and non-transport motor vehicles during 2019-20 is calculated. Using these shares, number of vehicle registrations for Telangana is estimated for different vehicle types for the years 2014-15 onwards and accordingly the total all-India figures are derived. Then the stock values are computed following different proposed methods based on assumed lifespan of vehicles. The Sub-Committee I, while discussing the Vahan data, had observed that vehicles insured may be explored in place of vehicles registered since it is giving a very high stock of vehicles. Accordingly, detailed data was obtained from e-Transport (MMP), NIC. Using this data and the data downloaded from Vahan portal, results of the vehicle stock computation using the following methods were presented before the Sub-committee:
 - Method 1: Considering vehicles registered in last 15 years (inclusive of current year)-
For both personal and commercial vehicles:
Stock of 2022-23 (base year) = Sum of number of vehicle registrations for FYs 2008-09 to 2022-23.
Stock for 2023-24= Stock of 2022-23 + number of vehicles registered in 2023-24 - number of vehicles registered in 2008-09
This method can be continued for the successive years.
 - Method 2: Considering vehicles registered in last 12 years (inclusive of current year) -
For personal vehicles: Same as method 1 except that number of years considered here is 12 years (inclusive of current year)
 - Method 3: Considering vehicles registered in last 10 years (inclusive of current year) -
For personal vehicles: Same as method 1 except that number of years considered here is 10 years (inclusive of current year)
 - Method 4: Considering vehicles registered in last 20 years (inclusive of current year) -
For commercial vehicles: Same as method 1 except that number of years considered here is 20 years (inclusive of current year)

- Method 5: Considering number of vehicles insured (according to vehicle type): In this method number of vehicles insured (according to vehicle type) is considered as proxy for vehicle stock.

16. It was observed that Method 5 is leading to significant underestimation. The Sub-Committee suggested that NAD may consult MoRTH regarding the average lifespan of commercial vehicles used in different types of enterprises. NAD accordingly consulted MoRTH and subsequently placed following two options before ACNAS for consideration.
- Option 1: Vehicle Stock for different types of vehicles based on average life span
 - Option 2: Based on MoRTH Framework (at draft stage) to determine vehicles on road, as discussed with MoRTH during the meeting held on 17.12.2025, which is based on Registration, Fitness, Insurance & PUCC to classify vehicle as Permanent Archive, Temporary Archive, Active non-compliant & Active compliant

As currently the data of Telangana is not available in the Vahan portal, it was proposed that the same will be imputed using the data from Road Transport Year Book 2019-20. ACNAS preferred Option 2 subject to availability of data from MoRTH. In case the same is not available, ACNAS agreed for using 15 years as lifespan of vehicles.

PFCE of Motor car and Motor cycle

17. It was proposed to compute PFCE of Motor cars and motor cycles using sale price as obtained from e-transport (MMP) which was agreed by the Sub-Committee.

PFCE Estimation for milk, other dairy products, Butter, Ghee and Ice cream

18. As per COICOP 2018, it was proposed to classify the Butter & Ghee and Ice Cream under Oil & Fats and Sugar, confectionery and desserts respectively, whereas they were covered under Milk & Milk Products in 2011-12 series. The rates/ratios and retail prices based on the study conducted by NDRI was proposed to derive the estimates. The production of Milk as available from the production side estimates will be used as base estimates to apply the study rates and ratios. Based on this, the PFCE estimates of Milk and other dairy products, Butter & Ghee, Ice Cream for the 2022-23 was also presented before the committee. The methodology as proposed was agreed.

II. Gross Fixed Capital Formation:

Adjustment in Gross Fixed Capital Formation (GFCF) in cases of merger and acquisition in respect of private non-financial corporations

19. Gross Fixed Capital Formation (GFCF) for private non-financial corporations is computed as the net additions (addition – disposal) to stock of capital assets. For addition to stock of capital assets, ‘Additions other than through business combination’ and ‘Acquisition through business combination’ variables are used. Under Acquisition through business combination, additions to stock of capital assets through mergers/acquisitions/ amalgamations are reported by companies. As such no new asset is created in non-financial private corporate sector when mergers/acquisitions/ amalgamations are limited between the institutional units belonging to this sector. As most of the mergers/acquisitions/ amalgamations take place between institutional units belonging to this sector only, it has been decided to drop this variable from the calculation of addition to stock of capital assets.

Estimation of GFCF of Household Sector and Quasi Corporations

20. In the 2011-12 series, commodity flow approach is used for estimation of GFCF for Dwelling, Buildings and Other Structure (DOBS) and Machinery & Equipments (M&E). The GFCF of household sector is estimated as residual after subtracting the GFCF from General Government & Departmental Enterprises, Non- Departmental Enterprises and Private Corporations. The results of NSS 67th round on unincorporated sector enterprises have been used in the base year for industry-wise distribution of the GFCF for the Household Sector estimated by Commodity Flow approach. In subsequent years, the benchmark (base year) Capital Stock to GVA ratios from this survey were worked out and subsequent year capital stock has been estimated using by multiplying the benchmark Capital Stock to GVA ratio by the GVA of that year. The difference between the capital stock of two consecutive years (current year and previous year) is used to get structure for industry-wise distribution of GFCF for the Household Sector estimated by Commodity Flow approach.
21. With the availability of results from Annual Survey of Unincorporated Sector Enterprises (ASUSE), the structure of Gross Fixed Capital Formation (asset-wise and industry-wise) are available. For the new series, it was proposed to use the results of the Annual Survey of Unincorporated Sector Enterprises (ASUSE) conducted every year by NSS, for getting the structure for allocation of GFCF of DOBS and M&E among industries which are covered in ASUSE. Estimated GFCF was computed based on the following approaches by using

estimated GFCF of household sector using commodity flow approach and allocation among industries based on results of ASUSE for FY 2022-23 and 2023-24:

- a) Using industry-wise Capital Stock to GVA ratios
- b) Using industry-wise Capital Stock to GVO ratios
- c) Using industry-wise Capital Stock from ASUSE and then taking difference between two consecutive years to estimated GFCF
- d) Using industry-wise GFCF from ASUSE

22. Industry-wise results arrived from above approaches, were discussed by the Sub-Committee and following were observed:

- Approach (b) was showing stable ratios and results compared to approach (a). However, both approach (a) and (b) link a stock variable (Capital Stock) to flow variable (GVA/GVO) and showed negative GFCF if there was a fall in Capital Stock to GVA/GVO ratio and/or decrease in level of GVA/GVO.
- Approach (c) wherein the capital stocks were estimated from ASUSE using market value of assets (in Rs.) as on the last date of reference period, indicated volatility in year-on-year estimated capital stocks in case of Quasi Corporations. Hence, taking the difference of estimated capital stock from two consecutive rounds of ASUSE resulted in negative GFCF in some of the industries.
- Approach (d) wherein GFCF was estimated directly using net additions to owned assets during the last 365 days / last year, overcame the shortcoming of instances of negative GFCF identified in approaches (a), (b) and (c). In comparison to existing estimates, the approach was showing varying results across Industries with very high/low or nil value for some industries. Such scenario was due to dynamic rates and ratios in approach(d) compared to static rates and ratios in the 2011-12 series.
- The level estimates of GFCF in approach (d) are only being used for ascertaining the distribution structure and not for direct estimation.

23. In order to account for possible under-estimation of GFCF, the extent of under-reporting on some common variables like workers estimated from ASUSE and PLFS or number of working owners or number of own-account establishments may be estimated industry-wise from both surveys to ascertain extent to under-estimation in ASUSE vis-à-vis PLFS. The proportion of under-reporting may be used to adjust estimates of GFCF to account for under-reporting or for lesser number of enterprises surveyed (as in water transport). Accordingly, estimates were again compiled. Since the distribution from these two independent surveys was very close for most of the industries, it was decided that the structure of industry-wise GFCF reported in

block 10 of ASUSE may be used directly to distribute the control total of GFCF of DoBS and Machinery & Equipment assets derived as residual from commodity flow approach. The use of ASUSE data for allocation of GFCF of household sector among the industries is found to be more dynamic and hence better reflects the actual capital formation in these two assets.

24. In the case of agriculture and livestock industry, the benchmark estimates for household sector GFCF in asset DOBS will be worked out from AIDIS and will be moved for other years using output of agriculture. Results of AIDIS (2019) after adjustment for price effect will be used.
25. For GFCF in Machinery & Equipment (M&E), the 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 from the manufacturing sector derived from the enterprise approach for ensuring complete coverage. Estimates for the household sector will then be obtained by deducting the estimate of GFCF for agricultural machinery from General Government, Public & Private corporations.
26. In the case of the forestry sector, the ratio of small Private Corp Companies (turnover less than Rs. 2 Crores) is proposed to be used to derive Capital to Output ratio (for estimation of total Capital Stock for the year) and asset-wise distribution of estimated GFCF. Difference in capital stock between two consecutive years (current year minus the previous year) will provide the GFCF for the current year.
27. In the case of the fishing and aquaculture industry, the inter-censal growth in stock of machinery and equipment available in livestock and Fishery Census along with suitable price adjustment using relevant item-level WPI will be used to estimate the GFCF. This will also be supplemented with production / import-export of machinery & equipments available during the financial year for capital formation. After deducting the gross fixed capital formation in M&E by other institutional sectors (public and private corporations), the GFCF in this asset for the household sector will be derived as a residual.
28. For Mining and Quarrying and Construction, the ratio of small private companies (turnover less than Rs. 2 Crores) is proposed to be used to derive Capital to Output ratio (for estimation of total Capital Stock for the year) and asset-wise distribution of estimated GFCF. Difference in capital stock between two consecutive years (current year minus the previous year) will provide the GFCF for the current year.
29. For the electricity sector which covers own account electricity production by households, the GFCF will be estimated using data on installed capacity of solar panels/ other renewable energy structures multiplied by the average cost per installation. Similarly, for biogas production by households, GFCF will be estimated using the number of biogas plants installed multiplied by the average cost per plant.

III. Change in Stock (CIS)

Estimation of Change in Stock (CIS) of Household Sector and Quasi Corporations using ASUSE

30. In the 2011-12 series, certain rates and ratios are used for estimation of CIS for the unincorporated sector. The change in stock is being estimated in household sector for following industries:

- Crops
- Livestock
- Mining & quarrying
- Unincorporated Manufacturing
- Trade
- Hotels & restaurants
- Road transport

31. It was proposed that since inventory at the end of the reference period is being reported in ASUSE schedule in block 12, the same can be used for estimation of CIS. However, level estimates from ASUSE cannot be directly used for estimation of change in stock due to following reasons:

- The reference periods of ASUSE 2022-23 and 2023-24 do not align with financial years.
- Block 12 for reporting inventories was canvassed for only those establishments with 10 or more workers during ASUSE 2021-22

32. Therefore, the closing value of inventory (reported in block 12) to Output ratio derived from ASUSE may be used for industry-wise estimation of CIS for the industries covered in ASUSE. This ratio (closing inventory to Output for a particular year) multiplied by GVO estimated for that industry gives the estimated closing inventory for that year. Difference between the two successive years of the closing inventory values estimated using this approach will provide an estimate of change in stock.

33. These industry-wise ratios (inventory to output ratios) from ASUSE 2022-23 and 2023-24 were presented before the Sub-Committee. Since block 12 was canvassed only for those establishments with 10 or more workers during ASUSE 2021-22, hence, these industry wise ratios were also derived for establishments with 10 or more workers and those with less than 10 workers from ASUSE 2022-23 and ASUSE 2023-24, to see if these ratios vary with the

size of establishments (based on workers). Since, it was observed that these ratios do vary with the size of establishment, it was decided that only for FY 2022-23, the inventory to output ratios from ASUSE 2022-23 for establishments with less than 10 workers will be used for similar set of establishments (with less than 10 workers) from ASUSE 2021-22.

34. For agriculture (crop) sector, Cattles not in production are estimated using ratios from livestock census. Adult male cattle and adult male buffalo are considered as part of the Crop sector. The change in stock of grains and non-perishable produce (with shelf life of more than a year) retained for sale and seed estimated while estimating the GVA for Agriculture & allied sector, will be used for estimation of CIS. In the livestock sector, young stock estimated using ratios from livestock census will be used.
35. For mining & quarrying, inventory (mine head stock) to production ratio is worked out using information from Indian Minerals Year Book published by Indian Bureau of Mines. This ratio (closing inventory to Output for a particular year) multiplied by GVO estimated for that industry gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years will provide an estimate of change in stock.
36. In respect of Construction Sector, Inventory to Output ratio may be worked out from the Pilot Survey on Construction being conducted by NSS in 2025. This ratio (closing inventory to Output for a particular year) multiplied by GVO estimated for that industry gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years will provide an estimate of change in stock.

Chapter- 4: Other Aggregates

A. Savings:

1. Institutional sector-wise estimates for savings is compiled on an annual basis. Reserve Bank of India is the principal source of data on Financial Assets and Liabilities of the household sector. The net financial savings (financial assets – financial liabilities) together with savings in physical assets and in valuables by the household sector together constitutes Gross Financial Savings of the household sector. These data on Financial assets and liabilities of the household sector are disseminated through Statement 5.3 of National Accounts Statistics.
2. SEBI has released a working paper on “Household Savings through Indian Securities Market” in September, 2024 providing annual data on flows and stocks of household sector’s financial savings through the Indian Securities market for the period 2020-21 to 2023-24.
3. There have been three sets of changes in the methodology used by SEBI in this working paper, namely:
 - Inclusion of non-individuals (Non-profit institutions serving Households (NPISH)) while preparing estimates of household savings in shares and debentures.
 - Inclusion of new instruments like Real Estate Investment Trust (REIT), Investment Trust (InviT) and Alternate Investment Funds (AIFs).
 - Inclusion of net investment of households and NPISH in equity and debt through secondary markets.
4. The change in the estimates of household financial savings in securities market due to the above methodology was discussed. Discussion was held on the changes in the methodology and coverage, back series data for the instruments now included in the estimation by SEBI and adoption of these changes in new series of National Accounts. SEBI informed that estimates as per above methodology will be made available regularly from FY 2020-21, 2021-22 and 2022-23 onwards and that inclusion of data on Alternate Investment Funds is possible from FY 2024-25 as historical data is not available. The Sub-Committee agreed on the methodological improvements.
5. Subsequently, details were presented before ACNAS on 14.05.2025 wherein above-mentioned changes and improvement in the coverage in estimation of savings of households in securities market were deliberated. The ACNAS welcomed the methodological changes w.r.t. the coverage of household financial savings in securities market and recommended the use of data provided by SEBI in estimation of household financial savings.

B. Consumption of Fixed Capital (CFC):

Average Useful Life of Assets used in compilation of Consumption of Fixed Capital:

6. The consumption of fixed capital is compiled using Perpetual Inventory Method (PIM) along with straight line method which requires availability of reliable estimates of average age of various types of fixed assets in different industries and institutional sectors. The average life of assets is revisited periodically to account for technological changes and obsolescence, operating environment, maintenance practices, regulations in force etc.
7. 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). NAD has undertaken extensive discussions with the concerned agencies, Ministries and Departments, Industry Associations, and also considered / referred to 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. The guidelines pertaining to average life of asset in manuals by International Agencies were also referred to for understanding the prevalent norms for life of assets used by other countries while compiling CFC.
8. Based on the inputs from above cited sources and discussion in the Sub-Committee, the revised average useful life of assets was recommended.

Chapter 5: Quarterly National Accounts

1. Quarterly Estimates of GDP and related aggregates are being published from June, 1999 onwards. These estimates are compiled by both Production and Expenditure approach. The main purpose of generating Quarterly National Accounts Estimates (QNA) is to provide a picture of current economic developments that is timelier than that provided by the Annual National Accounts (ANA) and more comprehensive than that provided by individual short-term indicators. As per the guidelines, principles and standards laid down in the **Quarterly National Accounts Manual (QNA Manual) of IMF (2017)**, Methodological Improvements in respect of QNA estimates in the New base year (FY 2022-23), have been discussed as mentioned below.

A. Benchmarking Method for Quarterly National Accounts Series

2. Quarterly Estimates of GDP are compiled using the Benchmark-Indicator (BI) method i.e., the estimates available for the same quarter of the previous financial year are extrapolated using the relevant indicators. The core purpose of BI method is to combine a series of high-frequency data with a series of low-frequency but more accurate and comprehensive data (Annual Benchmarks).
3. In the National Accounts, Benchmarking method is an integral process which is used to obtain quarterly series. It is required that the quarterly series should be consistent with the annual benchmarks of respective years as well as preserve the short-term movements of quarterly economic indicators. Choice of appropriate benchmarking methodology is necessary to improve the overall quality and usefulness of QNA series for various purposes including seasonal adjustment, trend analysis etc.
4. In the 2011-12 series, **Pro-Rata method** of Benchmarking is used. However, this approach produces discontinuities in the series, called the **Step problem**. Due to which, this method of benchmarking does not preserve the movements of the indicators and introduces breaks in the series, hampering its usefulness.
5. **Quarterly National Accounts (QNA) Manual, 2017** suggests the use of Proportional Benchmarking methods, such as **Denton and Cholette-Dagum** method which do not lead to artificial discontinuities in the QNA series as well as preserve the movement of the indicators.
6. The comparative QNA series compiled using Pro-Rata, Denton and Cholette-Dagum benchmarking methods were discussed in the Sub-Committee meetings. In particular, results were assessed in respect of compilation of Quarterly GVA for various Sectors vis-à-vis sub-

sectors. It was seen that QNA series produced using Proportional Benchmarking method tend to generate stable series without any discontinuities, as well as they preserve the movement of the indicator in back series. Based on the deliberation, following points were observed/suggested:

- a. The Year on-Year (Y-o-Y) quarterly growth rates observed in QNA series produced by Proportional Benchmarking method was different from the Y-o-Y quarterly growth rates observed in Indicators for the Forward extrapolation. Whereas, in the existing Pro-Rata Method, this problem did not persist. Therefore, the users of GDP data have to be conversant or need to be sensitized with the changes in Methodology.
- b. Proportional Benchmarking method has an advantage over the Pro-rata method. Also, the **Proportional Denton** benchmarking method would be a useful analysis if done with Seasonally Adjusted series. Therefore, results for Seasonal Adjustment along with this benchmarking need to be compiled and evaluated.
- c. Cholette-Dagum benchmarking method adjusted the indicator for historical bias and Benchmark-Indicator (BI) Ratio was distributed according to the AR(1) model. The forward series generated using this method lacked interpretation in economic terms, since neither Y-o-Y or Quarter-on-Quarter (Q-o-Q) changes in the forward series were able to replicate the same changes in the indicator.
- d. Therefore, Proportional Denton method was preferred, as it carried forward the BI ratio of Q4 of previous Financial year, and hence Q-o-Q changes in forward series are able to replicate the same changes in the respective indicators.

B. Seasonal Adjustment in Quarterly GDP Data Series

7. Macroeconomic time series often exhibit seasonality patterns due to intra-year variations in climatic, social or other behavioural factors. To understand the long run trend-cyclic fluctuation in the series, it is imperative to remove the inherent seasonality and calendar effects from the data. It has been a practice by various countries to publish seasonally adjusted Quarterly National Accounts (QNA) series and trend-cycle estimates in addition to unadjusted QNA estimates. However, India is currently publishing the unadjusted QNA estimates along with the Y-o-Y growth rates. Such Y-o-Y growth rates may delay the identification of turning points and it does not fully exclude the calendar effect and moving seasonality. Seasonally adjusted series makes it possible to compare the growth rates Q-o-Q basis and hence provide a more accurate assessment of current progress in the economy.

8. In this context, Seasonally Adjusted Quarterly GDP series was generated using **X-13 ARIMA-SEATS** methodology based on time series of 2011-12 base year. This included following key steps:
 - i) Identification of Seasonality in Original or Log-transformed series;
 - ii) Model Diagnostics;
 - iii) Preparation of Holiday Calendar for India;
 - iv) Testing for Trading Day, Leap Year, Holiday and Outlier effects;
 - v) Quality Assessment of Final Seasonally Adjusted series;
 - vi) Temporal Consistency with Annual Benchmark through Proportional Benchmarking approach.
9. The detailed analysis results were assessed by the Sub-Committee. Various factors such as Choice of **Additive vs. Multiplicative** models for various sectoral series, Model Diagnostics results, Holiday Calendar considering 18 Nationally Important Holidays etc. were discussed. Also, the merit of **Indirect approach** over the **Direct Approach** and was deliberated. Various Revision and Update strategies including **Concurrent, Current and Partial Concurrent** approach were discussed. The comparative results reflecting the divergence in subsequent release of particular quarter estimates were assessed.
10. The Sub-Committee was also informed about the Dissemination strategy of Unadjusted and Adjusted GDP and other component series in other advanced countries like USA and Canada. It was decided that seasonally adjusted as well as unadjusted aggregates along with Y-o-Y growth would be released. The Sub-Committee appreciated this effort and noted that Quarterly Seasonally Adjusted GDP estimates may undergo revision whenever Annual Benchmark of new Series is revised. Accordingly, it was decided that after finalization of Annual Benchmark estimates, the Quarterly results may be presented and examined for appropriate decision.
11. Details were presented before the ACNAS. It was noted that the seasonally adjusted series being based on X-13 ARIMA model, would be feasible once data for at least five years become available, or if a sufficiently long time series is generated through back-casting. Once time series data become available, experimental seasonally adjusted series can be compiled and examined.
12. ACNAS suggested to make effort to compile the Seasonally Adjusted Quarterly GDP series during the continuation of the new series.

C. GST (Goods and Services Tax) Data for sector-wise QGVA Compilation

13. Tax/GST collection system represents an important type of administrative data for National Accounts. This kind of administrative data is timelier than the survey data and can be more widely used in Quarterly GDP than in Annual GDP compilation. Similar to other

administrative data sources, tax systems are not designed to meet statistical objectives. So, such tax data may not be completely in consistence with the concepts of the National Accounts. However, in the absence of suitable output/volume indicators at quarterly level, GSTN data is found to be useful as it is available at high frequency level.

14. Sharing of GST data with MoSPI has been evolving over the period of time. In the 2011-12 series, anonymized entity (unit) level quarterly outward supply and tax information by constitution of business are available for Wholesale and Retail trade and Manufacturing sector. In addition, unit level data for major industry sectors were available for listed and unlisted private limited companies:

15. It was noted that GSTN may provide HSN/ SAC wise aggregate level GST data by constitution of business and the existing practice of entity-wise data may be discontinued in near future. Considering the receipt of aggregated data as Scenario 1 and the current practice of data receipt as Scenario 2, suitable methodology for each of the said scenario were discussed and following was suggested.

- Under scenario I, as the entity level information would not be available, Y-o-Y growth rate in outward taxable supply variable is to be computed directly based on aggregate data (HSN/ SAC by Constitution of Business). For this work, HSN/ SAC need to be mapped to appropriate economic sectors/sub-sectors and Constitution of Business to be mapped to relevant institutional sectors.
- Under scenario II, the Y-o-Y quarterly growth rates in Outward Taxable Supply can be used as an Indicator for QGVA compilation (at Current prices) at respective sectoral/sub-sectoral level and also at institutional sector level for Wholesale, Retail Trade and Manufacturing. Percent changes from the previous period may be calculated based on the matched responding units which is termed as **Matched Pair Procedure** as also followed in the 2011-12 series. In addition, following points were suggested.
 - At each Economic sector/sub-sector and Institutional sector (For Wholesale, Retail Trade and Manufacturing) level, data are to be divided into two Sets. The first set will be composed of top entities having more than 80% share in total output (i.e., Outward Taxable supply) at each level. The second set will be composed of all other remaining entities.
 - In the first set, imputation for missing observation will be done based on the growth rate observed in the reported entities in this set and then total output will be computed after carrying out imputation
 - In the second set of remaining entities at each Economic sector/sub-sector and Institutional sector, the output will be computed from only matched responding units.

- Based on the output computed for both the sets, the total output will be computed and thereafter, Y-o-Y growth rate observed in total output will be used for estimation of quarterly GVA of respective industry/ institutional sector.
- Under scenario I, industry-wise and institutional sector-wise growth rates derived from aggregate outward taxable supply in the GST data may be used for estimating quarterly Gross Value Added (GVA) at current prices for the institutional sectors across various service industries. These include Trade; Hotels & Restaurants; Real Estate; Professional Services; Renting; Education; Health; Recreation; and Activities of Membership Organisations, among others. The quarterly financial results of listed companies may also be used as supplementary indicators to validate and strengthen the estimation process.
- Data pertaining to the Constitution of Business, like, **Proprietorship, Partnership and Hindu Undivided Family** will be classified into Unincorporated sectors. Hence, growth rates observed in this sector will be taken as the growth rates for both the Quasi and Household sector.
- Further, it was found that coverage of Private Corporate part of Manufacturing, Telecommunication and IT sectors was adequate under listed companies in terms of share in GVA. Accordingly, it was suggested to use the quarterly financial results of listed companies instead of GST for the estimation of quarterly GVA of Private Corporate part of Manufacturing, Telecommunication and IT sectors. However, for estimation of GVA of unincorporated part of these sectors, GST data may be used.
- For the ‘Repair & Maintenance of Motor Vehicles’ sector, in the 2011-12 series, the quarterly GVA at current prices is estimated using growth in Domestic Sales of Vehicles of all categories inflated by TTM-weighted WPI. It was suggested that the same methodology can be continued.

D. Institutional Sector-wise Estimation Procedure in QNA system and Methodology of Quarterization

16. Institutional Sector-wise Estimation Procedure:

- a) For the Private Corporate segment of various Non-Financial Services sectors, e.g., Real Estate, Wholesale and Retail Trade, Other Business Services, Education, Health etc, use of exhaustive GST data is suggested for the robust estimates for these sectors as GST data comprise both the Listed as well as Unlisted companies, coverage will improve extensively.
- b) For the Public sector, since there were no high-frequency indicators in the 2011-12 series, in the new base year, use of GST data was suggested.
- c) For the Unincorporated (Quasi and HH) part, GST data are having coverage of mainly quasi units. Once quarterly ASUSE based GVA become available and stabilized, the same may be used to derive an indicator.

17. Methodology of Quarterization:

- The indicators used for Benchmarking purpose, can also serve the purpose of quarterization at base year for the 2022-23 series.
- The proportion of Outward Taxable supply in respective quarters can be used for quarterization for all those sectors where GST data is going to be used as indicator for QGVA estimation at Nominal prices.
- Similarly, for the Private Corporate part of Manufacturing, Telecommunication and IT sectors, it was suggested that the proportion of GVA of listed companies reporting the quarterly financial results can be used for quarterization in the base year.
- For the remaining sectors such as Agriculture and Allied sector, Mining, Electricity, Construction and Transport sectors, the quarterisation can be based on the concerned data/ indicators as indicated below.

Sector/ Sub-sector	Method of Quarterization
Crop	<p>(a) The Ministry of Agriculture & FW provides quarterly production estimates for various crops. For these crops, crop-wise quarterisation of respective GVO (at Constant Prices) will be done in the base year using quarterly production estimates.</p> <p>(b) For the remaining crops and Irrigation equal quarterization of respective GVO and GVA of Irrigation (at Constant prices) will be done at base year.</p>
Livestock	<p>(a) For Major Livestock Products (Milk, Egg, Meat and Wool), season-wise (Summer, Rainy and Winter) production estimates are being provided by the Department of Animal Husbandry and Dairying. Estimates of each season comprising 4 months, will be first divided equally in all the 4 months. From these monthly estimates, quarter-wise production estimates will be computed which will be used for quarterisation of GVO (at Constant Prices) of major livestock products in the base year.</p> <p>(b) For all other livestock products, quarterly data is unavailable. Therefore, it was proposed to do equal quarterization of GVO (at Constant Prices) of these livestock products at the base year.</p>
Forestry & Logging	Currently, Quarterly data is not available for this sector. Therefore, it was proposed to do equal quarterisation of GVO (at Constant Prices) in the base year as per existing practice.
Fishing & Aquaculture	Quarterly production data of Inland and Marine Fish is being provided by the Department of Fisheries. The same will be used for quarterisation of GVO (at Constant Prices) of respectively Inland and Marine Fish at the base year.
Mining & Quarrying	<p>For Mining & Quarrying, the quarterisation of component-wise GVA (at Constant Prices) will be based on the data of relevant Index of Industrial Production (IIP).</p> <p>Coal and Lignite: IIP Coal and Lignite Crude Petroleum and Natural Gas: IIP Crude Petroleum and Natural Gas Metallic Mineral: IIP Metallic Mineral Non-Metallic Mineral: IIP Non-Metallic Mineral Minor Mineral: IIP Non-Metallic Mineral (in absence of IIP Minor Mineral)</p>

Electricity	<p>For Electricity sector, the quarterisation of component-wise GVA (at Constant Prices) will be as per following:</p> <p>Electricity: IIP Electricity Gas: Consumption of Gas (data available from PPAC) Water Supply: Equal quarterization Remediation Services: Equal quarterization</p>
Construction	<p>Constant price estimates of GVA of the Construction sector will be based on volume extrapolation of various Input items using the indicators such as relevant ICI (ICI Cement), IIP (IIP Infrastructures and construction Goods), Steel Consumption quantity (in Million Tonnes) etc. These indicators will be used for the quarterisation of IC (at Constant Prices) of this sector at the base year</p> <p>Cement & Cement Products: ICI Cement Iron & Steel: Steel Consumption quantity (in MT) Bricks & Tiles: Weighted IIP of relevant items Timber & Roundwood: IIP Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (IIP 16) Bitumen and Bitumen Mixtures: IIP Bitumen Glass and Glass Products: Weighted IIP of relevant items Fixtures & Fittings: Weighted IIP of relevant items Other Materials (including kutcha etc.) & Service Charges: IIP Infrastructures and construction Goods</p>

Transport	<p>The indicators to be utilised for quarterization of GVA (at Constant Prices) at base year and benchmarking at subsequent years for various transport subsectors are as follows,</p> <p>Road Transport: Stock + Sales of Commercial Vehicles and Three Wheelers (<u>data available from SIAM</u>)</p> <p>Water Transport: Cargo Handled at Major and Minor Ports (<u>data available from M/o Ports, Shipping and Waterways</u>)</p> <p>Air Transport: Passenger and Cargo Handled at Scheduled Domestic and International Airport (<u>data available from DGCA</u>)</p> <p>For Railway transport, at base year quarterly Passenger and Goods earnings information will be used for quarterization of GVA at Nominal prices. For Constant prices, quarterly Passenger and Net Tonne Km. information will be used for quarterization.</p> <p>For Services Incidental to Transport, average of the quarter-wise share for Road, Water and Air Transport will be used for quarterization of GVA at Constant Prices.</p>
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E. Methodology for Quarterly GVA estimates of Financial Services Sector

18. The GVA estimates of the Financial Services Sector are compiled at different sub-sector levels. As per SNA classification, 9 sub-sectors are: Central Bank; Deposit taking Corporations except Central Bank; Money Market Funds (MMF); Non MMFs; Other Financial Intermediaries except insurance corporations and pension funds (ICPF); Financial Auxiliaries; Captive financial institutions and money lenders; Insurance Corporations; and Pension funds.
19. **S-121- Central Bank (RBI):** The existing practice is to consider previous year Annual Growth in GVA of S-121 sub-sector. In Annual National Accounts in new series, the sum of cost method (Output = IC + CE + CFC + Net taxes on production) will be used for estimation of GVA of RBI. For Quarterly GVA estimates of S-121, RBI has provided data on CE at quarterly level. The same data will be used for estimation of quarterly GVA of RBI.
20. **S-122- Deposit Taking Corporations:** In S-122 sub-sector, the existing practice is to utilize the growth in Aggregate Bank Deposit and Credit for estimation of quarterly GVA

at Nominal prices. In the eighth and tenth Meeting of the Sub-Committee, three possible methodologies were discussed for estimation of quarterly GVA of S-122 sub-sector in the new series:

- **Method A:** In each quarter, Growth Rate observed in Aggregate Credit + Deposit will be taken as proxy of the Annual growth rate. Thereafter, the Annual GVA will be quarterized based on the latest quarter-wise distribution observed in (Interest Earned + Interest Expanded) listed Public, Private sector and Foreign banks. Data on Aggregate Credit + Deposit is available from the Monthly RBI Bulletin which covers all Scheduled Commercial Banks. Data on Interest Earned and Interest Expanded is available from National Stock Exchange (NSE).
- **Method B:** Quarterly GVA will be estimated by extrapolating the benchmark quarterly estimates with the growth Rate observed in Aggregate Credit + Deposit (in particular Quarter-ending month). Data on Aggregate Credit and Deposit can be sourced from the Monthly RBI Bulletin.
- **Method C:** In this method, FISIM will be computed at quarterly level and growth rate observed in FISIM will be the indicator for estimation of Quarterly GVA of S-122 at Nominal prices. Data on Net Loans, Deposits and Interest figures for Public, Private sector banks, Foreign banks and Small Finance Banks was sourced from RBI. Since data for Co-operative banks and Post-office savings banks are not available at quarterly level. indicators will be based on Public, Private sector banks, Foreign banks and Small Finance Banks, which constitute the major share in total GVA of S-122.

[FISIM will be computed using the formula, $\text{FISIM} = (\text{LR} - \text{RR}) * (\text{Average stock of loans}) + (\text{RR} - \text{DR}) * (\text{Average stock of deposits})$. LR and DR are Lending and Deposit Rates respectively. RR or Reference Rate is the Harmonic mean of LR and DR.]

- Based on the discussion, it was observed that Method B (based on growth rate observed in Aggregate Credit + Deposit) was more stable whereas Method C (based on growth rate observed in Quarterly FISIM) was more appropriate conceptually. However, Method C has led to wide intra-year volatility.
21. Accordingly, it was suggested that out of Method B and Method C, the method which shows minimum divergence with annual estimates and stability over the period, may be adopted.
 22. The above methodology for the S-122 (Deposit-taking Corporations) sub-sector was further discussed in detail in the ACNAS. ACNAS noted that while quarterly compilation

of FISIM has resulted in relatively high intra-year volatility, this approach is expected to yield convergence with ANA estimates. Accordingly, ACNAS suggested to consider the FISIM approach for estimation of quarterly GVA of Deposit-taking Corporations.

- 23. S-125 & S-126- Other Financial Intermediaries except Insurance Corporations & Pension Funds & Financial Auxiliaries:** In the 2011-12 series, information on data of Revenue from operations in respect of Listed Non-Banking Financial Institutions (NBFI), Stock Brokers, Stock Exchanges etc are sourced from Bombay Stock Exchange (BSE) at quarterly level. The growth rate observed in Revenue from operations was used as an indicator to estimate the GVA (at Nominal prices) of these sub-sectors for the respective quarter.
24. The Sub-Committee suggested to explore computation of FISIM at quarterly level for S-125 which covers mainly the Non-Banking Financial Institutions. Accordingly, data on Net Loans, Deposits and Interest figures for Top and Middle layer NBFIs have been obtained from RBI and FISIM were calculated. However, these NBFIs do not cover the complete coverage of finance companies considered for ANA estimates of S-125. Accordingly, it was suggested by the Sub-Committee that the method which shows minimum divergence with annual estimates may be adopted. The methodology was further discussed in the ACNAS ACNAS recommended to use the FISIM approach for Financial Intermediaries noting the conceptual alignment with methodology followed in Annual Accounts.
25. In case of S-126, it was apprised to the Sub-Committee that only data, which is available at quarterly level, is the financial results of listed Stock-broker companies. Accordingly, it was suggested that the growth rate in Revenue from operations of the concerned listed companies will be used as an indicator of GVA (at Nominal prices) of this sector.
- 26. S-127- Money Lenders and Remaining Unorganized Segments except Insurance Agents:** For this sub-sector, quarterly data being not available, the growth rate observed in the previous year will be taken as a proxy.
- 27. S-128- Insurance Corporations (Life and Non-Life Insurance):** In the 2011-12 series, for Life Insurance (Public), Net premium earned information from Life Insurance Corporation of India (LIC) and for Non-Life Insurers, Gross Direct Premium underwritten information available from Insurance Regulatory and Development Authority (IRDAI) are being used as indicators for estimation of quarterly GVA at current prices. For Private Life Insurance, no indicator was available in the 2011-12 series. Annual (provisional) estimates are prepared first for LIC and Non-Life using growth rates observed in related indicators

in a particular quarter and imputed growth rates for remaining quarters. Quarterization in LIC was done in proportion to the quarterly Net Premium Income for LIC, and for Non-Life Insurance, equal quarterisation was done.

28. In the 2022-23 series Quarterly estimates of GVA will be compiled separately for Life Insurance (Public), Life Insurance (Private), Non-Life Insurance (Public) and Non-Life Insurance (Private). The respective indicators for GVA estimation at Nominal prices are as follows:

- **Life Insurance (Public):** Net Premium Earned Information (Premium - Reinsurance) for Linked and Non-Linked Businesses of LIC. Data will be sourced from LIC or IRDAI (Quarterly Disclosure).
- **Life Insurance (Private):** Net Premium Earned Information for registered Private Life Insurers will be sourced from IRDAI.
- **Non-Life Insurance (Public):** Gross Direct Premium Underwritten Information for registered Public Non-Life Insurers. Data is available from IRDAI.
- **Non-Life Insurance (Private):** Gross Direct Premium Underwritten Information for registered Private Non-Life Insurers is available from IRDAI.
 - Quarterization at base year will also be done based on the relevant indicators within each sub- sub-sector.

F. Methodology for Quarterly GVA estimates of Public Administration & Defence

29. In the 2011-12 series, the Compensation of Employees (CE) and Consumption of Fixed Capital (CFC) components of GVA were extrapolated separately using past year growth. The information on CFC is not available at quarterly level. For the CE component it was suggested that Salary and Wages of Centre and States may be seen. Further, if there will be any policy implication in a particular year that may have impact on CE such as implementation of pay commission etc., the adjustment in the estimation of GVA of the sector has to be made accordingly. For quarterisation in the base year, CE will be quarterized in proportion to quarterly Salary & Wages of Central and State Government respectively, and CFC at current prices will be equally apportioned in all the quarters.

30. After receiving the quarterly PFMS data of Centre, the methodology was further examined and presented before ACNAS. ACNAS recommended to use Y-o-Y growth in Salary-wages of Centre and States for extrapolating CE and Ownership of Dwelling (for Govt. provided houses) components of Centre and States, respectively. For Local bodies and

other components, combined growth in Salary wages of Centre+ States will be used. For CFC as there is no required data available at quarterly level, past year growth will continue to be used as proxy.

G. Estimation of Quarterly Product Taxes and Subsidies at Current Prices

Product Taxes:

31. For Central product taxes (except GST) and State product taxes (except GST), information are available at the monthly level from the CGA and CAG, respectively. The same will be used for the estimation of quarterly product taxes (at Nominal Prices) as per existing practice. In case of GST, against the present practice of using Gross GST collection, **Net GST collection after settlement** which is in alignment with Annual Estimates of GST, will be used in the new series.
32. For local body taxes which has minor share in total product taxes, quarterly information is not available. Therefore, it was suggested that as per existing practice, past trends at annual level will be used for estimation of local body taxes at quarterly level.

Product Subsidies:

33. For major product subsidies of the centre (Nutrient Based Fertilizers Subsidy, Urea Subsidy and Petroleum Subsidy), information available at monthly level from the CGA, will be used for the estimation of quarterly subsidies (at Nominal Prices) as per existing practice.
34. For other product subsidies of the centre (around 5% of total Centre subsidies), information is not available at monthly/ quarterly level. Therefore, Budget estimates/ Revised estimates of other product subsidies of the centre will be divided equally at quarterly level.
35. Data on total subsidies of the States are available at the monthly level from the CAG. However, separate data for product subsidies of the States are not available at quarterly/ monthly level. Therefore, for the estimation of State Product subsidies at quarterly level, total subsidies data will be adjusted based on the state-wise annual estimates of product and production subsidies.

H. Methodology for Quarterly estimates of various Expenditure Components

36. In the Tenth Meeting of the Sub-Committee, detailed deliberations took place on Methodology of estimation of Expenditure side aggregates at Quarterly level. The specific details of

Methodological improvements in each expenditure side aggregates are discussed in succeeding paras.

I. Private Final Consumption Expenditure (PFCE)

37. In the revised base year, due emphasis has been given on the various strategic points including,

- a) Compilation of Quarterly PFCE at more granular item level;
- b) Quarterization for various items are drawn from HCES;
- c) New administrative data sources have been incorporated

38. In the 2011-12 series, the Annual estimates (provisional) of the reference year at Nominal prices were compiled first. For compiling commodity-wise estimates of PFCE, physical indicators were used for each commodity of expenditure. These indicators in respect of agricultural commodities were based on trends in consumption (worked out from commodity flow estimates of previous years). For manufactured goods, the key indicator used was the IIP. For services, the indicator used was the output of services, as estimated for compiling Gross value added (GVA) of services. The indicator growth was applied on the previous year PFCE estimates to get the annual estimates for the reference year. For the commodity-wise quarterly estimates of PFCE, the annual current price estimates were apportioned to quarters on the basis of proportions derived from bench mark estimates in the case of food items. (Quarterised PFCE data for the year in which the consumer expenditure survey was conducted, forms the benchmark estimates.) For other items, the distribution was on the basis of the quarterly proportion of output of relevant groups. Aggregate PFCE at current prices were deflated using combined CPI and WPI.

39. In the 2022-23 series, both the Current and Constant price estimates will be compiled at a more granular item level. The selected items are based on the list of the items proposed for ANA estimates of PFCE, which inter alia adopts COICOP 2018 classification. Enhanced granularity of items will provide more clarity in use of item-level indicators and deflators rather than relying on weighted indicators and weighted deflators (where weights are fixed in base year). Base year HCES has been used to derive the quarterization of benchmark PFCE for various items. Additionally, various new data sources have been proposed to use in estimation. The details are discussed as below.

40. **Methodology of Quarterization:** In HCES 2022-23, the survey period was divided into 10 Panels:

Panel	Months	Panel	Months	Panel	Months	Panel	Months	Panel	Months
Panel 1	Aug – Oct	Panel 3	Oct - Dec	Panel 5	Dec-Feb	Panel 7	Feb - Apr	Panel 9	Apr - Jun

Panel 2	Sept - Nov	Panel 4	Nov - Jan	Panel 6	Jan-Mar	Panel 8	Mar-May	Panel 10	May - Jul
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- In order to generate Quarter-wise consumption share of various items, it is suggested to first generate panel and item-wise average Monthly Per Capita Consumption Expenditure (MPCE) estimates from HCES using the Panel-wise Multiplier information.
- For deriving estimates of various quarters, relevant panels may only be used, rather than mixing multiple panels. Therefore, Panel 3 and Panel 6 will provide estimates for Q3 and Q4 respectively. Panel 1 may be used for Q2 estimates. For deriving estimates for Q1 (Apr'22-June'22) for FY 2022-23, the data pertaining to Panel 9 i.e., Apr'23-June'23 cannot be used, because the item-wise estimates for Q1 may have upward bias due to inflation. Therefore, it has been suggested to duly adjust the Q1 estimates using Panel 9 data pertaining to HCES 2023-24.
- The total quarterly expenditure can be derived using Average MPCE (quarter-wise) multiplied by the mid-point projected population. Projected population data will be sourced from “**Report of the Technical group of Population Projection July 2020 (2011-2036)**”, published by Ministry of Health and Family Welfare.
- The items which will depend on the quarterization based on HCES are listed in Annexure IV based on their Methodology of estimation.

41. Selection of Indicators for various items:

- It was observed that major economies conduct continuous Household Expenditure Surveys for Quarterly PFCE estimates. However, India conducts Household Consumption Expenditure Survey (HCES) at multi-year intervals. Hence, indicators for Quarterly PFCE estimates have to be sourced from other alternate data sources relevant for estimation of consumption.
- In this context, QNA Manual (2017) also suggests combining data from surveys conducted at multi-year intervals with other data sources for extrapolation of benchmark period estimates. Other data sources may include surveys of retailers, domestic production of consumer goods and VAT systems etc.
- Accordingly, relevant indicators for various items will be used for deriving estimates as mentioned in Annexure IV. These indicators include indicators sourced from various administrative sources.

42. **Exploring Non-Traditional Data as Alternative Indicator for estimation of PFCE:** In the Sub-Committee meeting, UPI transaction data as a Non-Traditional data source, for use as an indicator for estimation of item-level PFCE was discussed. High-frequency (monthly) transactions information at the Persons to Merchant (P2M) level were considered for exploring its suitability as indicator for relevant item-level PFCE. Mapping of item level (Merchant

Category Codes or MCC) UPI transactions with appropriate PFCE items were considered. However, certain MCCs couldn't be mapped with either of the PFCE items, for example, Super Market, Tax payments, Government Services, Wholesale clubs, Debt collection agencies etc. Timeseries UPI transaction Value and Per unit UPI transaction as alternative indicators were evaluated for various item-level PFCE, particularly corresponding to various services items. After deliberation, following points emerged:

- Transactions against clubbed items (e.g. Super markets) cannot be bifurcated into separate PFCE items, whereas, it accounts for substantial share in total transaction value and volume.
- UPI transaction data from its inception, is not yet stabilized as people are still shifting their payment mode from cash transaction to UPI. Once the UPI transaction data get stabilized, it may be explored for possible inclusion as an indicator in the estimation of PFCE.

43. Methodology of Estimation of Quarterly Item-wise PFCE: At quarterly level, PFCE items can be broadly categorised into 4 major groups having similar methodology of estimation within each group:

- Agricultural/ Raw food items;
- Food and Non-Food Items which involves manufacturing process;
- Services Items; and
- Other specific items such as Electricity, Gas, Rail Transport, Purchase of vehicles, salt, spices, etc.

44. Agricultural/ Raw food items: The methodology for estimating PFCE (at Constant prices) of Agricultural/ Raw food items is broadly based on the growth in the production of respective items which is accounted for by the PFCE/GVO ratio based on ANA data sources. Since, production growth is likely to be volatile across quarters, hence this is to be adjusted with the latest observed Consumption vs. Production ratio. This will ensure a stable consumption pattern across quarters. Additionally, for certain food items (Rice, Wheat, Pulses etc.) consumption is likely to differ negligibly in an intra-year period, also the pattern is likely to remain stable in consecutive 2-3 years. Sub-Committee suggested that, for consumption estimates of major food items especially, wheat and rice, PDS offtake data may also be seen for incorporation. For certain perishable items, such as Banana, Mango, Meat, Milk, Fish etc. estimation will be direct using quarter-wise production information.

45. Food and Non-Food Items which involves manufacturing process: For estimation of PFCE of Manufactured Food and Non-Food Items, growth rates in respective item-level IIP or HSN-wise GST data (outward taxable supply) for Retail Trade as per the availability can be used. For the base year estimates, quarterisation will be made using HCES.

46. **Services Items:** For Services Items, the growth rate observed in the GVO at current prices of respective Services will be used for estimation of PFCE at current prices. Also, the share of GVO in respective quarters for a particular item will be the basis for quarterisation at the base year.
47. **Other specific items such as Electricity, Gas, Rail Transport, Purchase of vehicles, salt, spices, etc:** Indicators which include administrative data sources such as e-Vahan, Central Electricity Authority, M/o Railways, etc., will be used for estimation of PFCE.
48. The details are given at the **Annexure IV**.

II. Government Final Consumption Expenditure (GFCE)

49. Government final consumption expenditure consists of expenditure incurred by the general government in its production of non-market final goods and services and market goods and services provided as social transfers in kind.
50. In the 2011-12 series, Quarterly estimates of GFCE (at Nominal prices) for the reference quarter are obtained by extrapolating the estimated GFCE of the same quarter of the previous year with growth observed in the combined quarterly revenue expenditure of Central and State governments net of interest payments and subsidies. Monthly data on Revenue Expenditure, Interest Payments and Subsidies for the central government and state government are available respectively from the website of Controller General of Accounts (CGA), Department of Expenditure, Ministry of Finance and website of Comptroller and Auditor General of India (CAG).
51. In the 2022-23 series, for quarterisation of GFCE (at Nominal prices) in the base year, the proportion of combined quarterly revenue expenditure of Central and State governments net of interest payments and subsidies will be used. The constant price estimates of compensation of employees will be prepared by deflating the estimates of compensation of employees at current prices by CPI-IW as has been agreed by the Sub-Committee on Constant Price Estimates. Estimates of net purchase of commodities and services at constant prices will be obtained by deflating current price estimates by the composite weighted index with updated weights for FY 2022-23.
52. With the change in FCI's status from market producer to non-market producer, food subsidy will be treated as social transfer in kind instead of product subsidy. To estimate constant price values for these transfers, the base year estimates will be moved based on the growth in food

grain offtake. The current price estimates of Food Subsidy will be available directly from the website of CGA.

III. Gross Fixed Capital Formation (GFCF)

53. In the 2011-12 series, GFCF (at Nominal prices) was estimated considering majorly 3 asset groups, viz., **Dwelling, Other Buildings and Structures, Machinery & Equipment and Software**. For the Machinery & Equipment components which composed of Transport Equipment; ICT Equipment; and Other Machinery & Equipment (Electrical and Non-Electrical) were extrapolated using a common indicator, that is IIP Capital Goods superimposed by weighted WPIs (Transport Equipment and Other Machinery and Equipment) and data on imports/exports of Machinery and Equipment).

54. In the 2022-23 series, Quarterly GFCF estimation will be compiled at a more granular asset level at the Current and Constant price. After discussion, appropriate asset-wise Indicators are decided as follows:

- **Dwelling, Other Buildings and Structures (DOBS):** GVO growth of Construction sector will be used as indicator to estimate the DOBS at current prices.
- **Machinery & Equipment:** Machinery & Equipment asset-group cover four types of assets (Transport Equipment; ICT Equipment; and Other Machinery & Equipment assets, Machinery & Equipment from Defence).
 - For **Transport Equipment; ICT Equipment; and Other Machinery & Equipment assets**, the Commodity flow approach having the formula as: Asset = Total Value of Domestically Produced Capital Goods + Net Imports + Product Tax + Trade & Transport Margin. Total Value of Domestically Produced Capital Goods will be extrapolated using relevant indicators and Import, Export data available from DGCIS. The growth combining these three components will serve as an indicator of GFCF (at Nominal prices) at that asset category level.
 - **Transport Equipment:** Total Value of Domestically Produced Transport Equipment asset will be extrapolated using IIP Manufacturing of Other Transport Equipment inflated by WPI Other Transport Equipment.
 - **ICT Equipment:** Total Value of Domestically Produced ICT Equipment assets will be extrapolated using IIP Manufacturing of computer, electronic and optical products inflated by combined WPI of Manufacture of Computer and Peripheral Equipment and Manufacture of Communication equipment.
 - **Other Machinery & Equipment (Elec. and Non-Elec.):** Total Value of Domestically Produced Other Machinery and Equipment assets will be

extrapolated using IIP Manufacture of Machinery & Equipment inflated by weighted WPI Manufacture of Electrical Equipment and WPI Manufacture of Machinery & Equipment

- **Machinery & Equipment from Defence:** This component has minor share in GFCF. Since there is no quarterly indicator, past year growth will be used.
- **Cultivable Biological Resources:** This asset has a very small share of around 0.2% in total GFCF (as per ANA estimates for FY 2022-23 of 2011-12 series). Previous year's growth pattern will be used as no indicator is available at quarterly level.
- **Intellectual Property Products:** For estimating the GFCF in respect of intellectual property products like Research & Development and Software, which carries dominant weight, growth in GVO of related industries will be used as an indicator. For other minor products previous year growth will be used due to non-availability of indicators.

IV. Change in Stocks

55. In the 2011-12 series, average growth of agriculture, manufacturing and mining industry at current prices is used to extrapolate the annual figure at current price of the previous year. In the 2022-23 series, broad industry-wise stock estimates will be compiled based on stock position indicators from the data of quarterly financial results of listed companies and other administrative data. During the discussion in the ACNAS, it was recommended that the CIS of the Agriculture and Allied sector may be derived residually by deducting PFCE from the output of the sector, duly adjusted for net imports.

V. Valuables

56. In the 2011-12 series, quarterly estimate of Valuables (at current prices) is compiled using growth in Net imports of gold, silver, diamond etc. and as indicator. For the 2022-23 series, the existing practice will be continued as indicators were found to be appropriate.

VI. Import and Export of Goods & Services

57. In the 2011-12 series, Quarterly data on Import and Export of Services are being provided by RBI, and Quarterly data on Import and Export of Goods are available from Ministry of Commerce. The same will be used in estimation of Import and Export of Goods & Services (at current prices) in the 2022-23 series also.

List of rates and ratios to be continued in the new series

Sub-sector	Item	Estimation Procedure	Proposal
LIVESTOCK	Species wise mortality rates	Mortality rates are used from earlier Directorate of Marketing & Inspection (DMI) reports	Updated information not available with Dept. of Animal Husbandry and Dairying (DAHD)
	Production of duck eggs which are not covered under ISS	The production of duck eggs is estimated as 3.5% of production of hen egg for Gujarat, and 3% of production of hen egg for Goa, Mizoram, Daman & Diu and Dadra & Nagar Haveli and Delhi.	
	Yield rate of camel hair & Pig bristle	800 gm per camel per year 155 gm per slaughtered pig per year	
	Production of dung	Production of dung (bovine, sheep and goat) is estimated using population and fixed evacuation rate of respective species	
	Production of Dung Fuel	Production of dung fuel is estimated 40% of production of raw cakes. Production of raw cake is compiled using fixed utilization rate on production of dung	
	Production of Dung Manure	Production of dung manure is compiled using fixed utilization rate on production of dung	
	Production of Poultry Meat	Production of chickens and ducklings killed is estimated by considering one-third number of the eggs hatched, 50% of the hen and cock population, 50% of the duck	

Sub-sector	Item	Estimation Procedure	Proposal
		<p>and drake population, total population of chickens and ducklings, and 62.5% of the other poultry population. From this total, the populations of hens, cocks, ducks, drakes, chickens, and other poultry for the subsequent year are deducted.</p>	
	<p>Output of Meat by-products (edible offals & glands, heads & legs, fat from slaughtered, hides & skin, other by-product)</p>	<p>Value of output of meat by-products for cattle meat, buffalo meat, goat meat, sheep meat, and pig meat is estimated as 16% of output of cattle meat, 14.49% output of buffalo meat, 21.49% output of goat meat, 23.05% output of sheep meat, and 9.4% output of pig meat</p>	
	<p>Output of fats from fallen animals (only for cattle and buffalo)</p>	<p>Value of output of fat from fallen cattle and buffalo is estimated based on number of fallen animals, fixed yield rate, and current year's price. The number of fallen animals is calculated using the mortality rate and bovine population.</p>	
	<p>Output of Cattle hides, Buffalo hides, Goat skin and Sheep skin (fallen animals)</p>	<p>The output of fats from fallen for Cattle hides, Buffalo hides, Goat skin and Sheep skin is estimated as number of fallen animal and current value of hides/ skin per animal</p>	
	<p>Output of Camel hair/Goat hair /Pig bristles</p>	<p>The output of camel hair, goat hair, and pig bristle is estimated using yield rate (in kilograms per animal),</p>	

Sub-sector	Item	Estimation Procedure	Proposal
		respective populations and current price.	
	Operational Cost	Operational cost as input for livestock sector is prepared using 0.25% of value of output of Milk Group, Hides & Skin, Poultry Meat, Eggs Group, Wool Group, Silk & Honey Group & Increment group	No change in methodology
FORESTRY	Output of Industrial wood inside forest (unrecorded)	For estimating production of unrecorded industrial wood, 10% of recorded production is used.	Updated information not available with State Forest Departments and FSI
	Production of Subsistence fish	Production is estimated by applying 12.5% on production of inland fish.	Updated information not available with Dept. of Fisheries
FISHERY	Value of Fish salting/sun dried/subsistence	Value of input for Fish salting/sun dried/subsistence is estimated as 1% of value of output of salted fish (let out)/ sundried (let out) /subsistence fish respectively	No change in methodology

Annexure II

Proposed list of items for PFCE compilation for the 2022-23 series and mapping with the PFCE items of 2011-12 series

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
01	Food and non-alcoholic beverages	1	Food and non-alcoholic beverages
01.1	Food	1.1	Food
01.1.1	Cereals and cereal products	1.1.1	Bread, cereals and pulses
01.1.1.1	Wheat and wheat products	1.1.1.2	Wheat
01.1.1.2	Rice and rice products	1.1.1.1	Rice
01.1.1.3	Sorghum and sorghum products	1.1.1.3	Jowar
01.1.1.4	Pearl Millet and Pearl Millet products	1.1.1.4	Bajra
01.1.1.5	Finger Millet and Finger Millet products	1.1.1.6	Ragi
01.1.1.6	Other cereals and cereal products	1.1.1.7	Barley
		1.1.1.5	Maize
		1.1.1.8	Small millets
		1.1.1.9	Other cereals
01.1.1.7	Bread and bakery products	1.1.1.11	Bread & Biscuit
01.1.2	Meat	1.1.2	Meat
01.1.2.1	Chicken	1.1.2.9	Chicken
01.1.2.2	Beef/ Buffalo meat	1.1.2.1	Beef
		1.1.2.5	Buffalo meat
01.1.2.3	Pork	1.1.2.2	Pork
01.1.2.4	Mutton/ Goat meat	1.1.2.3	Mutton
		1.1.2.4	Goatmeat
01.1.2.5	Other meat	1.1.2.6	Other meat products
		1.1.2.7	Duck
		1.1.2.8	Fowl
01.1.3	Fish and seafood	1.1.3	Fish and seafood

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
01.1.4	Milk, other dairy products and eggs	1.1.4	Milk, cheese and eggs
01.1.4.1	Milk and other dairy products	1.1.4.1(P)	Milk and milk products
01.1.4.2	Eggs	1.1.4.2	Eggs
01.1.5	Oils and fats	1.1.5	Oils and fats
01.1.5.1	Groundnut oil	1.1.5.5	Groundnut oil
01.1.5.2	Coconut oil	1.1.5.3	Coconut oil
01.1.5.3	Mustard oil	1.1.5.2	Mustard oil
01.1.5.4	Butter and Ghee	1.1.4.1(P)	Milk and milk products
01.1.5.5	Other edible oils	1.1.5.13	Imported oils
		1.1.5.1	Vanaspati
		1.1.5.4	Gingelly oil
		1.1.5.6	Linseed oil
		1.1.5.7	Castor oil
		1.1.5.8	Other edible oils
01.1.6	Fruits and nuts	1.1.6	Fruit
01.1.6.1	Banana	1.1.6.1	Banana
01.1.6.2	Mango	1.1.6.2	Mango
01.1.6.3	Coconut	1.1.6.7	Coconut
01.1.6.4	Citrus fruits	1.1.6.4	Citrus fruits
01.1.6.5	Grapes	1.1.6.3	Grapes
01.1.6.6	Copra	1.1.6.8	Copra
01.1.6.7	Cashew kernels	1.1.6.5	Cashew kernels
01.1.6.8	Groundnut	1.1.6.6	Groundnut
01.1.6.9	Other fruits	1.1.6.9	Other fruits
01.1.6.10	Fruit products	1.1.6.10	Fruit products
01.1.7	Vegetables, tubers, plantains, cooking bananas and pulses	1.1.7	Vegetables
01.1.7.1	Onions	1.1.7.1	Onion
01.1.7.2	Potatoes	1.1.7.2	Potato

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
01.1.7.3	Other vegetables and tubers	1.1.7.4	Other vegetables
		1.1.7.3	Sweet potato
		1.1.1.12	Tapioca
01.1.7.4	Vegetable products	1.1.7.5	Vegetable products
01.1.7.5	Green gram	1.1.1.14	Moong
01.1.7.6	Black gram	1.1.1.15	Urad
01.1.7.7	Gram whole	1.1.1.10	Gram whole
01.1.7.8	Pigeon peas	1.1.1.13	Arhar
01.1.7.9	Masoor	1.1.1.16	Masoor
01.1.7.10	Other pulses	1.1.1.18	Other Pulses
01.1.7.11	Gram Products	1.1.1.17	Gram Products
01.1.8	Sugar, confectionery and desserts	1.1.8	Sugar, jam, honey, chocolate and confectionery
01.1.8.1	Gur	1.1.8.2	Gur
		1.1.8.4	Palm Gur
01.1.8.2	Refined Sugar	1.1.8.3	Refined Sugar
01.1.8.3	Sugar confectionery	1.1.8.5	Sugar confectionery
01.1.8.4	Ice cream	1.1.4.1(P)	Milk and milk products
01.1.9	Ready-made food and other food products	1.1.9	Food products n.e.c.
01.1.9.1	Salt	1.1.9.1	Salt
01.1.9.2	Oilseeds	1.1.5.11	Rapeseed and mustard
		1.1.5.9	Sesamum seed
		1.1.5.10	Linseed
		1.1.5.12	Other oilseeds
01.1.9.3	Spices	1.1.9.2	Spices
01.1.9.4	Sugar cane for chewing	1.1.8.1	Sugar cane for chewing
01.1.9.5	Other food	1.1.9.3	Other food
01.2	Non-alcoholic beverages	1.2	Non-Alcoholic Beverages

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
01.2.1	Coffee, tea and cocoa drinks	1.2.1	Coffee, tea and cocoa
01.2.1.1	Coffee	1.2.1.1	Coffee
01.2.1.2	Tea	1.2.1.2	Tea
01.2.1.3	Cocoa	1.2.1.3	Cocoa
01.2.2	Water, Soft drinks, Fruit and vegetable juices, Other non-alcoholic beverages	1.2.2	Mineral waters, soft drinks, fruit and vegetable juices
02	Alcoholic beverages, tobacco and narcotics	2	Alcoholic Beverages, Tobacco and Narcotics
02.1	Alcoholic beverages	2.1	Alcoholic Beverages
02.2	Tobacco	2.2	Tobacco
02.2.1	Cigarettes	2.2.2	Cigarettes
02.2.2	Tobacco chewing	2.2.1	Tobacco chewing
02.2.3	Bidi	2.2.3	Bidi
02.2.4	Other tobacco products	2.2.4	Other tobacco products
02.3	Narcotics	2.3	Narcotics
02.3.1	Pan and its ingredients	2.3.1	Pan
		2.3.2	Arecanut
02.3.2	Opium	2.3.3	Opium
03	Clothing and footwear	3	Clothing and footwear
03.1	Clothing	3.1	Clothing
03.1.1	Clothing materials	3.1.1	Clothing materials
03.1.2	Garments, Other articles of clothing and clothing accessories	3.1.2	Garments & Other articles of clothing and clothing accessories
03.1.3	Cleaning, repair, tailoring and hire of clothing		
03.1.3.1	Cleaning, repair and hire of clothing	3.1.3	Cleaning, repair and hire of clothing
03.1.3.2	Tailoring	12.5.4	Tailoring services
03.2	Footwear	3.2	Footwear
04	Housing, water, electricity, gas and other fuels	4	Housing, water, electricity, gas and other fuels
04.1	Gross rentals, equipment and material for housing	4.1	Gross rentals for housing

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
04.1.1	Actual and imputed rental payments made for housing	4.1.1	Actual rentals for housing (this included imputed as well)
04.1.2	Services for the maintenance, repair and security of the dwelling	4.1.2	Services for the maintenance and repair of dwelling
04.1.3	Security equipment and materials for dwelling maintenance and repair	5.5(P)	Tools and equipment for house & garden
04.2	Water supply and miscellaneous services relating to the dwelling	4.2	Water supply and miscellaneous services relating to the dwelling
04.2.1	Water supply	4.2.1	Water supply
04.2.2	Refuse collection, Sewage collection, Other services related to the dwelling	4.2.2	Refuge collection, sewage collection and other services relating to dwelling n.e.c.
04.3	Electricity, gas and other fuels	4.3	Electricity, gas and other fuel
04.3.1	Electricity	4.3.1	Electricity
04.3.2	Gas		
04.3.2.1	LPG	4.3.2	Gas
04.3.2.2	Other Gas (Gobar Gas)	4.3.4.5	Gobar gas
04.3.3	Liquid fuels (Kerosene)	4.3.3	Liquid fuels
04.3.4	Solid fuels	4.3.4-4.3.4.5	Solid fuels
		4.3.4.1	Coal
		4.3.4.2	Firewood
		4.3.4.3	Dung fuel
		4.3.4.4	Charcoal
		4.3.4.6	Gas coke
		4.3.4.7	Other fuel
05	Furnishings, household equipment and routine household maintenance	5	Furnishing, household equipment and routine household maintenance

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
05.1	Furniture and furnishing, carpets and other floor coverings	5.1	Furniture and furnishing, carpets and other floor coverings
05.1.1	Furniture and furnishings	5.1.1	Furniture and furnishings
05.1.2	Carpets and other floor coverings	5.1.2	Carpets and other floor coverings
05.1.3	Clock and watches	12.2.1(P)	Jewellery, clocks and watches
05.1.4	Repair of computer, personal & HHs goods, furniture, furnishings and floor coverings (s)	5.1.3	Repair of computer, personal & HHs goods, furniture, furnishings and floor coverings
05.2	Household textiles	5.2	Household textiles
05.3	Household appliances	5.3	Household appliances
05.4	Glassware, tableware and household utensils	5.4	Glassware, tableware and household utensils
05.5	Tools and equipment for house and garden	5.5(P)	Tools and equipment for house & garden
05.6	Goods and services for routine household maintenance	5.6	Goods and services for routine household maintenance
05.6.1	Non-durable household goods	5.6.1	Non-durable household goods
05.6.2	Domestic services and household services	5.6.2	Domestic services and household services
06	Health	6	Health
06.1	Health Services		
06.2	Medicines and Health products		
07	Transport	7	Transport
07.1	Purchase of vehicles	7.1	Purchase of vehicles
07.1.1	Motor cars	7.1.1	Motor cars
07.1.2	Motorcycles	7.1.2	Motor cycles
07.1.3		7.1.3	Bicycles

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
	Bicycles and animal drawn vehicles	7.1.4	Animal-drawn vehicles
07.2	Operation of personal transport equipment	7.2	Operation of personal transport equipment
07.2.1	Parts and accessories for personal transport equipment	7.2.1	Spare parts and accessories for personal transport equipment
07.2.2	Fuels and lubricants for personal transport equipment	7.2.2	Fuels and lubricants for personal transport equipment
07.2.3	Maintenance and repair of personal transport equipment	7.2.3	Maintenance and repair of personal transport equipment
07.2.4	Other services related to personal transport equipment		
07.3	Passenger transport services	7.3	Transport services
07.3.1	Passenger transport by railway	7.3.1	Passenger transport by railway
07.3.2	Passenger transport by road	7.3.2	Passenger transport by road
07.3.3	Passenger transport by air	7.3.3	Passenger transport by air
07.3.4	Passenger transport by sea and inland waterway	7.3.4	Passenger transport by sea and inland waterway
07.3.5	Other passenger transport services	7.3.5	Other purchased transport services
07.4	Transport services for goods	8.1(P)	Postal services
08	Information and communication	8	Communication
08.1	Information and communication equipment		
08.1.1	Fixed telephone equipment, Mobile telephone equipment	8.2	Telephone and telefax equipment
08.1.2	Information processing equipment and software excluding games	9.1.3	Information processing equipment
08.1.3	Equipment for the reception, recording and reproduction of sound and vision	9.1.1	Equipment for the reception, recording and reproduction of sound and pictures

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
08.2	Information and communication services		
08.2.1	Communication Services	8.1(P)	Postal/Communication Services
08.2.2	Television and radio licences and fees, Subscriptions to audiovisual streaming services and rental of audiovisual content	9.4(P)	Recreational and cultural services
09	Recreation, sport and culture	9	Recreation and culture
09.1	Recreational durables	9.2	Other major durables for recreation and culture
		9.1.2	Photographic and cinematographic equipment and optical instruments
		9.2.1	Major durables for outdoor recreation
		9.2.2(P)	Musical instruments and major durables for indoor recreation
09.2	Other recreational goods	9.3(P)	Other recreational items and equipment, gardens and pets
		9.3.1	Games, toys and hobbies
		9.3.2	Equipment for sport, camping and open-air recreation
09.3	Garden products and pets	9.3(P)	Other recreational items and equipment, gardens and pets
09.3.1	Garden products, plants and flowers	9.3.3	Gardens, plants and flowers
09.3.2	Pets and pet products	9.3.4	Pets and related products
09.4	Recreational services, Cultural services	9.4(P)	Recreational and cultural services

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
09.5	Cultural goods		
09.5.1	Musical instruments	9.2.2(P)	Musical instruments and major durables for indoor recreation
09.5.2	Audiovisual media	9.1.4	Recording media
09.6	Newspapers, books and stationery	9.5	Newspapers, books and stationery
		9.5.1	Books
		9.5.2	Newspapers and periodicals
		9.5.3	Miscellaneous printed matter
9.5.4	Stationery and drawing materials		
10	Education	10	Education
11	Restaurants and accommodation services	11	Restaurants and hotels
12	Insurance and financial services	12(P)	Miscellaneous goods and services
12.1	Insurance	12.3	Insurance
12.1.1	Life insurance	12.3.1	Life insurance
12.1.2	Non-life insurance	12.3.2	Insurance connected with transport and fire
12.2	Financial services	12.4	Financial services other than insurance
12.2.1	Financial intermediation services indirectly measured	12.4.1	FISIM
12.2.2	Explicit charges by deposit-taking corporations (S), Other financial services (S)	12.4.2	Other financial services n.e.c.
13	Personal care, social protection and miscellaneous goods and services	12(P)	Miscellaneous goods and services
13.1	Personal care	12.1	Personal care

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
13.1.1	Electric, other appliances, articles and products for personal care	12.1.2	Electric and other appliances for personal care
13.1.2	Hairdressing salons and personal grooming establishments	12.1.1	Hairdressing salons and personal grooming establishments
13.2	Other personal effects	12.2-12.2.1	Personal effect n.e.c
		12.2.2	Other personal effects
13.3	Other services	12.5	Other services n.e.c
13.3.1	Religious services	12.5.5	Religious services
13.3.2	Legal services	12.5.1	Legal services
13.3.3	Funeral services	12.5.2	Funeral services
13.3.4	Business services	12.5.3	Business services
13.3.5	Social protection		

Annexure III

Method as approved by the Sub-Committee for compilation of PFCE items in 2022-23 series

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
01	Food and non-alcoholic beverages		
01.1	Food		
01.1.1	Cereals and cereal products		<i>Change in grouping as per COICOP (Pulses in separate group)</i>
01.1.1.1	Wheat and wheat products	Direct	
01.1.1.2	Rice and rice products	Direct	
01.1.1.3	Sorghum and sorghum products	Direct	
01.1.1.4	Pearl Millet and Pearl Millet products	Direct	
01.1.1.5	Finger Millet and Finger Millet products	Direct	
01.1.1.6	Other cereals and cereal products	Direct	<i>Not to compile barley, maize and small millets separately. But to include them in Other cereals and cereal products</i>
01.1.1.7	Bread and bakery products	Direct	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
01.1.2	Meat		
01.1.2.1	Chicken	Direct	
01.1.2.2	Beef/ Buffalomeat	Direct	<i>To combine Beef and Buffalomeat</i>
01.1.2.3	Pork	Direct	
01.1.2.4	Mutton/ Goat meat	Direct	<i>To combine Mutton and Goat meat</i>
01.1.2.5	Other meat	Direct	<i>Not to compile duck, fowl, Other meat products separately but to include them in Other meat</i>
01.1.3	Fish and seafood	Commodity Flow	<i>Not to compile estimates separately for Inland Fish, Marine Fish and Fish curing but to estimate PFCE for Fish and Fish products</i>
01.1.4	Milk, other dairy products and eggs		<i>Name change</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
01.1.4.1	Milk and other dairy products	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates for milk and milk products (including sweets). Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price. In case of ex-farm price (milk), it is proposed to use the price as calculated for the compilation of production side estimate for respective years.	<i>To exclude Butter, Ghee and Ice cream from here and compile separately using data from Milk study done through NDRI in 2021-22.</i>
01.1.4.2	Eggs	Direct	
01.1.5	Oils and fats		<i>To shift oilseeds to "Ready-made food and other food products"</i>
01.1.5.1	Groundnut oil	Commodity Flow	
01.1.5.2	Coconut oil	Commodity Flow	
01.1.5.3	Mustard oil	Direct	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
01.1.5.4	Butter and Ghee	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates for Butter and Ghee. Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price. In case of ex-farm price(milk), it is proposed to use the price as calculated for the compilation of production side estimate for respective years.	<i>New item in the PFCE compilation using data from Milk study done through NDRI in 2021-22. Earlier it was included in PFCE of Milk Products</i>
01.1.5.5	Other edible oils	Direct	<i>Not to compile PFCE of Gingelly oil, linseed oil, castor oil, palm oil, vanaspati separately but compile only PFCE of Other edible oils.</i>
01.1.6	Fruits and nuts		<i>Name change</i>
01.1.6.1	Banana	Commodity Flow	
01.1.6.2	Mango	Commodity Flow	
01.1.6.3	Coconut	Direct	
01.1.6.4	Citrus fruits	Commodity Flow	
01.1.6.5	Grapes	Commodity Flow	
01.1.6.6	Copra	Direct	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
01.1.6.7	Cashew kernels	Commodity Flow	
01.1.6.8	Groundnut	Commodity Flow	
01.1.6.9	Other fruits	Commodity Flow	
01.1.6.10	Fruit products	Commodity Flow	
01.1.7	Vegetables, tubers, plantains, cooking bananas and pulses		<i>Name change. To include pulses here</i>
01.1.7.1	Onions	Direct	
01.1.7.2	Potatoes	Commodity Flow	
01.1.7.3	Other vegetables and tubers	Direct	<i>Not to compile PFCE of sweet potato and tapioca separately but compile PFCE of Other vegetables and tubers.</i>
01.1.7.4	Vegetable products	Commodity Flow	
01.1.7.5	Green gram	Direct	
01.1.7.6	Black gram	Direct	
01.1.7.7	Gram whole	Direct	
01.1.7.8	Pigeon peas	Direct	
01.1.7.9	Masoor	Direct	
01.1.7.10	Other pulses	Direct	
01.1.7.11	Gram Products	Direct	
01.1.8	Sugar, confectionery and desserts		<i>Name change. Sugar cane for chewing shifted to another separate group</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
01.1.8.1	Gur	Direct	<i>Not to compile Palm Gur separately</i>
01.1.8.2	Refined Sugar	Commodity Flow	
01.1.8.3	Sugar confectionery	Commodity Flow	
01.1.8.4	Ice cream	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates for Ice cream. Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price.	<i>New item in the PFCE compilation using data from Milk study done through NDRI in 2021-22. Earlier it was included in PFCE of Milk Products.</i>
01.1.9	Ready-made food and other food products		<i>Name change. To include oilseeds and sugar cane for chewing here</i>
01.1.9.1	Salt	Direct-ISG	
01.1.9.2	Oilseeds	Commodity Flow	<i>Oil seeds to be shifted here. Not to compile Rapeseed and mustard, Linseed, Sesamum seed and Other Oil seeds separately but compile only PFCE of Oil seeds.</i>
01.1.9.3	Spices	Direct-ISG	
01.1.9.4	Sugar cane for chewing	As compiled by Agriculture Unit in production side	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
01.1.9.5	Other food	Direct	
01.2	Non-alcoholic beverages		
01.2.1	Coffee, tea and cocoa drinks		
01.2.1.1	Coffee	Direct	
01.2.1.2	Tea	Direct	
01.2.1.3	Cocoa	Direct	
01.2.2	Water, Soft drinks, Fruit and vegetable juices, Other non-alcoholic beverages	Direct	<i>Name change</i>
02	Alcoholic beverages, tobacco and narcotics		
02.1	Alcoholic beverages	Direct	
02.2	Tobacco		
02.2.1	Cigarettes	Direct	
02.2.2	Tobacco chewing	Direct	
02.2.3	Bidi	Direct	
02.2.4	Other tobacco products	Direct	
02.3	Narcotics		

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
02.3.1	Pan and its ingredients	Direct-ISG	<i>Not to compile Pan and Arecanut separately but compile only PFCE of Pan and its ingredients.</i>
02.3.2	Opium	Commodity Flow	
03	Clothing and footwear		
03.1	Clothing		
03.1.1	Clothing materials	Commodity Flow	
03.1.2	Garments, Other articles of clothing and clothing accessories	Commodity Flow	
03.1.3	Cleaning, repair, tailoring and hire of clothing		<i>To shift tailoring here</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
03.1.3.1	Cleaning, repair and hire of clothing	100% of GVO of NIC 95292 and 96010 may be considered as PFCE. GVO of NIC 95292 may be derived as certain % of GVO of Repair of computers and personal and household goods and GVO of NIC 96010 may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. These shares may be derived annually using ASUSE.	
03.1.3.2	Tailoring	100% of GVO of NIC 14105 may be considered as PFCE. This GVO may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. This share may be derived annually using ASUSE	<i>To be shifted to Div. 3 from earlier Div.12</i>
03.2	Footwear	Commodity Flow	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: <i>Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
04	Housing, water, electricity, gas and other fuels		
04.1	Gross rentals, equipment and material for housing		<i>Name change. To include security, materials etc. as well</i>
04.1.1	Actual and imputed rental payments made for housing	PFCE may be computed as sum of GVO of Ownership of Dwelling and Housing services provided by the Govt.	<i>Name change</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
04.1.2	Services for the maintenance, repair and security of the dwelling	To include security as well in the item. PFCE may be 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 may be 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 ASUSE may be used for extrapolation in respect of security services.	
04.1.3	Security equipment and materials for dwelling maintenance and repair	Commodity Flow	<i>Shifted to Div. 4 from earlier Div. 5 (Bifurcated from old item Tools and equipment for house & garden)</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
04.2	Water supply and miscellaneous services relating to the dwelling		
04.2.1	Water supply	Direct-ISG	
04.2.2	Refuse collection, Sewage collection, Other services related to the dwelling	50% of Output of Remediation and Other Utility service	
04.3	Electricity, gas and other fuels		
04.3.1	Electricity	For electricity, for state-wise quantity, CEA data on electricity sold (Domestic) may be used and state-wise prices as derived from HCES 2022-23 may be used. The price may be moved forward using CPI (electricity).	
04.3.2	Gas		<i>To include Gobar gas shifted from solid fuels.</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
04.3.2.1	LPG	Domestic consumption from "Indian Petroleum & Natural Gas Statistics" and retail price as obtained from HCES 2022-23 may be used. Base year retail price may be moved forward using CPI(LPG).	
04.3.2.2	Other Gas (Gober Gas)	For Gober gas PFCE may be considered as 100% GVO	<i>To be shifted here from solid fuels</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
04.3.3	Liquid fuels (Kerosene)	Domestic consumption separately for PDS and Non PDS from Indian Petroleum & Natural Gas Statistics and PDS and retail price as obtained from HCES may be used. Base year PDS and retail price may be moved forward using CPI(Kerosene-PDS) and CPI(Kerosene-Other sources) respectively subject to availability of separate price relatives; otherwise Kerosene(PDS) price will be same as base year. Price will be updated on availability of new price data.	
04.3.4	Solid fuels	Direct-ISG	<i>Not to compile PFCE of coal, firewood, charcoal, dung fuel, gas coke, other solid fuels separately but compile PFCE of solid fuels using HCES. Also to shift Gobar Gas to Gas from Solid fuels</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
05	Furnishings, household equipment and routine household maintenance		
05.1	Furniture and furnishing, carpets and other floor coverings		
05.1.1	Furniture and furnishings	Commodity Flow	
05.1.2	Carpets and other floor coverings	Commodity Flow	
05.1.3	Clock and watches	Commodity Flow	<i>To be shifted to Div. 5 from earlier Div. 12 (though as per COICOP 2018 watches lie under Div. 13). Jewellery not to be compiled as it is part of Valuables.</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
05.1.4	Repair of computer, personal & HHs goods, furniture, furnishings etc.	100% of GVO of NIC 95-95292 may be considered as PFCE. GVO of NIC 95-95292 may be derived as certain % of GVO of Repair of computers and personal and household good etc. This share may be derived annually using ASUSE	<i>Slight change. Also, in COICOP 2018 in general hire/repair/maintenance is also considered separately against each item. But due to unavailability of disaggregated data PFCE on repair may be compiled together except for clothing, dwelling and personal transport equipment.</i>
05.2	Household textiles	Direct	
05.3	Household appliances	Direct	
05.4	Glassware, tableware and household utensils	Direct	
05.5	Tools and equipment for house and garden	Direct	<i>To shift few items to Div. 4</i>
05.6	Goods and services for routine household maintenance	Direct	
05.6.1	Non-durable household goods	Direct	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
05.6.2	Domestic services and household services	100% GVO of Private households with employed persons	
06	Health		<i>To split into two items, i.e. Health Services and Medicines and Health products</i>
06.1	Health Services	PFCE of Health Services may be computed as GVO-GFCE-Exports + Imports.	
06.2	Medicines and Health products	PFCE in respect of Medicines and Health products may be computed using Commodity flow.	
07	Transport		
07.1	Purchase of vehicles		
07.1.1	Motor cars	Using data from Vahan (Sale price)	
07.1.2	Motorcycles	Using data from Vahan (Sale price)	
07.1.3	Bicycles and animal drawn vehicles	Commodity Flow/ Using data from All India Cycle Manufacturers' Association	<i>To merge Bicycles and animal drawn vehicles</i>
07.2	Operation of personal transport equipment		

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
07.2.1	Parts and accessories for personal transport equipment	Using data from study being undertaken through JNU and Vahan	<i>Slight name change</i>
07.2.2	Fuels and lubricants for personal transport equipment	Using data from study being undertaken through JNU and Vahan	
07.2.3	Maintenance and repair of personal transport equipment	Using data from study being undertaken through JNU and Vahan	
07.2.4	Other services related to personal transport equipment	Using data from study being undertaken through JNU and Vahan	<i>New item.</i>
07.3	Passenger transport services		
07.3.1	Passenger transport by railway	PFCE may be computed as 90% of passenger earning	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
07.3.2	Passenger transport by road	Using data from study being undertaken through JNU and Vahan for Mechanised part. For non mechanised part PFCE may be derived using share of Non mechanised to Mechanised in total annual expenditure derived from HCES 2022-23	
07.3.3	Passenger transport by air	Using DGCA and BPM6 data. 100% passenger revenue adjusted for exports, imports, Travel expenses of Corporates and Govt expenditure (Object Head: FTE and DTE) may be taken as PFCE	
07.3.4	Passenger transport by sea and inland waterway	To be considered as 100% GVO of Household sector as PFCE	<i>Not to compile PFCE separately for organised and unorganised. But to consider PFCE as 100% GVO of Household sector</i>
07.3.5	Other passenger transport services	Commodity flow of Services Incidental to Transport using SUT	<i>Name change as per COICOP.</i>
07.4	Transport services for goods	Using data from JNU study and Vahan	<i>To be shifted to Div.7 from former Div.8</i>
08	Information and communication		

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
08.1	Information and communication equipment		
08.1.1	Fixed telephone equipment, Mobile telephone equipment	Direct	<i>Change as per COICOP</i>
08.1.2	Information processing equipment and software excluding games	Direct	<i>To include software excluding games in Div. 8 by shifting it from earlier Div.9</i>
08.1.3	Equipment for the reception, recording and reproduction of sound and vision	Direct	<i>Slight name change as per COICOP. To be shifted to Div. 8 from former Div. 9</i>
08.2	Information and communication services		
08.2.1	Communication Services	Commodity flow	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: <i>Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
08.2.2	Television and radio licences and fees , Subscriptions to audiovisual streaming services and rental of audiovisual content	Direct-ISG	<i>To be shifted to Div. 8 (with name change) from former Div. 9</i>
09	Recreation, sport and culture		<i>Change as per COICOP</i>
09.1	Recreational durables	Commodity flow	<i>Slight grouping change. Also, to merge Photographic and cinematographic equipment and optical instruments and Major recreational durables</i>
09.2	Other recreational goods	Commodity Flow	<i>Slight grouping change. Also, to merge Games, toys and hobby-related articles and Sporting, camping and open-air recreation equipment</i>
09.3	Garden products and pets		<i>Slight grouping change</i>
09.3.1	Garden products, plants and flowers	Direct-ISG	<i>Slight name change</i>

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Other changes/ points
09.3.2	Pets and pet products	Direct	
09.4	Recreational services, Cultural services	Direct-ISG	<i>Slight name change</i>
09.5	Cultural goods		<i>Slight change as per COICOP</i>
09.5.1	Musical instruments	Direct	<i>Slight change as per COICOP</i>
09.5.2	Audiovisual media	Direct	<i>Slight change as per COICOP</i>
09.6	Newspapers, books and stationery	Direct	<i>Not to compile PFCE of Books, Newspaper and Periodicals, Miscellaneous printed matter and Stationery and drawing separately but compile PFCE of Newspaper, books and stationery together</i>
10	Education	Output-GFCE, adjusted for exports and imports may be considered as PFCE	
11	Restaurants and accommodation services	Benchmark estimates to be derived from HCES 2022-23. For extrapolating the benchmark estimates growth in GVO may be used.	<i>Name change</i>
12	Insurance and financial services		<i>Former Div. 12 split into 2</i>
12.1	Insurance		

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
12.1.1	Life insurance	100% of Life Insurance Output	
12.1.2	Non-life insurance	Commodity flow	<i>Name change</i>
12.2	Financial services		<i>Name change</i>
12.2.1	Financial intermediation services indirectly measured	PFCE may be considered as FISIM allocated to Household(personal) sector	
12.2.2	Explicit charges by deposit-taking corporations (S), Other financial services (S)	PFCE may be considered as certain % of Actual Receipts (Charges). This % may be derived annually using RBI data i.e. Share of Household Loan + Household Deposit in total Loan + Deposit in respect of SCBs	<i>Name change</i>
13	Personal care, social protection and miscellaneous goods and services		<i>Former Div. 12 split into 2</i>
13.1	Personal care		

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method (Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)	Other changes/ points
13.1.1	Electric, other appliances, articles and products for personal care	Direct	<i>Slight name change</i>
13.1.2	Hairdressing salons and personal grooming establishments	Direct-ISG	
13.2	Other personal effects	Commodity flow	
13.3	Other services		
13.3.1	Religious services	100% of GVO of NIC 9491 may be considered as PFCE. GVO of NIC 9491 may be derived as certain % of GVO of Activities of Membership organisations. This share may be derived annually using ASUSE	
13.3.2	Legal services	50% of Output of legal service	

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Method <i>(Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow)</i>	Other changes/ points
13.3.3	Funeral services	100% of GVO of NIC 96030 may be considered as PFCE. This GVO may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. This share may be derived annually using ASUSE	
13.3.4	Business services	To be considered as 100% GVO of Household sector as PFCE	
13.3.5	Social protection	To include PFCE on Social Protection, 100% of estimated Output of enterprises (both Market and Non-Profit) with NIC code 87 (Residential care activities) and 88 (Social work activities without accommodation) will be considered.	<i>To include new item</i>

Data Sources for various PFCE Items and Methodology

(i) Agricultural/ Raw food items

Item	Source	Methodology
Wheat	GVO of Respective Crops as per Provisional (Annual) estimates	<p>Provisional (Annual) PFCE Estimates will be prepared first at Constant Prices using the formula,</p> <p>GVO of Respective Crops as per Provisional Estimates*Latest Annual PFCE/GVO ratio at Constant Prices.</p> <p>Constant price estimates will be Quarterised using the base year Quarterization strategy</p> <p>Quarterly Constant price estimates will be inflated using appropriate item-level CPI</p> <p>*Base year Quarterization strategy based on HCES to be used</p>
Rice		
Jowar		
Bajra		
Ragi		
Other Cereals (Maize, Barley, Small Millets and Other Cereals)		
Groundnut Oil		
Coconut Oil		
Mustard Oil		
Other Edible oil		
Citrus Fruits		
Grapes		
Copra		
Cashew Kernels		
Groundnut		
Other Fresh Fruits, Fruit Products		
Other Dry Fruits		
Onion		
Potato		
Other Vegetables, Vegetable Products		
Green Gram		

Item	Source	Methodology
Black Gram		
Gram (Whole) and Gram Products		
Pigeon Pea		
Masoor		
Other Pulses		
Gur		
Banana	Quarterly GVO of respective Items at Constant Prices	<p>Quarterly Constant price estimates of PFCE will be compiled by extrapolating the base year quarterly estimates using Quarterly GVO of respective Items.</p> <p>Quarterly Constant price estimates will be inflated using appropriate CPI * <i>Quarterly GVO of Respective Items to be used at base year for Quarterization</i></p>
Mango		
Green Coconut		
Meat		
Fish and Seafood		
Milk		
Egg		
Sugarcane for Chewing		

(ii) Food and Non-Food Items involved in manufacturing process

Item	Source	Methodology
Wheat Products	<p>Source A: Respective item-level IIP</p> <p>Source B: HSN-wise GST data of Retail Trade (Variable: Outward Taxable Supply)</p>	<p>Method A: Quarterly Constant price estimates of PFCE will be compiled by extrapolating the base year quarterly estimates using Quarterly IIP growth rate of that item/item-group</p> <p>Quarterly Constant price estimates will be inflated using appropriate CPI</p> <p>Method B:</p>
Rice Products		
Bread and Bakery Products		
Dairy Products (except Butter and Ghee)		
Butter and Ghee		
Sugar Confectionery		
Ice Cream		

Water, Soft drinks and other Non-alcoholic Beverage		<p>Quarterly Nominal price estimates of PFCE will be compiled by extrapolating the base year estimates using Quarterly GST growth rate of that item/item-group</p> <p>Quarterly Nominal price estimates will be deflated using appropriate CPI</p> <p>*Base year Quarterization strategy based on HCES to be used</p>
Fruit and vegetable juices		
Alcoholic beverages		
Water, Soft drinks and other Non-alcoholic Beverage		
Fruit and vegetable juices		
Tobacco Products (Cigarette, Chewing Tobacco, Bidi, Other Tobacco Products)		
Clothing		
Footwear		
Furniture, furnishing, carpets and other floor coverings		
Household Textiles		
Household appliances		
Glassware, tableware and household utensils		
Tools and equipment for house & garden		
Non-durable household goods		
Fixed telephone equipment, Mobile telephone equipment		
Information processing equipment and software excluding games		
Equipment for the reception, recording and reproduction of sound and vision		
Recreation Goods		
Medicine and Health Products		

(iii) Services Items

Item	Source	Methodology
Road Passenger Transport	Quarterly GVO of respective Items at Current Prices	Quarterly Nominal price estimates of PFCE will be compiled by extrapolating the base year estimates using Quarterly GVO of Respective Items. Quarterly Current price estimates will be Deflated using appropriate CPI * Quarterly GVO of Respective Items to be used at base year for Quarterization
Water Passenger Transport		
Air Passenger Transport		
Domestic services and household services		
Gross rentals, equipment and material for housing		
Health Services		
Information and Communications Services		
Recreational Services		
Education		
Restaurants and accommodation services		
Insurance (Life and Non-Life)		
Banking Services (FISIM)		
Personal Care Services		
Legal Services		
Business Services (Religious Services, Funeral Services, Business Services)		
Refuse collection, Sewage collection, Other services related to the dwelling		

(iv) Other specific items

Item	Source	Methodology
Refined Sugar	ANA	Extrapolating Base Year Quarterly estimates using growth in latest ANA estimates <i>Base year Quarterization strategy based on HsCES to be used</i>
Salt		
Spices		
Coffee		
Tea		
Cocoa		
Oilseeds		
Narcotics (Pan, Arecanut, Opium)		
Water supply		
Purchase of Vehicles	VAHAN	Growth in Total Sales of Motor Car, Motor, Cycles, Bicycles at Constant Prices <i>Same Indicator to be used at base year for Quarterization</i>
Parts and accessories for personal transport equipment		Growth in Stock and Sales of Motor Car, Motor, Cycles, Bicycles at Constant Prices <i>Same Indicator to be used at base year for Quarterization</i>
Fuels and lubricants for personal transport equipment		
Maintenance and repair of personal transport equipment and other services related to personal transport equipment		
Electricity	CEA	Growth in Total Electricity Generated adjusted for Latest Annual Domestic Electricity Sold/Electricity Generated ratio <i>HCES based quarterization at base year</i>
Gas and Other Fuels (LPG, PNG, CNG)	PPAC, M/o PNG	Domestic Consumption growth in Gas and Other Fuels at Constant Prices

		<i>Same Indicator to be used at base year for Quarterization</i>
Railway Passenger Transport	M/o Railways	Growth in Passenger Km. of Railways <i>Same Indicator to be used at base year for Quarterization</i>
Transport services for goods	GVO of Road and Railway Transport	Method 1: GST data for Transport of Goods for extrapolating Base year Quarterly Current Price estimates Method 2: Combined Quarterly GVO growth rate in Road Transport and Railway Net Tonne Km. at Constant Prices (if data for Method 1 is not available) <i>Same Indicator to be used at base year for Quarterization</i>

F.No.-U-11014/9/2023-NAD-2B
भारत सरकार / Government of India
सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
Ministry of Statistics and Programme Implementation
राष्ट्रीय सांख्यिकीय कार्यालय/ National Statistical Office
राष्ट्रीय लेखा प्रभाग/ National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
जनपथ /Janpath,
नई दिल्ली /New Delhi-110001
दिनांक /Dated-27/09/2024

OFFICE MEMORANDUM

The Advisory Committee on National Accounts Statistics (ACNAS) was constituted vide Gazette Notification No.CG-DL-E-28062024-254997 dated 27.06.2024. In the first meeting of the ACNAS held on 20th August, 2024 under the chairmanship of Prof. Biswanath Goldar, the Committee recommended to co-opt official and non-official members for different sub-committees with a term of two years, to simultaneously deliberate upon specific subjects.

2. The recommended composition and terms of reference of Sub-committees have been duly approved by Secretary MoSPI vide File No. U-11014/9/2023-NAD-2B (Note No. 109). Approved composition and terms of reference of Sub-committees are as follows: -

I. Sub-committee for Incorporation of New Data Sources, Rates and Ratios

Composition:

i.	CEO, GSTN – Chairperson	Official
ii.	Dr. Amey Sapre, NIPFP	Official
iii.	Dr. Mandira Sarma, JNU	Official
iv.	Dr. Shalabh, IIT Kanpur	Official
v.	Principal Adviser, DEPR, RBI	Official
vi.	DG, DGCIS	Official
vii.	Adviser (AS), M/o AFW	Official
viii.	Director, DES, Uttar Pradesh	Official
ix.	Director, DES, Maharashtra	Official
x.	Director, DES, Uttarakhand	Official
xi.	DDGs from NAD	Official
xii.	Member Secretary: Sh. Shirke Shrinivas Vijay, Joint Director, NAD	Official

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Terms of Reference:

- i. To review the existing data bases and advice on inclusion of new data sources for improving the estimates of National Accounts.
- ii. Wider use of databases like GSTN in compilation of different macro-economic aggregates.
- iii. Use of GSTN data for regional allocation.
- iv. Use of updated rates and ratios based on the studies conducted e.g. Studies related to estimation of fisheries, consumption of milk products etc.
- v. Incorporation of results of surveys.
- vi. Documentation and writing of report of the sub-committee.
- vii. To advise on any other relevant matter referred to the sub-committee by the Committee.

II. Sub-committee for Methodological Improvement**Composition:**

- | | | |
|-------|---|--------------|
| i. | Dr. G. C. Manna, IHD – Chairperson | Non-Official |
| ii. | Dr. J. Dennis Rajakumar, EPW | Non-Official |
| iii. | Dr. Mausumi Das, DSE | Official |
| iv. | Prof. Partha Ray, NIBM | Official |
| v. | Dr. Chetan Ghate, IEG | Official |
| vi. | Principal Adviser, DSIM, RBI | Official |
| vii. | Representative from DEA | Official |
| viii. | DDG, CDM, MCA | Official |
| ix. | DDG, MSME | Official |
| x. | Director, DES, Tamil Nadu | Official |
| xi. | Director, DES, Tripura | Official |
| xii. | Director, DES, Uttar Pradesh | Official |
| xiii. | DDGs from NAD | Official |
| xiv. | Member Secretary: Ms. Kratika Mittal, Director, NAD | Official |

Terms of Reference:

- i. To advise on the methodology for compilation and presentation of National Accounts Statistics for purposes of economic analysis and policy including methodology for seasonal adjustment of quarterly national accounts and methodology for back series.
- ii. To advise on estimation of different macro-economic indicators related to specific segments of economy.

- iii. To review the existing methodology being used in estimation of various macro-economic aggregates.
- iv. Refinement in methodology, inter-alia, for estimating Non-financial Private Corporate Sector and unorganized sector for manufacturing and services, for compilation of seasonally adjusted Quarterly National Accounts as well as Quarterization of Benchmark estimates for both Production (Institutional sector wise) and Expenditure side.
- v. Feasibility of compiling Chain Based estimates.
- vi. Documentation and writing of report of the sub-committee.
- vii. To advise on any other relevant matter referred to the sub-committee by the Committee.

III. Sub-committee for Constant Price Estimates

Composition:

i.	Prof. Biswanath Goldar (Retd.), IEG – Chairperson	Non-Official
ii.	Sh. Asit Kumar Sadhu, NSC	Official
iii.	Prof. Partha Ray, NIBM	Official
iv.	Dr. Chetan Ghate, IEG	Official
v.	Dr. Subrata Guha, JNU	Official
vi.	Principal Adviser, DEPR, RBI	Official
vii.	DDG, DPIIT	Official
viii.	DDG, Labour Bureau	Official
ix.	DDG, PSD	Official
x.	Director, DES, Odisha	Official
xi.	DDGs from NAD	Official
xii.	Member Secretary: Sh. Vishal Kumar, Joint Director, NAD	Official

Terms of Reference:

- i. To review the deflators being used in estimation of various macro-economic aggregates.
- ii. Exploring use of double deflation or volume extrapolation as second best alternative and the level of disaggregation at which they may be applied.
- iii. Aligning the compilation of constant price estimates in Quarterly and Annual Accounts wherever possible.
- iv. Documentation and writing of report of the sub-committee.
- v. To advise on any other relevant matter referred to the sub-committee by the Committee.

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IV. Sub Committee on Regional Accounts

Composition:

i.	Prof. R.H Dholakia (Retd.), IIM – Chairperson	Non-Official
ii.	Dr. G. C. Manna, IHD	Non-Official
iii.	Prof. Sabyasachi Kar, IEG	Official
iv.	Dr. Mausumi Das, DSE	Official
v.	Principal Adviser, DSIM, RBI	Official
vi.	Dr. Ranjan Kumar Sahoo, Central University of Haryana	Official
vii.	Representative from NITI Aayog	Official
viii.	Representative from MoHUA	Official
ix.	Director, DES Rajasthan	Official
x.	Director, DES, Odisha	Official
xi.	Director, DES, Uttar Pradesh	Official
xii.	Director, DES, Maharashtra	Official
xiii.	Director, DES, Tamil Nadu	Official
xiv.	Director, DES, Tripura	Official
xv.	Representative from Geography Dept. ISI-Delhi	Official
xvi.	DDGs from NAD	Official
xvii.	Member Secretary: Ms. Pooja Rani, Director, NAD	Official

Terms of Reference:

- i. To advise on estimation of different macro-economic indicators related to sub-national accounts.
- ii. To review the concepts, definitions, classifications, data conventions, data sources and data requirements for preparation of State Domestic Product (SDP) and District Domestic Product (DDP) and to lay down the revised guidelines.
- iii. To suggest measures for improving SDP and DDP in the country taking into consideration availability of the data and requirements of the Centre and States/Union Territories.
- iv. To suggest State level annual/benchmark surveys keeping in view the needs of the System of National Accounts especially in view of the next base year revision.
- v. Documentation and writing of report of the sub-committee.
- vi. To advise on any other relevant matter referred to the sub-committee by the Committee.



V. Sub-Committee for SNA 2025 Update

Composition:

i.	Dr. Subrata Guha, JNU – Chairperson	Official
ii.	Principal Adviser, DEPR, RBI	Official
iii.	Principal Adviser, DSIM, RBI	Official
iv.	Representative from DEA	Official
v.	DDG, SSD	Official
vi.	Representative from ISI-Delhi	Official
vii.	DDGs from NAD	Official
viii.	Member Secretary: Sh. Rohit Maurya, Director, NAD	Official

Terms of Reference:

- i. To advise on implementation of latest UN standards, adoption of new classifications etc. recommended by the UN Statistics Division in development of sequence of accounts for various institutional sectors.
- ii. To review the preparedness for implementing recommendations of SNA 2025.
- iii. Documentation and writing of report of the sub-committee.
- iv. To advise on any other relevant matter referred to the sub-committee by the Committee.

3. The non-official co-opted chairperson(s)/member(s) would be entitled to a sitting fee of Rs. 4000/- per day for attending the meetings. They will also be entitled to transport/travel charges for attending the meetings of the Sub-committee. Besides, they will be eligible to travel by air in economy class or by rail in air-conditioned first class while undertaking domestic tours in connection with the meetings of the Sub-committee. The room rent and TA/DA for the out-station non-official members will be regulated in accordance with the rules in force framed by the Ministry of Finance from time to time.

Saumya
27/09/2024

(Saumya Mishra)
Deputy Director, NAD

To,

All the chairpersons/members of the Sub-committee.

U-11011/2/2024-NAD-2A(ACNAS)
Government of India
Ministry of Statistics and Programme Implementation
National Statistical Office
National Accounts Division

KL Bhawan, Janpath Marg
New Delhi-110001
Dated- 5.11.2024

Subject:- Minutes of the first meeting of the Sub-committee for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 25.10.2024

Minutes of the first meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development on 25th October, 2024 is enclosed herewith.

Kratika Mittal
5/11/2024
(Kratika Mittal)
Director

To
All the Members of the Sub-committee for Methodological Improvement

Copy to:-

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement

Kratika Mittal
5/11/2024
(Kratika Mittal)
Director

Minutes of the first meeting of the Sub-committee for Methodological Improvement held on 25.10.2024

The first meeting of the Sub-committee for Methodological Improvement was held at 11.00 AM on 25.10.2024 in Room No 201, Khurshid Lal Bhawan, Ministry of Statistics & Programme Implementation under the chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development.

At the outset, the chairperson welcomed the sub-committee members as well officers from National Accounts Division (NAD), MoSPI. The list of participants is placed at Annexure. A presentation on the agenda for the meeting was made by NAD which was followed by agenda-wise detailed deliberation. The proceedings of the discussions are as follows:

Private Corporate Institutional Sector:

i. Segregating activities in case of multi-activity enterprises:

The sub-committee was informed that estimates for Private Corporate Institutional Sector are compiled using MCA 21 database. In case of Multi activity enterprise with a primary and one or more secondary activity, presently, entire contribution is allocated as per its major activity. Broad methodology to segregate Gross Value Added (GVA) of multi-activity enterprises in concerned economic activities using Form No. MGT-7/7A, where activity-wise information on percentage turnover is available, was presented before the sub-committee.

The sub-committee was also informed that exercises following methodologies presented before the sub-committee have already been carried out over past data pertaining to FY 2020-21 and results generated. Findings of such exercises have been consolidated in the form of a paper. It was decided that the said paper may be circulated to all the members of the sub-committee for their perusal. Besides, while agreeing with the methodology proposed by NAD for segregation of activities, keeping in view that FY 2022-23 has been decided as the base year of the next series of national accounts, the sub-committee desired that results based on FY 2022-23 data may be presented before it in its subsequent meeting.

Principal Advisor, DSIM, RBI enquired about the treatment of Multinational Enterprises (MNE) when some organs of the enterprise operate from foreign territory. It was informed that non-domestic operations of MNEs are generally conducted through subsidiaries registered as separate entities in foreign territory. Nonetheless, it was decided that this issue may be discussed in the next meeting with some examples of MNEs having substantial foreign operations.

ii. **Application of blow-up factor to account for non-reporting companies:**

The sub-committee was informed that MCA provides financial data in respect of companies which have filed their statutory annual returns. Besides, of late MCA has also started providing frame of active companies each year. Estimates are first compiled on the basis of reporting companies. However, to account for non-reporting companies, a suitable scaling-up factor as calculated from the frame is applied. Each year a considerable number of companies do not file their annual returns.

It was also informed that in the ongoing series, Global Paid-up Capital (PUC) based scaling-up factor or Frame PUC based scaling-up factor for public and private companies as two separate broad categories is being used to account for non-reporting companies. As frame of active companies is now made available by MCA each year, it was proposed to apply scaling up factor at a much-disaggregated level instead of applying the same at overall economy level. Keeping in view that estimates are compiled industry-wise and coverage of reporting companies is not uniform across industries and also keeping in view the size class wise variations, it was proposed to study following scaling-up factors before deciding the scaling-up factor to be used in next series:

- i. Global PUC based overall scaling up factor
- ii. Frame PUC Based overall Scaling up Factor
- iii. Frame Based Industry-wise Scaling Up factor
- iv. Frame Based Size Class-wise Scaling Up Factor
- v. Frame Based Industry X Size Class-wise Scaling Up Factor

Further, Turnover and Net Fixed Assets were proposed to be considered as alternatives to overall PUC based scaling-up depending upon the availability of data for these variables in respect of non-reporting part.

The sub-committee was also informed that exercises following methodologies presented before the sub-committee have already been carried out over past data pertaining to FY 2020-21 and results generated. Findings of such exercises have been consolidated in the form of a paper. It was decided that the said paper may be circulated to all the members of the sub-committee for their perusal. Besides, while agreeing with the methodology proposed by NAD for segregation of activities, keeping in view that FY 2022-23 has been decided as the base year of the next series of national accounts, the sub-committee desired that results based on FY 2022-23 data may be presented before it in its subsequent meeting.

Further, the sub-committee was informed that efforts are being made by the Division to triangulate MCA frame of active companies with GST data with a view to remove inactive companies from MCA frame.

iii. **GFCF in cases of merger and acquisition:**

The sub-committee was informed that in the ongoing series, GFCF for private non-financial corporations is computed as the net additions (addition – disposal) to stock of capital assets. For addition to stock of capital assets, ‘Additions other than through business combination’ and ‘Acquisition through business combination’ variables are used. Under Acquisition through business combination, additions to stock of capital assets through mergers/acquisitions/amalgamations are reported by companies. As such no new asset is created in non-financial private corporate sector when mergers/acquisitions/ amalgamations are limited in between institutional units belonging to this sector. As most of the mergers/acquisitions/ amalgamations take place between institutional units belonging to this sector only, it was proposed to drop this variable from the calculation of addition to stock of capital assets after examination. The sub-committee accepted the proposal of the Division and agreed to drop the variable ‘Acquisition through business combination’ from the calculation of GFCF.

General Government Institutional Sector: -

- i. **Adjustment for pension entitlements:** The sub-committee was briefed that as government provides services on non-market basis, output of this sector is estimated with cost involved in the production of the services i.e. output of general government sector consists of compensation of employees, expenditure of government on repair & maintenance and purchase of goods and services. While expenditure of government on repair & maintenance and purchase of goods and services constitute IC, compensation of employees which includes salary, wages, benefits and pension is taken as Net value added.

Pension is included in compensation of employees because pension is treated as the deferred compensation for the work already done. Earlier when old pension scheme was in operation, pension provided to retired employees can be considered as a proxy for the serving members pension. However, after implementation of NPS, contribution of government towards pension of such employees as well as employees own contribution are both covered under compensation of employees. If pension being provided to retired employees is also added to compensation to employees, it may lead to overestimation of the Net Value Added (NVA). In view of this, it was suggested to make some adjustments in the pension paid. A factor based on the ratio of OPS serving employees to OPS retired employees may be explored to be applied to pension amount paid to avoid the duplication. It was suggested by the Committee that the proposed changes need detailed examination and discussed in the subsequent meetings.

- ii. **Enhanced coverage of Autonomous institutions:** The sub-committee was apprised to enhance the coverage of Central AIs to include all AIs operating in the economy. It was also proposed to analyse the accounts of the autonomous institutes receiving maximum grants every year if found feasible, instead of moving base year estimates with the growth observed in grants given to these institutes, as has been done in earlier base years. To take

into account remaining AIs, multiplier (total grants to all AIs / grants given to analysed AIs) may be applied on the aggregates for analysed AIs. Possibility of getting data through PFMS will also be explored.

- iii. The sub-committee was apprised that States will be encouraged to explore the possibility of obtaining data in respect of rural local bodies from e-gramswaraj portal of Ministry of Panchayati Raj and urban local bodies from Ministry of housing and urban affairs. Since this issue is more relevant to subcommittee on sub regional accounts, the same will be dealt in that subcommittee.
- iv. **Volume extrapolation in case of product subsidies:** The sub-committee was briefed that in the ongoing series of GDP with base year as 2011-12, product subsidies are being deflated with overall GVA deflator. It was proposed to explore the use of volume extrapolation for compiling estimates of product subsidies at constant prices. However, this issue will be dealt in detail in the subcommittee on price deflators.
- v. **Return on capital taken into consideration:** - The sub-committee was briefed that the non-market output produced by government units and NPISHs is valued by total production costs, including consumption of fixed capital, plus taxes (less subsidies) on production other than taxes or subsidies on products as recommended by SNA 2008. It was proposed to explore that return to non-financial assets used in production and rent payable on the use of non-produced non-financial assets should be included in valuing non-market output as recommended by SNA 2025. However, this issue will be dealt in detail in the subcommittee on SNA updates.

Industries:

- i. **Agriculture:** - The sub-committee was apprised the methodology followed in estimation of Livestock feed. For distribution of feed of livestock between crop sector and livestock sector, it was assumed that feed of livestock used for crop production would be total feed consumed by total population of Adult Buffalo (Male) and Adult Cattle (Male). From the total feed of the livestock, the value of feed consumed by the livestock used for crop production is subtracted to arrive at the value of the feed consumed by the livestock for the livestock sector. Committee was informed that data for population of Adult Buffalo (Male) and Adult Cattle (Male) is available under following categories in Livestock Census published by Ministry of Fisheries and Animal Husbandry, GOI:

- Used for breeding only
- Used for agriculture only
- Used for agriculture & breeding only
- Used for Bullock cart / Farm operation
- Others

It was proposed to consider all of the Cattle and Buffalo (adult male) population except used for breeding only (category (i)) and half of the Cattle and Buffalo (adult male) population used for agriculture & breeding only (category (iii)) under crop sector.

After detailed deliberations, the Sub-Committee suggested that instead of using equal proportion of agriculture and breeding for category (iii), ratio of 'used for breeding only' (category (i)) and 'used for agriculture only' (category(ii)) may be examined to apportion category (iii) i.e. 'used for agriculture & breeding only'. It was also suggested to explore the crop-wise input items published by DES Maharashtra for further inclusion of additional items in inputs. This needs to be discussed further.

- ii. **Mining and Quarrying:** - The sub-committee was briefed that the GVA estimates for evaporated salt are derived from data on quantity and price provided by the Salt Commissioner Organization (SCO). However, following the repeal of the Salt Cess Act in 2016, SCO no longer has the authority to collect data from individual salt manufacturers. It was suggested that ASI data would be explored as an alternative source for GVA estimates of evaporated salt. The ASI includes industries classified under NIC code 08932 (Salt production by evaporation of seawater or other saline waters), making this data a potential substitute in the absence of information from SCO.

The sub-committee recommended obtaining a comprehensive state-wise list of salt manufacturers from the Office of the Salt Commissioner. This list would aid in identifying and contacting evaporated salt manufacturers and could be shared with the State DES and IS Wing for data collection purposes. The State Industry departments may be contacted to get the data.

- iii. **Electricity:** - The sub-committee was informed that at present, the GVA estimate for the electricity sector is compiled as a whole. Estimates broken down by different types of power generation, such as solar, wind, and tidal energy, are not being produced due to a lack of data from MNRE. The feasibility of estimating GVA by different types of power generation from renewable sources is being explored, following practices in other countries. It was proposed that the power generation sources wise estimates will be compiled and incorporated in the new series based on the availability of data from MNRE. It needs to be discussed further to explore how these data can be collected.

- iv. **Manufacturing & Non-financial Services:** The sub-committee was briefed that currently, for the unorganized sector, the benchmark estimates have been prepared by 'Effective Labour Input Method' using the Employment and Unemployment Survey, 2011-12 (for labour input) and Survey of Unincorporated Non-agricultural Enterprises excluding construction, 2010-11 (for GVA per worker). To get the estimates for the subsequent years, the growth rate of suitable indicator is applied to the benchmark estimates. It was also informed that with the availability of results of Annual Survey of Unincorporated Sector Enterprises (ASUSE), the GVA of unorganized sector will be available annually. Hence, it was proposed that instead of using GVA per Worker approach, GVA can be estimated using ASUSE survey results.

The sub-committee clarified that rather than directly using GVA from ASUSE, it would be more effective to compute GVA per worker from ASUSE and the number of workers from the Periodic Labour Force Survey (PLFS). Since the Relative Standard Error (RSE) for GVA estimates in ASUSE is significantly higher than that for GVA per worker, it is advisable to explore the estimation using the GVA per worker approach based on ASUSE data. The sub-committee will take a final view regarding the methodology that may be adopted once the exercise is completed.

- v. **Construction:** The sub-committee was appraised of the methodology in the current series which uses rates and ratios of factor input/GVA to GVO based on study by Central Building research Institute (CBRI), Roorkee.

Instead of estimating the total GVO of construction industry using commodity flow, NAD proposed to construct the commodity flow of material inputs to arrive at control total of material inputs only and then estimate the material inputs available to household sector by using residual approach (i.e. by subtracting the value of material inputs used in construction activity by General Government, Departmental enterprises, Non-departmental enterprises and Private Corporations from the control total of material inputs). The GVA/GVO for General Government & Departmental enterprises, Non-departmental enterprises and Private Corporations is available from Budget Documents, Annual Reports and MCA database respectively and that for household sector will be estimated based on the rates and ratios available from the study proposed to be floated by NAD. These rates and ratio for the household sector (obtained from the study) will be used to top-up the residual value of material inputs (corresponding to household sector) in order to estimate GVO and GVA of household sector. Combining this estimated GVA/GVO for the household sector with that of other institutional sectors, will provide the estimate for GVO/GVA for the entire economy.

The sub-committee was appraised that a new study is proposed to be floated by NAD with the objectives to (i) revisit the basket of material inputs used in construction, (ii) update the ratios (factor inputs to GVO) for the unincorporated sector, (iii) flag the construction activity undertaken by quasi-corporations, and (iv) revisit the life of construction assets for compilation of Consumption of Fixed Capital. The methodology and data sources proposed to be used in compiling GVO/GVA of Kutchha Construction, Plantation and Mineral Exploration were also discussed.

The Chairperson and other members welcomed these proposed changes in the methodology, especially in estimation of GVO / GVA of unincorporated sector. It was however suggested by the sub-committee that the proposed changes need detailed examination on the basis of outcome of the study and new datasets.

Other Aggregates:

- i. **Savings:** The sub-committee was briefed about the data sources used by National Accounts Division (NAD), MoSPI for compilation of Household Savings. It was informed to the sub-committee that currently data on financial savings of the households in the form of shares and debentures is provided by RBI on the basis of data provided by Securities and Exchange Board of India (SEBI). The sub-sub-committee was appraised that SEBI released a working paper on 'Household Savings through Indian Securities Market' in September, 2024, providing annual data on flows and stocks of household sector's financial savings through the Indian Securities market for the period 2020-21 to 2023-24. Shri Prabhas Rath, CGM, SEBI made a presentation on the three sets of changes proposed by SEBI in the methodology namely:
 - a. Inclusion of non-individuals (Non-profit institutions serving Households (NPISH)) while preparing estimates of household savings in shares and debentures.
 - b. Inclusion of new instruments like Real Estate Investment Trust (REIT), Investment Trust (InviT) and Alternate Investment Funds (AIFs).
 - c. Inclusion of net investment of households and NPISH in equity and debt through secondary markets.

The change in the estimates of household financial savings in securities market due to the proposed methodology was also highlighted. RBI representative informed that due to the proposed changes, the ratio of Net Household Financial Savings to GDP would increase from 7.3 to 8.4 in FY 2021-22 and from 5.3 to 5.7 for FY 2022-23.

Major concerns pertaining to NAD were discussed in respect of regular flow of /availability of data as per proposed methodology to ensure consistency in estimation of household savings in shares and debentures, availability of time-series data to construct back series as SEBI could provide estimates as per proposed methodology for only 3 years (FY 2020-21, 2021-22 and 2022-

23), inclusion of data on Alternate Investment Funds from FY 2024-25 as historical data is not available and whether it is possible to accommodate these changes in the current series of National Accounts Statistics (Base Year 2011-12). SEBI representatives assured of regular flow of these data in future.

The sub-committee welcomed the methodological changes w.r.t the coverage of household financial savings in securities market but was of the view that the effect on other macro-economic aggregates like net lending/borrowing, current account deficit etc. needs to be examined. Also, the sub-committee opined that it is better to incorporate these changes in the new base year rather than accommodating these changes in current series in order to ensure consistency of the current series. The decision will be taken after detailed deliberations in subsequent meetings.

It was further decided that during future meetings of the sub-committee, present methodology should be discussed threadbare one by one instead of taking up several issues in one meeting.

The meeting ended with vote of thanks to the chair.

Annexure

List of participants

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Shri Devananda Reang, Director, DES Tripura
4. Shri Ajit Ratnakar Joshi, Principal Advisor, DSIM, RBI
5. Shri Chetan Ghate, Director, IEC
6. Shri Antony Cyriac, Sr. Economic Advisor, DEA,
7. Shri Harendra Pratap Singh, JD, MSME
8. Ms Kalyani H, Assistant Manager, SEBI
9. Ms Shyni Sunil, Deputy General Manager, SEBI
10. Shri Sanjay, ADG, NAD
11. Shri Brijendra Singh, DDG, NAD
12. Shri Dilip Kumar Sinha, DDG, NAD
13. Ms Subhra Sarkar, DDG, NAD
14. Shri Rajeev Kumar, DDG, NAD
15. Shri Tusar Bordoloi, AD, MCA
16. Ms Rashmi, DD, DES, UP
17. Ms Monami Mitra, Director, NAD
18. Shri Rohit Maurya, Director, NAD
19. Ms Meera A.P., Director, NAD
20. Ms Kratika Mittal, Director, NAD
21. Ms Pooja Rani, Director, NAD
22. Shri Shirke Shrinivas Vijay, JD, NAD
23. Shri Vishal Kumar, JD, NAD
24. Ms Monica Kumawat, JD, NAD
25. Shri Kuwar Alok Singh Yadav, JD, NAD
26. Shri Manish Bindal, DD, NAD
27. Shri Dipankar Mitra, DD, NAD
28. Ms Saumya Mishra, DD, NAD
29. Ms Priyanka S. Pant, DD, NAD
30. Ms Priyanka Anjoy, DD, NAD
31. Ms Nigar Fatma, AD, NAD
32. Shri Govind Soni, SSO, NAD
33. Ms Shilpa Gupta, SSO, NAD
34. Ms Neha Jain, SSO, NAD
35. Shri Ashwani Kumar, JSO, NAD
36. Shri Vikash Meena, JSO, NAD

U-11011/2/2024-NAD-2A(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय /
 Ministry of Statistics & Programme Implementation
 राष्ट्रीय सांख्यिकी कार्यालय / National Statistics Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

खुर्शीद लाल भवन, जनपथ /K. L. Bhawan, Janpath,
 नई दिल्ली / New Delhi-110001
 दिनांक / Dated : 20/12/2024

कार्यालय ज्ञापन/ OFFICE MEMORANDUM

Subject:- Minutes of the second meeting of the Sub-committee for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 6.12.2024

Minutes of the second meeting of the Sub-committee of ACNAS for Methodological Improvement held on 6th December, 2024 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal

(Kratika Mittal)
 Director

To
 All the Members of the Sub-committee for Methodological Improvement

Copy to:-

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement

Kratika Mittal

(Kratika Mittal)
 Director

**Minutes of the second meeting of the Sub-committee for Methodological Improvements
held on 06.12.2024**

The second meeting of the Sub-committee for Methodological Improvements was held at 2.30 PM on 6.12.2024 in Room No 201, Khurshid Lal Bhawan, Ministry of Statistics & Programme Implementation under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development.

At the outset, the chairperson welcomed the sub-committee members as well officers from National Accounts Division (NAD), MoSPI. The list of participants is placed at Annexure. The proceedings of the discussions are as follows:

(i) Segregating activities in case of multi-activity enterprises:

A presentation was made by NAD in which methodology for segregating activities in case of multi-activity enterprises was presented before the sub-committee. Results as per proposed methodology for the FY 2020-21 were also presented. After deliberation, the sub-committee suggested the following:

- a) List of industries indicating the industry-group at which aggregation of activities/sub-activities is proposed to be done may be provided.
- b) Committee may be apprised with the help of an example of a multi-activity enterprise as to how the output, input and other aggregates are proposed to be segregated, so as to enable the sub-committee to appreciate the methodology.

(ii) Application of blow-up factor to account for non-reporting companies

A presentation was made by NAD on application of blow-up factor to account for non-reporting companies and results for FY 2018-19 to FY 2020-21 were presented before the sub-committee. After detailed discussion, the committee suggested to carry out similar exercise using count-based scaling-up factor.

(iii) Methodology for unincorporated sector:

Regarding the methodology for unincorporated sector, it was suggested to use industry-wise GVA per worker (GVAPW) from ASUSE data instead of using total GVA to minimize errors. The Periodic Labour Force Survey (PLFS) can provide industry wise number of workers. To incorporate effective labor inputs and account for varying productivity, a collective view needs to be taken.

Besides, reference period of Annual Survey of Unincorporated Sector Enterprises (ASUSE) is not coterminous with the FY 2022-23. The reference period for the ASUSE 2021-22 was April 2021

to March 2022 and for ASUSE 2022-23, it is October 2022 to September 2023. Adjustments needs to be done in the estimates of GVAPW before using it. One way is to take the GVA growth of common six months period (October to March) of ASUSE 2022-23 over ASUSE 2021-22 and applying on the ASUSE 2021- 22 to get estimates of 2022-23. However, keeping in view the fact that at least a part of the survey period of ASUSE 2021-22 got significantly affected by the pandemic, these issues including other alternative interpolation techniques need to be considered in the next meeting of the subcommittee.

The meeting ended with vote of thanks to the chair.

List of participants

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Shri Devananda Reang, Director, DES Tripura (attended virtually)
4. Thiru. S. Ganesh, I.A.S., Director, DES Tamil Nadu (attended virtually)
5. Shri Ajit Ratnakar Joshi, Principal Advisor, DSIM, RBI (attended virtually)
6. Dr. Mausumi Das, Professor, DSE, New Delhi (attended virtually)
7. Prof. Partha Ray, Director, NIBM, Pune (attended virtually)
8. Shri Sanjay, ADG, NAD
9. Shri Brijendra Singh, DDG, NAD
10. Shri Dilip Kumar Sinha, DDG, NAD
11. Ms Subhra Sarkar, DDG, NAD
12. Sh. Sidhil Sasi, DDG, MCA (attended virtually)
13. Shri Rajeev Kumar, DDG, NAD
14. Shri Tusar Bordoloi, AD, MCA
15. Ms Rashmi, DD, DES, UP
16. Ms Monami Mitra, Director, NAD
17. Shri Rohit Maurya, Director, NAD
18. Ms Meera A.P., Director, NAD
19. Ms Kratika Mittal, Director, NAD
20. Ms Pooja Rani, Director, NAD
21. Shri Shirke Shrinivas Vijay, JD, NAD
22. Ms Monica Kumawat, JD, NAD
23. Shri Kuwar Alok Singh Yadav, JD, NAD
24. Ms Saroj, JD, NAD
25. Shri Dipankar Mitra, DD, NAD
26. Ms Priyanka S. Pant, DD, NAD
27. Ms Priyanka Anjoy, DD, NAD
28. Shalu Goyal, DD, DES UP
29. Ms Nigar Fatma, AD, NAD
30. Kanwaljit Kaur, AD, NAD
31. Shri Govind Soni, SSO, NAD
32. Ms Shilpa Gupta, SSO, NAD
33. Ms Neha Jain, SSO, NAD
34. Shri Ashwani Kumar, JSO, NAD
35. Shri Vikash Meena, JSO, NAD

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 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-05/05/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the third meeting of the Sub-committee for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 16th April, 2025

Minutes of the third meeting of the Sub-committee of ACNAS for Methodological Improvement held on 16th April, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal
 (Kratika Mittal)
 Director

To
 All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal
 (Kratika Mittal)
 Director

Minutes of the third meeting of the Sub-committee for Methodological Improvements held on 16.04.2025

The third meeting of the Sub-committee for Methodological Improvements was held at 11.00 AM on 16.04.2025 in Manak Hall, TEC building, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development.

At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI. The list of participants is placed at Annexure. In the meeting, discussion took place in respect of following aspects:

- 1) Private Corporate Institutional Sector: All-India estimates of industry-wise GVA for the FY 2022-23 after segregating activities of multi-activity enterprises.
- 2) Unincorporated sector: Estimates of GVA by compilation category (CC) for the FY 2022-23 based on the data of ASUSE

The proceedings of the discussions are as follows:

(i) Estimates of GVA by compilation category (CC) for the FY 2022-23 based on the data of ASUSE

- a) A presentation was made on the results derived from estimating GVA using GVA per worker (GVAPW) from Annual Survey of unincorporated sector enterprises (ASUSE) 2022-23 and workforce estimates from Periodic Labour Force Survey (PLFS) 2022-23. It was submitted that reference year for ASUSE 2022-23 was October 2022 to September 2023 while the same for PLFS 2022-23 was July 2022 to June 2023. As sub-round wise multipliers were available from PLFS data, the workforce estimates were prepared for FY 2022-23. However, due to absence of sub-round wise multipliers in ASUSE data, GVAPW could not be estimated for FY 2022-23. Chairman of the Sub-committee suggested to involve NSS for getting sub-round wise multipliers and required estimates of GVAPW and workforce at the compilation category level for FY 2022-23 from the aforementioned surveys along with corresponding RSEs. Apart from all-India, the said tabulation may be done at the State-level, at least for the major States, to see the level of precision of the estimates at the level of existing compilation categories.
- b) During the presentation, it was informed that during the current series LI method has been applied for rural establishments and urban directory establishments separately to arrive at GVA estimates for the base year. The rationale behind the use of GVA per worker / effective worker for directory establishments in respect of urban areas to derive the

aggregate GVA for certain non-financial services categories was inquired by the chairman and the members. However, the sub-committee was informed that the supporting documentation was not available with NAD for adoption of the aforementioned methodology.

- c) Enterprise type code - 'Others (19)' in PLFS was not used in the presented exercise and decision was sought from the sub-committee regarding feasibility of inclusion of the same. The sub-committee deliberate on this issue and taking into consideration the instructions in PLFS *"If the informant does not know the type of enterprise in which the household member works and the investigator is unable to collect such information in spite of his/her best efforts, code 19 will be recorded for such working member against type of enterprise."* , it was recommended that the workforce estimated in code 'Others(19)' may be distributed proportionately among all the remaining codes viz proprietary: male -01, female -02; partnership: with members from same household. -03, with members from different household -04; Government/local body-05, Public Sector Enterprises-06, Autonomous Bodies- 07, Public/Private limited company-08, Co-operative societies-10, trust/other non-profit institutions -11, employer's households (i.e., private households employing maid servant, watchman, cook, etc.) -12.
- d) All types of ownership codes were used while estimating GVAPW from ASUSE. However, it was suggested to proportionately distribute the workforce in type of ownership code - 'Others (9)' among the codes: proprietary: male -01, female -02, transgender-03; partnership: with members from same household. -04, with members not all from same households -05; Self-Help groups-06; society/trust/association/body of individuals/membership organization -07; Co-operative societies-08.
- e) While discussing the methodology for estimating GVA for quasi corporations, it was submitted that since workforce in quasi corporations cannot be directly identified from PLFS, a ratio of estimated number of workers (quasi corporations) to estimated total number of workers may be worked out from ASUSE (CC-wise). This ratio, CC-wise, will be applied on the corresponding estimated workforce [with enterprise type codes 01, 02, 03, 04, 10, 11 and a part of 19 as discussed under (c) above] as per the PLFS to arrive at the size of the workforce for quasi corporations. Thereafter, the GVA for quasi corporations at the CC-level may be obtained as the product of GVAPW of quasi-corporations from the ASUSE and the related workforce estimate (quasi-corporations) from the PLFS as discussed above. A similar approach may be followed to estimate the GVA for the household sector.
- f) For non-market activities, only NVA per worker can be estimated as establishments are typically providing goods and services either for free or at prices that are not economically significant. Sub-committee suggested that from the current series, CFC to GVA ratio may

be worked out for establishments engaged in market activities. These ratios may be used to adjust NVA of non-market establishments to arrive at GVA.

- g) It was suggested that that disaggregation of compilation categories (CC) may be revisited e.g. compilation categories (CC) viz. C40: Motorized freight transport and C41: Non-motorized freight transport can be merged as each of them is mapped to single NIC at 5-digit level.
- h) Sub-committee suggested that with the approval of the Secretary, MoSPI, NAD may communicate with EnSD for providing following estimates along with corresponding RSE across the listed Compilation Categories (CC) for States as well as National level for rural/urban/combined:
- i. Estimates of number of establishments, number of workers, GVA and GVAPW from ASUSE for FY 2021-22 and 2022-23
 - ii. Estimated number of workers from PLFS for FY 2021-22 and 2022-23
 - iii. Sub-round wise multipliers may be provided to the NAD in respect of ASUSE 2021-22- and 2022-23-unit level data for enabling sub-round wise analysis as and when required for Sub-committee meetings.

(ii) Segregating activities in case of multi-activity enterprises:

The methodology for segregation of activity-wise aggregates in case of multi-activity enterprises was presented before the sub-committee in the second meeting of the sub-committee held on 6.12.2024. A couple of examples illustrating various steps of the proposed methodology were also shared with the sub-committee for easy comprehension.

Results for FY 2022-23 generated following the methodology shared with the sub-committee were presented before the sub-committee during the meeting. The sub-committee accepted the methodology and suggested to present the results before the ACNAS for final decision. It was also suggested that various alternatives for scaling up the NFPC estimates may be presented in the next meeting.

The meeting ended with vote of thanks to the chair.

List of participants

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Dr. Sanjay Singh, Director, DSIM, RBI
4. Shri Chetan Ghate, Professor, IEG
5. Thiru. S. Ganesh, I.A.S., Director, DES Tamil Nadu (attended virtually)
6. Prof. Partha Ray, Director, NIBM, Pune (attended virtually)
7. Antony Cyriac, Sr. Economic Advisor, Representative from DEA,
8. Tmt. R. Jaya, I.A.S. Principal Secretary / Commissioner DES TN
9. J. Suresh, Joint Director, DES, TN
10. Attrishu Bordoloi, Consultant, DES TN
11. Chiranjib Ghosh, Joint Director, DES Tripura
12. Alka Bahuguna Dhaundiya, Addl. Director, Uttar Pradesh (attended virtually)
13. Shri Brijendra Singh, DDG, NAD
14. Shri Rajesh Sharma, DDG, NAD
15. Ms Subhra Sarkar, DDG, NAD
16. Shri Rajeev Kumar, DDG, NAD
17. Ms Monami Mitra, Director, NAD
18. Shri Rohit Maurya, Director, NAD
19. Ms Kratika Mittal, Director, NAD
20. Ms Pooja Rani, Director, NAD
21. Shri Shirke Shrinivas Vijay, Director, NAD
22. Shri Vishal Kumar, Director, NAD
23. Shri Kuwar Alok Singh Yadav, JD, NAD
24. Shri Dipankar Mitra, DD, NAD
25. Ms Priyanka S. Pant, DD, NAD
26. Ms Saumya Mishra, DD, NAD
27. Ms Priyanka Anjoy, DD, NAD
28. Ms Nigar Fatma, AD, NAD
29. Kanwaljit Kaur, AD, NAD
30. Shri Govind Soni, SSO, NAD
31. Ms Shilpa Gupta, SSO, NAD
32. Ms Neha Jain, SSO, NAD
33. Shri Ashwani Kumar, JSO, NAD
34. Shri Vikash Meena, JSO, NAD

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 Ministry of Statistics and Programme Implementation
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 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-02/07/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the fourth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 16th June, 2025

Minutes of the fourth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 16th June, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal
 (Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal
 (Kratika Mittal)
 Director

Minutes of the fourth meeting of the Sub-committee for Methodological Improvements held on 16.06.2025

The fourth meeting of the Sub-committee for Methodological Improvements was held on 16.06.2025 at 10.30 AM in Conference Room (201), MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development.

At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI. The list of participants is placed at Annexure. In the meeting, discussion took place in respect of following points:

1. Methodology for compiling estimates in respect of Employees' Provident Fund Organisation (EPFO)
2. Proportional Benchmarking Method for Quarterly National Accounts Series
3. Exploring Non-Traditional Data Sources as Alternative Indicator for estimation of PFCE in case of Quarterly National Accounts
4. Estimation of Gross Fixed Capital Formation in Household sector

The proceedings of the discussions are as follows:

1. Method of compiling estimates in respect of Employees' Provident Fund Organisation (EPFO)

A brief presentation was made outlining the current and proposed methodology for the compilation of EPFO estimates. It was informed that currently EPFO is considered under the **Sub Sector S-129: Pension Funds** of Financial Corporations Sector and estimates are prepared by analyzing annual accounts corresponding to the administration funds of the following two schemes:

- i. Employees' Provident Fund Scheme, 1952
- ii. Employees' Deposit Linked Insurance Scheme, 1976

It was proposed before the Sub-Committee to analyze the complete Profit and Loss Accounts and Balance Sheets of EPFO covering all major funds, including both contribution and administration funds, as listed below:

- i. Employees' Provident Fund Scheme, 1952 – Contribution Fund
- ii. Employees' Deposit Linked Insurance Scheme, 1976 – Contribution Fund
- iii. Employees' Pension Scheme, 1995 – Contribution Fund
- iv. Employees' Deposit Linked Insurance Scheme, 1976 – Administration Fund
- v. Employees' Provident Fund Scheme, 1952 – Administration Fund

It was also proposed to consider the Administration Funds in respect of EPFO in the **Sub Sector 126: Financial Auxiliaries** since Managers of Pension Funds are to be considered

under the Sub Sector S-126 as per SNA, 2008 and to consider only the Contribution funds under **S-129: Pension Funds**.

Further, it was proposed to analyze the Administration Funds in respect of EPFO with the current approach. In case of Contribution Funds, reference was made to the example given in the *Handbook of National Accounting Production, Flows and Stocks in the System of National Accounts, United Nations* wherein it is indicated that social security fund produces non-market output and the output may be computed as the value of the intermediate consumption of goods and services. Accordingly, it was proposed to follow similar approach in case of contribution funds. A comparison of the results based on old and new methods were also presented before the Sub Committee and accordingly the Sub Committee approved the proposal.

While discussing the compilation methodology of EPFO estimates and proposed changes therein, it was mentioned by RBI that there are other organisations, like, Coal Mines Provident Fund Organisation (CMPF), which are running scheme for their employees. Hence, it was suggested to examine the feasibility to incorporate them if they are not included at present.

2. Proportional Benchmarking Method for Quarterly National Accounts Series

The sub-committee was briefed about various methodologies of Benchmarking, referring that, currently NSO is applying Pro-rata method of Benchmarking. This method generates step problem in Q1 of every Financial Year. Quarterly National Accounts (QNA) Manual, 2017 suggests the use of Proportional Benchmarking methods, such as Denton and Cholette-Dagum method which do not lead to artificial discontinuities in the QNA series.

The comparative QNA series compiled using Pro-Rata, Denton and Cholette-Dagum benchmarking methods were shown before the sub-committee. In particular, results were presented in respect of compilation of Quarterly GVA (at Constant Prices) for various Sectors vis-à-vis sub-sectors such as,

- QGVA compilation for Manufacturing
- QGVA compilation for Electricity
- QGVA compilation for Steel and Cement
- QGVA compilation for Mining & Quarrying
- QGVA compilation for Railways

It has been seen that QNA series produced using Proportional Benchmarking method tend to generate stable series without any discontinuities, as well as they can preserve the movement of the Indicator in Back series. After deliberation on the above agenda, the sub-committee observed/ suggested the following:

- i. The Y-o-Y quarterly growth rates observed in QNA series produced by Proportional Benchmarking method is different from the Y-o-Y quarterly growth

- i. Transactions against clubbed items (e.g. Super markets) cannot be bifurcated into separate PFCE items, whereas, it accounts for substantial share in total transaction value and volume.
- ii. UPI transaction data from its inception, is not yet stabilized as many people are yet to shift from cash transaction to UPI. Once the UPI transaction data get stabilized, it may be explored for possible inclusion as an indicator in the estimation of PFCE.

At present the quarterly estimate of PFCE is compiled using commodity flow approach based on the production-side estimates, without accounting for the stock position. Certain item categories, like, food which are essential for survival but may register a high degree of variation due to fluctuation in the production-side estimates, especially during drought years. Lower production of such essential items may not necessarily lead to lower consumption because it can be met from the previous stock and imports. The volatility in PFCE may give wrong signals to the policy makers. Hence, it was suggested by RBI to examine the feasibility of including stock position while estimating quarterly PFCE.

4. Estimation of GFCF of Household Sector and Quasi Corporations using ASUSE

The Sub-Committee was apprised about the Commodity Flow approach used in estimation of GFCF. GFCF in Dwellings, Other Buildings and Structures (DOBS) and Machinery & Equipment (M&E) assets for the household sector is estimated as residual i.e. by deducting the GFCF of General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations from the total GFCF estimated by Commodity Flow approach. The procedure of allocation of Industry-wise distribution of GFCF of household sector for assets: DOBS and M&E in the current series was also elaborated:

- Estimates for quasi-corporations and household sector are prepared separately by using ratio of capital stock to GVA for each of the industry covered under NSS 67th round Unincorporated Enterprise Survey excluding Construction and applied on GVA at constant prices for corresponding Industry to arrive at the estimates of gross fixed capital stocks (GFCs) of fixed assets. GFCF at constant prices is estimated as the difference between two successive years' stocks.
- The asset-wise distribution of GFCF (DOBS, M&E, Cultivated Biological Resources (CBR) and Intellectual Property Products (IPP)) in each industry is estimated based on the ratios obtained from NSS 67th round Unincorporated Enterprise Survey excluding Construction. Using appropriate indices, asset-wise GFCF at current prices is estimated.
- The Industry-wise and asset-wise GFCF for the household sector estimated by above procedure provides the fixed proportions for allocating the GFCF of household sector derived from commodity flow approach, among the Industries.

For the new series, it was proposed to use the results of the Annual Survey of Unincorporated Sector Enterprises (ASUSE) conducted every year by NSS, for getting the structure for

allocation of GFCF of DOBS and M&E among industries which are covered in ASUSE. Estimated GFCF was computed based on following approaches by using estimated GFCF of household sector using commodity flow approach and allocation among industries based on results of ASUSE for FY 202223 and 2023-24:

- a) Using industry-wise Capital Stock to GVA ratios
- b) Using industry-wise Capital Stock to GVO ratios
- c) Using industry-wise Capital Stock from ASUSE and then taking difference between two consecutive years to estimated GFCF
- d) Using industry-wise GFCF from ASUSE

Industry-wise results arrived from above approaches, were shown in the meeting. Following points were observed during the discussion:

- Approach (b) was showing stable and less volatile ratios and results compared to approach (a). However, both approach (a) and (b) link a stock variable (Capital Stock) to flow variable (GVA/GVO) and shown negative GFCF if there was a fall in Capital Stock to GVA/GVO ratio and/or decrease in the level of GVA/GVO.
- Approach (c) wherein the capital stocks were estimated from ASUSE using market value of assets (in Rs.) as on the last date of reference period, indicated volatility in year-on-year estimated capital stocks in case of Quasi Corporations. Hence, taking difference of estimated capital stock from two consecutive rounds of ASUSE resulted in negative GFCF in some of the industries.
- Approach (d) wherein GFCF was estimated directly using net additions to owned assets during last 365 days / last year, overcame the shortcoming of instances of negative GFCF identified in approaches (a), (b) and (c). In comparison to existing estimates, the approach was showing varying results across Industries with very high/low or nil value for some industries. Such scenario was due to dynamic rates and ratios in approach (d) compared to static rates and ratios in existing series.
- The Sub-committee observed that usually ratios like GVA per worker are used from ASUSE rather using direct level estimates. The Sub-Committee was informed that the level estimates of GFCF in approach (d) are only being used for ascertaining the distribution structure and not for direct estimation.

Based on the discussion, Sub-Committee suggested that in order to account for possible under-estimation of GFCF, the extent of under-reporting on some common variables like workers estimated from ASUSE and PLFS or number of working owners or number of own-account establishments may be estimated industry-wise from both surveys to ascertain extent to under-estimation in ASUSE vis-à-vis PLFS. The proportion of under-reporting may be used to jack-up estimates of GFCF to account for under-reporting or for lesser number of enterprises surveyed (as in water transport) and the results of this exercise may be presented in the next meeting.

5. It was also decided in the Meeting that CC wise estimates & RSE may be sought separately from EnSD & HSD for GVA per Worker from ASUSE & the Number of

Unorganized Sector Workers in PLFS respectively, as the same is essential to test robustness of estimates at the level of compilation categories.

The meeting ended with vote of thanks to the chair.

Annexure**List of participants 4th Meeting 16 June, 2025**

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Dr. Sanjay Singh, Director, DSIM, RBI
4. Sh. Ravi Shankar, Advisor, DSIM, RBI
5. Shri Chetan Ghate, Professor, ISI, New Delhi
6. DES Tamil Nadu (attended virtually)
7. Tusar Bordoloi, AD, CDM, MCA (attended virtually)
8. Dr. Mausumi Das, Professor, DSE, (attended virtually)
9. Dr. Rose Mary K Abraham, Economic Advisor, Representative from DEA,
10. DES Tripura, (attended virtually)
11. Sh. Narendra Kumar Santoshi, DG Statistics
12. Sh. Siddhartha Kundu, ADG, NAD
13. Shri Brijendra Singh, DDG, NAD
14. Shri Rajesh Sharma, DDG, NAD
15. Ms Subhra Sarkar, DDG, NAD
16. Shri Rajeev Kumar, DDG, NAD
17. Dr. Rajesh K Chauhan, ESO- DES UP
18. DES UP (attended virtually)
19. Ms Monami Mitra, Director, NAD
20. Ms. Meera A. P., Director, NAD
21. Ms Kratika Mittal, Director, NAD
22. Ms Pooja Rani, Director, NAD
23. Shri Shirke Shrinivas Vijay, Director, NAD
24. Shri Vishal Kumar, Director, NAD
25. Shri Kuwar Alok Singh Yadav, JD, NAD
26. Ms. Saroj, JD, NAD
27. Shri Dipankar Mitra, DD, NAD
28. Ms Priyanka S. Pant, DD, NAD
29. Ms Saumya Mishra, DD, NAD
30. Ms Priyanka Anjoy, DD, NAD
31. Ms Nigar Fatma, DD, NAD
32. Kanwaljit Kaur, AD, NAD
33. Shri Govind Soni, SSO, NAD
34. Ms Neha Jain, SSO, NAD
35. Shri Ashwani Kumar, JSO, NAD
36. Shri Vikash Meena, JSO, NAD

F.NO. U-11011/2/2024-NAD(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
 Ministry of Statistics and Programme Implementation
 राष्ट्रीय सांख्यिकीय कार्यालय / National Statistical Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-22/08/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the fifth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 1st August, 2025

Minutes of the fifth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 1st August, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal
 (Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal
 (Kratika Mittal)
 Director

Minutes of the fifth meeting of the Sub-committee for Methodological Improvements held on 01.08.2025

The fifth meeting of the Sub-committee for Methodological Improvements was held on 01.08.2025 at 10.30 AM in Conference Room (201), MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure.

At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI. In the meeting, discussion took place in respect of following points:

(i) Methodology for compiling GVA estimates of Financial Services Sector

(ii) Seasonal Adjustment in Quarterly GDP Data Series of India

The proceedings of the discussions are as follows:

(i) Financial Services

A presentation was made before the Sub-Committee outlining the current methodology for compiling GVA estimates of Financial Services Sector, along with the proposed changes. The details of the discussions held are given below:

1) S-121: Reserve Bank of India (RBI)

The Committee was apprised that no changes are suggested in case of method of computing current price estimates in respect of RBI. As discussed in the meeting of the Sub-Committee III, RBI has been requested to share data on grade-wise number of employees and average CE for each grade for the base year i.e. 2022-23 and also grade-wise number of employees for the subsequent FYs. Using this, CE at constant prices can be derived and the same may be used as the volume indicator for extrapolation to derive Output and GVA. In the absence of such data, as discussed in the meeting of Sub Committee III the following method may be adopted:

- Volume indices of number of employees and deflated CE can be computed and using the average of these two indices, volume extrapolation can be done.
- For deflating CE, CPI (G) can be used.

2) S-122: Deposit taking Corporations except RBI

The current price estimates of this Sub Sector will be compiled using the present method itself except that as indicated in the last meeting of Sub Committee I, RBI data will be used for compiling estimates in respect of nationalized public sector banks as done in the case of private sector banks. Further as discussed in the meeting of Sub Committee III, the constant price estimates will be derived for Scheduled Commercial Banks (SCBs), Regional Rural Banks (RRBs) and Cooperative Banks using the following method:

- Average aggregate Credits and deposits to be deflated using CPI(G)
- Volume measures of FISIM on loans (base year prices) to be computed as under:

Volume measures of FISIM on loans=Deflated average aggregate Credits X $\frac{(\text{LR of Base year}-\text{RR of Base year})}{100}$

- Volume measures of FISIM on deposits (base year prices) to be computed as under:

Volume measures of FISIM on deposits

=Deflated average aggregate deposits X $\frac{(\text{RR of Base year}-\text{DR of Base Year})}{100}$

- By adding Volume measures of FISIM on credits and Volume measures of FISIM on deposits Volume measures of total FISIM can be computed.
- Yearly Banking Services Price Indices (Direct) to be computed as average of the corresponding experimental monthly indices and using the same the Actual Receipts can be deflated.
- Accordingly output at base year prices can be computed as sum of deflated Actual Receipts and Volume measures of total FISIM
- Then volume indicator of the Output so derived can be computed which can be used to extrapolate GVA.

In case of Post Office Savings Bank, alternate methods are being explored for compiling constant price estimates by taking data from D/o Posts.

3) S-123 & S-124: Money Market Funds (MMF) & Non MMF Investment Funds

The current price estimates of these Sub Sectors will be compiled using the present method itself. Further as discussed in the meeting of Sub Committee III, the constant price estimates will be derived for S-123 and S-124 as under:

- Investments to be deflated using CPI(G)
- Then volume indicator of the deflated investments can be derived which can be used to extrapolate Output

4) S- 125: Other Financial Intermediaries except insurance corporations and pension funds (ICPF)

As indicated in the meeting of Sub Committee I, it is planned to use MCA data and annual report of HDFC Ltd. (for 2022-23) for compiling estimates in respect of Non-Government Non-Banking Financial Companies (NGNBFCs). As regards the remaining entities of this Sub Sector, the current method will be continued. Further as discussed in the meeting of Sub Committee III, the constant price estimates will be derived using the following method:

- Net receipts (FISIM + Actual Receipts) to be deflated with CPI (G)
- Then volume indicator of the deflated net receipts to be derived which can be used to extrapolate Output and GVA

5) S- 126: Financial Auxiliaries

SNA Classification.	Financial Auxiliaries
Classification according to India	Financial Auxiliaries (Public) Stock Exchanges, Stock Brokers & AMC etc. (Private)
Data Source	Annual Report of concerned Financial Corporation. Statement of Annual Return obtained from MCA.
Current price estimates	The production approach, as outlined in S-122, is applied to Financial Auxiliaries (such as stock exchanges and brokers). It is important to note that financial auxiliaries do not generate FISIM.

	For Insurance agents (Covered in S-126) for computing output, the total value of commission to agents reflected in respect of public and private sector companies of life and non-life insurance are treated as Actual Receipts (AR) and IC is considered as certain percentage of AR
Constant Price Estimates	<p>For constant price estimates of S-126:</p> <ul style="list-style-type: none"> • Net Receipts (Actual Receipts) are used as the volume indicator. • We deflate net receipt with non-finance deflator (The implicit price index of unadjusted GVA for non-financial industries) • Prepare index of this deflated net receipt. • Applied this index on base year value.

As discussed in the last meeting, the complete Profit and Loss Accounts and Balance Sheets of EPFO covering all major funds, including both contribution and administration funds will be analyzed for generating estimates in the new series. The Administration Funds in respect of EPFO will be considered in the Sub Sector 126 and the Contribution funds will be considered under S-129. Further analysis of the Administration Funds in respect of EPFO will be continued with the current approach which is production approach. Further alternate methods are being explored for compiling constant price estimates in respect of S-126. For the remaining entities of this Sub Sector except Insurance agents, present method will be continued. For Insurance agents (Covered in S-126) it is proposed to compute Output using the current method (ie. 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)) and use the ratio of IC to Output from ASUSE for computing IC and accordingly GVA. The results based on this exercise was presented in the meeting. The Committee after deliberation agreed for continuing with existing method of compiling output. However, for computing IC, the Committee suggested to explore the use of moving average of these ratios of IC to Output from ASUSE and to present results before the Committee.

6) S-127: Moneylenders and remaining unorganised segment except insurance agents

Method used in current series:

- i. **For the private money lenders (covered in S-127)**, the following steps are followed to compute the GVA:
 - The quantum of loan advanced by the money lenders to the households is estimated using the data from the NSS 70th round AIDIS, 2013 and RBI's annual publication - Basic Statistical Returns of Scheduled Commercial Banks in India, which gives the loans advanced to households.
 - Interest rates charged by private money lenders is taken from RBI's "Report of the Technical Group to review legislations on moneylenders", 2007.
 - FISIM calculated by RR method is taken to be equivalent to the output.
 - The ratio of intermediate consumption to the total interest receipts, as estimated from NSS 67th round Survey on Unincorporated Enterprises, 2010-11, is used to estimate intermediate consumption, and hence, GVA.
- ii. **For the remaining unorganised segment (covered in S-127) except insurance agents**, the estimate of GVA are prepared from the NSS 67th round Survey on Unincorporated Enterprises, 2010-11.

Alternate methods are being explored for compiling constant price estimates in respect of S-127.

The following proposals were made before the sub Committee:

i. Private money lenders (covered in S-127):

As regards the interest rate charged by non-institutional credit providers it was proposed to use AIDIS 2019 data in the meeting of the Sub-Committee I held on 13.05.2025 which was agreed by the Sub Committee. The survey inter-alia collected information on cash loans payable by household to institutional/ non- institutional agencies in Block 12. Though the nature of interest was also to be collected in the survey, there was no entry against this item in respect of all the samples reporting cash loans payable to non- institutional agencies.

Using the visit 1 data, the interest rate was computed for moneylenders (agricultural moneylender: code 15 and professional moneylender: code 16) using the unit level data as per the method explained below:

$$\begin{aligned} & \text{Estimated outstanding amount (including interest) as on 30.06.2018} \\ & = \sum_i \text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated annual interest on outstanding amount (including interest)} \\ & = \sum_i \frac{\text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Annual rate of interest}_i}{100} \times \text{Multiplier}_i \end{aligned}$$

$$\text{Interest rate} = \frac{\text{Estimated annual interest on outstanding amount (including interest)}}{\text{Estimated outstanding amount (including interest) as on 30.06.2018}} \times 100$$

Further it is proposed to use the inter survey growth (CAGR) between AIDIS 2013 and 2019 for extrapolating the cash loan outstanding from money lenders estimated from AIDIS 2019. FISIM calculated by RR method can be taken to be equivalent to the output as done in current series. Also, the ratio of IC to Output from ASUSE can be used for computing IC and accordingly estimates of GVA can be derived.

The results were presented before the Sub-Committee. The Sub Committee had in-depth discussion on the proposals and desired that the interest calculation may be re-examined. Further as in the case of insurance agents, for computing IC, the Committee suggested to explore the use of moving average of these ratios of IC to Output from ASUSE and to present results before the Committee.

ii. The remaining unorganised segment except insurance agents (covered in S-127)

It is proposed to prepare the estimate of GVA from ASUSE.

The results based on this exercise was presented in the meeting. The Chairman desired to know whether the codes available in ASUSE in respect of unorganised segment of Financial Corporations are available in PLFS for estimating number of workers from PLFS. It was informed that some codes which are available in ASUSE sample are not available in PLFS.

The Committee after deliberations agreed with the proposal for computing estimates of GVA from ASUSE.

7) S-128: Insurance Corporations

It was informed that no changes are proposed in respect of method of computing current price estimates. Further alternate methods are being explored for compiling constant price estimates in respect of S-128.

8) S- 129: Pension funds

As discussed in this Sub Committee, the complete Profit and Loss Accounts and Balance Sheets of EPFO covering all major funds, including both contribution and administration funds will be analyzed for generating estimates in the new series and also the Administration Funds in respect of EPFO will be considered in the Sub Sector 126 and the Contribution funds will be considered under S-129. Further for Contribution funds the output will be computed as the value of the intermediate consumption. As discussed in the meeting of Sub Committee II, the feasibility of incorporating organisations like Coal Mines Provident Fund Organisation (CMPF), Seamen's Provident Fund Organisation (SPFO) is being explored. Also alternate methods are being explored for compiling constant price estimates in respect of S-129.

Computation of FISIM using Reference Rate:

In the 2011-12 series FISIM is computed using Reference Rate (RR) approach. i.e. $FISIM = (LR-RR) * \text{average stock of loans} + (RR-DR) * \text{average stock of deposits}$ and RR = harmonic mean of lending rate and deposit rate for S-122 and S-125. The following proposal was made before the Sub Committee on method of computing Reference Rate.

The UN Handbook of National Accounting Financial Production, Flows and Stocks in the System of National Accounts, provides details of computation of FISIM using reference rate approach. Reference rate is described as a rate of interest at which lending and borrowing take place without including any service charges. It is a rate between bank interest rates on deposits and loans. The reference rate should contain no service element and reflect the risk and maturity structure of deposits and loans. This handbook suggests few alternatives for considering a rate as "reference rate". These are simple average of LR and DR, a weighted average of the interest rates on loans and deposits, the rate prevailing for inter-bank borrowing and lending, rate on service-free financial instruments such as government bonds etc.

Considering the above, different methods for compilation of RR are explored as detailed below:

Method 1:

This is the method used in the 2011-12 series. ie. RR = harmonic mean of lending rate and deposit rate for S-122 and S-125. LR and RR are rates, the statistically proper average is the HM. Besides it would be least affected by the outliers among the three types of averages.

Method 2:

Same as Method 1 except that only S-122 is considered for computing LR and DR.

Method 3:

In this method annual weighted average call money rate published by RBI is used as reference rate. The UN Handbook of National Accounting Financial Production, Flows and Stocks in the System of National Accounts, indicates that the rate prevailing for interbank borrowing may not exactly reflect the risk and maturity structure of deposits and loans since the rate only reflects short term lending and borrowing.

Method 4:

In this method the data on Interest rates on central and state government dated securities which are published as weighted averages by RBI are considered. The Harmonic Mean of both these interest rates (weighted average) are computed and it is used as reference rate.

The results of the above explained exercises were presented before the Sub-Committee. Sub-Committee after deliberations advised to continue with the existing method. In cases where no proposal for change was made in respect of the Current Price Estimation Methodology, the Sub Committee agreed to continue with the current methodology which was presented before the Sub Committee. A suggestion came in the meeting for examining the coverage of Micro Finance Institutions in the Financial Corporate Sector.

(ii) Seasonal Adjustment in Quarterly GDP Data Series of India

1. The methodology for **Seasonal Adjustment in Quarterly GDP Series** using **X-13-ARIMA SEATS** method was presented in the fifth Meeting of the Sub-committee of ACNAS for Methodological Improvement held on 01.08.2025.
2. For obtaining the seasonally adjusted GDP aggregates, the merit of **Indirect approach** over the **Direct Approach** was deliberated. To ensure the temporal consistency with Annual accounts, the results based on **Proportional Denton Benchmarking Methodology** were presented before the committee while discussing its advantage over **Pro-Rata Method**. Various Revision and Update strategies including **Concurrent, Current and Partial Concurrent** approach were also discussed and associated results were presented reflecting the divergence in subsequent release of particular quarter estimates. In this context, the Sub-committee was informed about the Dissemination strategy of Unadjusted and Adjusted GDP and other component series in other advanced countries like USA and Canada.
3. The year-on-year growth results shows that seasonally adjusted GDP growth and unadjusted GDP growth varies marginally for various years. Also, it was observed that the estimates being based on model, previous quarter's estimates also undergo changes on arrival of new data.
4. It was proposed to adopt partial concurrent approach for updation and release of Quarterly data to be aligned with the Annual estimates data. As per the plan, seasonally adjusted as well as unadjusted aggregates and year-on-year growth would be released. In addition, Quarter-on-Quarter growth would be released for the first time.

5. Since the Quarterly Seasonally Adjusted GDP estimates may vary as per the Annual Benchmark of new Series, which is being finalized based on the deliberation in various Sub-Committee, it was decided that after finalization of Annual Benchmark, the Quarterly results may be examined and presented before the committee for appropriate decision.

The meeting ended with vote of thanks to the chair.

Annexure

List of participants of 5th Meeting held on 01 August, 2025

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Dr. Sanjay Singh, Director, DSIM, RBI (attended virtually)
4. Shri Chetan Ghate, Professor, ISI, New Delhi
5. DES Tamil Nadu (attended virtually)
6. Commissioner DES -TN (attended virtually)
7. Ms. Divya Singh, DD, MSME (attended virtually)
8. DES Tripura, (attended virtually)
9. Shri Narendra Kumar Santoshi, DG Statistics
10. Shri Siddhartha Kundu, ADG, NAD
11. Shri Brijendra Singh, DDG, NAD
12. Shri Rajesh Kumar Sharma, DDG, NAD
13. Ms Subhra Sarkar, DDG, NAD
14. Shri Rajeev Kumar, DDG, NAD
15. Ms Shalu Goyal, DD- DES UP
16. DES UP (attended virtually)
17. Ms Monami Mitra, Director, NAD
18. Ms. Meera A. P., Director, NAD
19. Ms Kratika Mittal, Director, NAD
20. Shri Rohit Maurya, Director, NAD
21. Shri Vishal Kumar, Director, NAD
22. Shri Dipankar Mitra, DD, NAD
23. Ms Priyanka S. Pant, DD, NAD
24. Ms Jagrti Garg, DD, NAD
25. Ms Priyanka Anjoy, DD, NAD
26. Ms Nigar Fatma, DD, NAD
27. Ms Kanwaljit Kaur, AD, NAD
28. Shri A. K. Tripathi, SSO, NAD
29. Shri Vikash Meena, JSO, NAD

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के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-16/10/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the sixth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 23rd September, 2025

Minutes of the sixth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 23rd September, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal

(Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal

(Kratika Mittal)
 Director

Minutes of the sixth meeting of the Sub-committee for Methodological Improvements held on 23.09.2025

The sixth meeting of the Sub-committee for Methodological Improvements was held on 23.09.2025 at 10.00 AM in Room no. 609, MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure. At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI.

In the meeting, discussion took place in respect of following points:

- (1) Exploring GST Data for sector-wise QGVA Compilation
- (2) Methodology for compiling GVA estimates of Financial Services Sector
- (3) Classification of institutional units in various institutional Sectors and Coverage of non-government educational institutes
- (4) Estimation of GFCF (Gross Fixed Capital Formation) and CIS (Change in Stock) in respect of Household Sector and Quasi Corporations
- (5) Estimation of GVA of Private households with employed persons
- (6) GVA estimates in respect of Unincorporated Sector

The proceedings of the discussions are as follows:

(1) Exploring GST Data for sector-wise QGVA Compilation

A brief presentation was made on use of GST data as an indicator for compiling Quarterly estimates of GVA at Nominal Prices for various economic activities where other suitable output/volume indicators at quarterly level are inadequately available.

It was apprised to the sub-committee that currently, GST data is being received for Quarterly Outward Supply and Tax Information pertaining to individual entities (which are anonymized by GSTN) filling GST information in GSTR-3B. Based on the fields, Nature of Business Activity, and Constitution of Business in GST Registration form, it is proposed to use entity-wise GST information in compiling Quarterly estimates pertaining to different Institutional sectors including Unincorporated sector (Proprietorship, Partnership, Hindu Undivided Family) of Wholesale Trade, Retail Trade and Manufacturing sectors. Besides, information for Private Companies which are reporting their CIN number in the GST registration form is also being received for the various services sectors.

Analysis of GST Data: It was proposed to compute percent changes in economic variable (outward supply) from the previous period, based on the matched responding units by economic activity at quarterly stage. This procedure is termed as Matched Pair Procedure. (**Quarterly National Accounts (QNA) Manual, IMF 2017**). Following three methods for deriving growth were presented:

- **Method A:** Growth rates computed based on all the Entities after making the Matched Pair (No Outlier is Removed)
- **Method B:** Growth rates computed based on Entities retained within the band of Median \pm 2SD on log rate of change ($\text{LN}(V_{t+1}/V_t)$), after making the Matched Pair
- **Method C:** Growth rates computed based on Entities retained within the band of Median \pm 3SD on log rate of change ($\text{LN}(V_{t+1}/V_t)$), after making the Matched Pair (**V_{t+1} = Total supply in current quarter, V_t = Total supply in same quarter of previous financial year**)

The Sub-Committee observed that the removal of outliers using the aforementioned methods might also lead to the exclusion of certain large companies having a significant share in their respective sectors. It was suggested that, for each economic activity, a list of major companies may be prepared so that their data can be analyzed separately. The Sub-Committee also sought information regarding the coverage of companies reporting under GSTN, in terms of Nos. and contribution to total value of output, in its next meeting.

(2) Financial Services

A presentation was made before the Sub-Committee outlining the compilation of current price estimates of the Insurance Agents (covered in S-126) and Private money lenders (covered in S-127). The details of the discussions held are given below:

Insurance agents (Covered in S-126)

During the meeting of Sub Committee II held on 01.08.2025, it was proposed that for Insurance agents (Covered in S-126), the Output may be 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). The Sub Committee agreed to the same. Further it was also proposed to use the ratio of IC to Output from ASUSE for computing IC and accordingly GVA. In this case the Sub-Committee had then suggested to explore the use of moving average of these ratios of IC to Output from ASUSE. Using this, an exercise has been done and results were presented before the Sub Committee. Since presently results of only three rounds of ASUSE are available, moving average of two years are considered in the exercise. It was proposed that once the results of more rounds of ASUSE become available we can shift moving average of three years. After due deliberations, the Sub-Committee approved the proposal.

Private money lenders (covered in S-127):

During the meeting of Sub Committee II held on 01.08.2025 discussion on methodology for computation of estimates in respect of money lenders was held. As regards the interest rate charged by non-institutional credit providers it was proposed to use AIDIS 2019 data. The survey inter-alia collected information on cash loans payable by household to institutional/ non- institutional agencies in Block 12. Using the visit 1 data, the interest rate was computed for moneylenders (agricultural moneylender: code 15 and professional moneylender: code 16) using the unit level data as per the method explained below:

$$\begin{aligned} & \text{Estimated outstanding amount (including interest) as on 30.06.2018} \\ & = \sum_i^{\square} \text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated annual interest on outstanding amount (including interest)} \\ & = \frac{\sum_i^{\square} \text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Annual rate of interest}_i}{100} \times \text{Multiplier}_i \end{aligned}$$

$$\text{Interest rate} = \frac{\text{Estimated annual interest on outstanding amount (including interest)}}{\text{Estimated outstanding amount (including interest) as on 30.06.2018}} \times 100$$

Further it was proposed to use the inter survey growth (CAGR) between AIDIS 2013 and 2019 for extrapolating the cash loan outstanding from money lenders estimated from AIDIS 2019. FISIM calculated by RR method can be taken to be equivalent to the output as done in current series. Further it was proposed that the ratio of IC to Output from ASUSE can be used for

computing IC and accordingly estimates of GVA can be derived. Accordingly, the results were presented before the Sub-Committee. The Sub Committee had desired that the interest calculation may be re-examined. Further as in the case of insurance agents, for computing IC, the Sub-Committee suggested to explore the use of moving average of these ratios of IC to Output from ASUSE and to present results before the Sub-Committee.

Taking into consideration the advice of the Sub Committee the interest rate was re-calculated using the following formula using the Visit 1 and Visit 2 data of AIDIS 2019:

$$\begin{aligned} & \text{Estimated outstanding amount (including interest) as on 30.06.2018} \\ & = \sum_i \text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated outstanding amount (including interest) as on 30.06.2019} \\ & = \sum_i \text{Amount outstanding (including interest) as on 30.06.2019}_i \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated annual interest on outstanding amount (including interest) for the period} \\ & \text{30.06.2018 to 30.06.2019}_1 \\ & = \frac{\sum_i \text{Amount outstanding (including interest) as on 30.06.2018}_i \times \text{Annual rate of interest}_i}{100} \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated annual interest on outstanding amount (including interest) for the period} \\ & \text{30.06.2018 to 30.06.2019}_2 \\ & = \sum_i \frac{\text{Amount outstanding (including interest) as on 30.06.2019}_i}{\left(1 + \frac{\text{Annual rate of interest}_i}{100}\right)} \times \frac{\text{Annual rate of interest}_i}{100} \\ & \quad \times \text{Multiplier}_i \end{aligned}$$

$$\begin{aligned} & \text{Estimated outstanding amount (including interest) as on 30.09.2018} = \frac{3}{4} \times \text{Estimated} \\ & \text{outstanding amount (including interest) as on 30.06.2018} + \frac{1}{4} \times \text{Estimated} \\ & \text{outstanding amount (including interest) as on 30.06.2019} \end{aligned}$$

$$\begin{aligned} & \text{Estimated annual interest on the outstanding amount} = \frac{3}{4} \times \text{Estimated annual interest} \\ & \text{on outstanding amount (including interest) for the period 30.06.2018 to 30.06.2019}_1 \\ & + \frac{1}{4} \times \text{Estimated annual interest on outstanding amount (including interest) for the} \\ & \text{period 30.06.2018 to 30.06.2019}_2 \end{aligned}$$

$$\text{Interest rate} = \frac{\text{Estimated annual interest on outstanding amount}}{\text{Estimated outstanding amount (including interest) as on 30.09.2018}} \times 100$$

Further it was also proposed to use the inter survey growth (CAGR) between AIDIS 2013 and 2019 for extrapolating the cash loan outstanding from money lenders estimated from AIDIS 2019. FISIM calculated by RR method can be taken to be equivalent to the output as done in current series. Further the moving average of the ratios of IC to Output from ASUSE is used for computing IC. The results based on these exercises were presented before the Sub-Committee. As the interest rate charged by moneylenders in the present series is based on the study undertaken by RBI, the Chairman desired to know whether RBI has done any new studies in this area. Representative from RBI informed that now RBI is also using AIDIS 2019 data

for this purpose. The Committee after due deliberations, approved the proposals in respect of compilation of estimates in respect of Private Moneylenders.

Coverage of Micro Finance Institutions in the Financial Corporate Sector

As regards the suggestion came in the last meeting of this Sub Committee for examining the coverage of Micro Finance Institutions (MFIs) in the Financial Corporate Sector, it was informed that MFIs are already covered in the Financial Corporate Sector under the Sub Sectors S-122- Deposit Taking Corporations except Central Bank, S-125- Other Financial Intermediaries and S-127- Captive Financial Institutions and Money Lenders etc.

(3) (i) Classification of institutional units in various institutional Sectors:

Subcommittee was briefed that the issue of classification of institutional units in various institutional sectors has been examined and it has been found that some of the institutional units currently under General Government Sector, over a multi-year period, have generated significant revenue from their operations which is not only sufficient to meet their operating expenses but also to generate profit. It was proposed to classify such institutional units as market producers and reclassify them as public corporations in place of General Government.

Similarly, some institutional units currently classified as a market producer are heavily dependent on subsidies from the GoI and have no autonomy in decision making. The revenue generated by these units are not sufficient to meet even half of their production cost over a multi-year period. It was proposed to treat such institutional units as non-market producers and classify them in General Government Sector from Non-financial (Public) Corporate Sector.

Committee in-principal agreed with the proposal of re-classification of institutional units in various institutional sectors as proposed above. However, it was suggested that classification of institutional units in various institutional sectors should be continuously reviewed throughout the series and updated from time to time. Reclassification of units will be accompanied by other necessary changes to maintain consistency and accuracy. For ex. in case FCI is reclassified as part of general government, the subsidy provided to it would be treated as social transfer in kind rather than a product subsidy and would be part of Government final consumption expenditure & Actual (adjusted) Private Final Consumption Expenditure.

(3) (ii) Coverage of non-government educational institutes:

Government provides significant grants to non-government educational institutes. While analyzing state budget documents, these are treated as transfer 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, it was proposed that the grant provided for salary purpose will be included in the GVA of unincorporated sector after duly adjusting the grant in aid reported by educational institutes covered under ASUSE. Tentative results after considering the proposed changes were also presented before the subcommittee. Committee agreed with the proposal.

(4) (i) Estimation of GFCF of Household Sector and Quasi Corporations

In the meeting of this sub-committee held on 16.06.2025, the Sub-Committee was apprised about the Commodity Flow approach used in estimation of GFCF. GFCF in Dwellings, Other Buildings and Structures (DOBS) and Machinery & Equipment(M&E) assets for the

household sector is estimated as residual i.e. by deducting the GFCF of General Government, Departmental Enterprises, Non-Departmental Enterprises and Private Corporations from the total GFCF estimated by Commodity Flow approach.

The procedure of allocation of Industry-wise distribution of GFCF of household sector for assets DOBS and M&E in the current series was also elaborated.

For the new series, it was proposed to use the results of the Annual Survey of Unincorporated Sector Enterprises (ASUSE) conducted every year by NSS, for getting the structure for allocation of GFCF of DOBS and M&E among industries which are covered in ASUSE. Estimated GFCF was computed based on following approaches by using estimated GFCF of household sector using commodity flow approach and allocation among industries based on results of ASUSE for FY 2022-23 and 2023-24:

- a. Using industry-wise Capital Stock to GVA ratios
- b. Using industry-wise Capital Stock to GVO ratios
- c. Using industry-wise Capital Stock from ASUSE and then taking difference between two consecutive years to estimated GFCF
- d. Using industry-wise GFCF from ASUSE

Industry-wise results arrived from above approaches, were shown in the meeting. Following points were observed during the discussion:

- Approach(b) was showing stable and less volatile ratios and results compared to approach (a). However, both approach (a) and (b) link a stock variable (Capital Stock) to flow variable (GVA/GVO) and shown negative GFCF if there was a fall in Capital Stock to GVA/GVO ratio and/or decrease in level of GVA/GVO.
- Approach(c) wherein the capital stocks were estimated from ASUSE using market value of assets (in Rs.) as on the last date of reference period, indicated volatility in year-on-year estimated capital stocks in case of Quasi Corporations. Hence, taking difference of estimated capital stock from two consecutive rounds of ASUSE resulted in negative GFCF in some of the industries.
- Approach(d) wherein GFCF was estimated directly using net additions to owned assets during last 365 days / last year, overcame the shortcoming of instances of negative GFCF identified in approaches (a), (b) and (c). In comparison to existing estimates, the approach was showing varying results across Industries with very high/low or nil value for some industries. Such scenario was due to dynamic rates and ratios in approach(d) compared to static rates and ratios in existing series.
- The Sub-committee observed that usually ratios like GVA per worker are used from ASUSE rather using direct level estimates. The Sub-Committee was informed that the level estimates of GFCF in approach (d) are only being used for ascertaining the distribution structure and not for direct estimation.

Based on the discussion, Sub-Committee suggested that in order to account for possible under-estimation of GFCF, the extent of under-reporting on some common variables like workers estimated from ASUSE and PLFS or number of working owners or number of own-account establishments may be estimated industry-wise from both surveys to ascertain extent to under-estimation in ASUSE vis-à-vis PLFS. The proportion of under-reporting may be used to jack-up estimates of GFCF to account for under-reporting or for lesser number of enterprises surveyed (as in water transport).

As suggested by the sub-committee, the distribution of estimated number of own account establishments, estimated number of working owners in own account establishments, estimated number of working owners in hired worker establishments (using status code 12 from PLFS data) and estimated number of total workers from ASUSE and PLFS data for FY 2022-23 and 2023-24 were presented before the sub-committee. It was observed that the distribution from these two independent surveys was very close for most of the industries. Hence, it was proposed that the structure of industry-wise GFCF reported in block 10 of ASUSE may be used directly to distribute

the control total of GFCF of DoBS and Machinery & Equipment assets derived as residual from commodity flow approach.

The sub-committee observed that there is wide variation (when compared to existing estimates of GFCF released in National Accounts Statistics) for some of the industries using the proposed approach. The sub-committee was informed that the current methodology is driven by GVA and hence increase in GVA causes increase in capital formation derived using the existing methodology. The use of ASUSE data for allocation of GFCF of household sector among the industries is more dynamic and hence better reflects the actual capital formation in these two assets. Hence, this proposal was finally accepted the proposal presented.

The sub-committee was briefed about the methodology followed in existing series for industries not covered under ASUSE. It was suggested that the same may be circulated for comments among the sub-committee members.

(4) (ii) Estimation of Change in Stock (CIS) of Household Sector and Quasi Corporations using ASUSE

In existing series, certain rates and ratios are used for estimation of CIS for unincorporated sector. The change in stock is being estimated in household sector for following industries:

1. Crops
2. Livestock
3. Mining & quarrying
4. Unincorporated Manufacturing
5. Trade
6. Hotels & restaurants
7. Road transport

It was proposed that since inventory at the end of the reference period is being reported in ASUSE schedule in block 12, the same can be used for estimation of CIS. However, level estimates from ASUSE cannot be directly used for estimation of change in stock due to following reasons:

1. The reference period of ASUSE 2022-23 and 2023-24 does not align with financial years.
2. Block 12 for reporting inventories was canvassed for only those establishments with 10 or more workers during ASUSE 2021-22

Therefore, it was proposed that closing value of inventory (reported in block 12) to Output ratio derived from ASUSE may be used for industry-wise estimation of CIS. This ratio (closing inventory to Output for a particular year) multiplied by GVO estimated for that industry gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years will provide estimate of change in stock.

These industry-wise ratios (inventory to output ratios) from ASUSE 2022-23 and 2023-24 were presented before the sub-committee. The sub-committee was informed that since block 12 was canvassed only for those establishments with 10 or more workers during ASUSE 2021-22, hence, these industry wise ratios were also derived for establishments with 10 or more workers and those with less than 10 workers from ASUSE 2022-23 and ASUSE 2023-24, to see if these ratios vary with the size of establishments (based on workers). Since, it was observed that these ratios do vary with the size of establishment, it was proposed that only for FY 2022-23, the inventory to output ratios from ASUSE 2022-23 for establishments with less than 10 workers will be used for similar set of establishments (with less than 10 workers) from ASUSE 2021-22.

The proposal was accepted by the subcommittee. The sub-committee was briefed about the methodology followed in existing series for estimation of change in stock for industries not covered under ASUSE. It was suggested that the same may be circulated for comments among the sub-committee members.

Methodology proposed for estimation of structure used for allocation of GFCF among industries not covered under ASUSE.

Industry	Dwellings, Other Buildings & Structures	Machinery & Equipment
1.Agriculture, Forestry and Logging, Fishing		
1.1 crops	Benchmark estimate worked out from AIDIS will be moved for other years using output of agriculture. Results of AIDIS (2019) will be used.	Ex-factory value of agriculture machinery & implements for the base year is derived based on ASI unit level data for NPCMS codes for this category and then adjusting it for estimates from manufacturing sector for ensuring complete coverage. Estimate for household sector will then be obtained by deducting the estimate of GFCF for agricultural machinery from public & private corporations.
1.2 livestock	Benchmark estimate worked out from AIDIS will be moved for other years using output of agriculture. Results of AIDIS (2019) will be used.	Ex-factory value of livestock machinery & implements for the base year is derived based on ASI unit level data for NPCMS codes for this category and then adjusting it for estimates from manufacturing sector for ensuring complete coverage. Estimate for household sector will then be obtained by deducting the estimate of GFCF for agricultural machinery from public & private corporations.
1.3 forestry & logging	Private forestry estimate is currently prepared by applying ratio of ownership of private forests to forests owned by public & corporate bodies. It is proposed to use ratio of small Private Corp Companies (turnover less than 2 Crores) to derive Capital to Output ratio (2.43) and use the same for estimation of total Capital Stock for the year	Private forestry estimate is currently prepared by applying ratio of ownership of private forests to forests owned by public & corporate bodies. It is proposed to use ratio of small Private Corp Companies (turnover less than 2 Crores) to derive Capital to Output ratio (2.43) and use the same for estimation of total Capital Stock for the year
1.4 fishing and aquaculture		Growth of stock between two livestock censuses is used to move the base year estimates in current series. It is proposed to use intercensal growth in stock of implements between two censuses along with price adjustment for fishery implements from WPI.
2. Mining & quarrying	Currently, capital stock to output ratio (0.48) for 2011-12 is being used. It is proposed to use ratio of small Private Corp Companies (turnover less than 2 Crores) to derive Capital to Output ratio (6.96) and use the same for estimation of total Capital Stock for the year. Asset-wise distribution into DOBS, ME, CBR and IPP will be derived from these sets of companies with turnover less than 2 Crores	Currently, capital stock to output ratio (0.48) for 2011-12 is being used. It is proposed to use ratio of small Private Corp Companies (turnover less than 2 Crores) to derive Capital to Output ratio (6.96) and use the same for estimation of total Capital Stock for the year. Asset-wise distribution into DOBS, ME, CBR and IPP will be derived from these sets of companies with turnover less than 2 Crores
4. Electricity & Gas		
4.1 Electricity	Not Applicable	From installed solar panels/ other renewable energy structures installed * cost per installation.
4.2 Gas	Not Applicable	From number of biogas plants installed * cost per plant.

5. Construction.	The Capital Stock to GVO ratio will be worked out using the results of pilot survey on Construction being carried out by NSS during Jul-Dec, 2025. This ratio along with current year GVO will provide the estimate of Gross Fixed Capital Stock for current year. Taking difference of GFCS of two consecutive years will provide the GFCF for current year.	The Capital Stock to GVO ratio will be worked out using the results of pilot survey on Construction being carried out by NSS during Jul-Dec, 2025. This ratio along with current year GVO will provide the estimate of Gross Fixed Capital Stock for current year. Taking difference of GFCS of two consecutive years will provide the GFCF for current year.
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Methodology proposed for estimation of structure used for estimation of CIS in respect of industries not covered under ASUSE.

Sr. No	Industry	Proposed
1	Agriculture and Allied Sectors	
1.1	Crops	Cattles not in production are estimated using ratios from livestock census. Adult male cattle and adult male buffalo are considered as part of Crop sector. The change in stock of grains and non-perishable produce (with shelve life of more than a year) retained for sale and seed estimated by Agriculture Unit of NAD will be used for estimation of CIS
1.2	Livestock	Young stock estimated using ratios from livestock census
1.3	Forestry & logging	Not estimated
1.4	Fishing	Not estimated
2	Mining & quarrying	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 estimated for that industry gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years will provide estimate of change in stock.
3	Construction	Using Inventory to Output ratio worked out form Pilot Survey on Construction being conducted by NSS during Jul-Dec,2025. This ratio (closing inventory to Output for a particular year) multiplied by GVO estimated for that industry gives the estimated closing inventory for that year. Difference between the closing inventory values for two successive years will provide estimate of change in stock.

(5) Estimation of GVA of Private households with employed persons (NIC 97):

1. For the activity “**Private households employing persons (NIC 97)**”, it is noted that the Gross Value Added (GVA), which comprises only the compensation of employees, has been computed from the PLFS (Periodic Labour Force Survey) data of NSSO, following the same approach as adopted in the current series with base year 2011-12.

2. Since NIC 97 is not covered under the Annual Survey of Unincorporated Sector Enterprises (ASUSE) conducted by NSSO as data on private households with employed persons is generally not collected therein, given the infeasibility of treating such households as enterprises, the value added generated by this activity is taken to be the wages paid to employed persons by the households.

3. Accordingly, wage-related information has been extracted from the **Person-level files** (Visit 1) of PLFS, and the labour input for this NIC has been adjusted using projected population figures provided in the document “*Report of the Technical Group on Population Projections*” (Ministry of Health and Family Welfare).

4. The estimation methodology is as under:

$$GVA = GVAPW * Adj LI$$

Where:

$$GVAPW = \frac{\text{Annual Wage}}{\text{Labour Input}} \text{ (for NIC 97)}$$

$$\text{and } Adj LI \text{ for NIC 97} = \frac{\text{number of workforce for NIC 97}}{\text{Total workforce for PLFS}} * \text{Projected Polpulation}$$

The results for FY 2022-23 and FY 2023-24 generated through this methodology, were presented before the Sub-Committee in the meeting.

5. The Sub-Committee has accepted the methodology, but sought clarification on the status of the variable “Household Type” (self-employed, regular wage, casual, etc., classified as per the usual principal activity of the majority of household members) taken during the estimation. It was clarified that the estimates have been generated from the Person-level files of PLFS and not from the Household-level files. Accordingly, filtering by Household Type is not applicable.

6. In this context, it was further informed that Block 6 of the Person-level files contain information on earnings as under:

- a. **Regular salaried/wage employment:** Earnings (received/receivable) during the preceding calendar month are recorded
 - i. Status code 31: Worked as regular salaried/wage employee
 - ii. Status code 71: Had regular salaried/wage employment but did not work due to sickness
 - iii. Status code 72: Had regular salaried/wage employment but did not work due to other reasons
- b. **Self-employment:** Gross earnings during the last 30 days are recorded.
 - i. Status code 11: Worked in household enterprise (self-employed) as own-account worker
 - ii. Status code 12: Worked in household enterprise (self-employed) as employer
 - iii. Status code 61: Had work in household enterprise but did not work due to sickness
 - iv. Status code 62: Had work in household enterprise but did not work due to other reasons

It was also noted that no entries were reported for self-employment in NIC 97.

(6) 1. GVA estimates in respect of Unincorporated Sector

1.1 In the current 2011-12 series, GVA estimates in respect of unincorporated segments of manufacturing and services sectors are compiled indirectly through Effective Labour Input Method (ELI Method) using the benchmark-indicator procedure. In this method, benchmark GVA estimates are prepared at detailed activity level for base year using estimated effective labour input estimates from Employment and Unemployment Survey (EUS) 2011-12 and value added per effective worker in corresponding activity using Enterprise Survey (ES) 2010-11. For subsequent years, base year GVA estimates are extrapolated using appropriate indicators for a concerned economic activity.

1.2 In the Labour Input Method (LI Method), compiling GVAPW from the Enterprise Survey, it is assumed that there is equal contribution from all categories of workers engaged in an economic activity i.e. the productivity of an employer, hired worker, or unpaid family worker is equal. The ELI 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 NSS 67th round - Survey on Unincorporated Enterprises, 2010-11.

1.3 A nested Cobb-Douglas function was used for computing the weights of different categories of workers as follows:

$$Y = A K^{\beta} [L2 + \delta_1 L1 + \delta_2 L3]^{\alpha} \dots \dots \dots (1)$$

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

$$\text{Log } Y = \text{Log } A + \beta \text{ Log } K + \alpha \text{ Log } [L2 + \delta_1 L1 + \delta_2 L3] + YS \text{ Where, } \dots \dots \dots (2)$$

Y = GVA

K = capital

L1 = Owner

L2 = Hired worker (formal + informal)

L3 = Helper

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

1.4 The coefficients of labour terms, δ_1 and δ_2 , in this equation give the relative marginal productivities which are used as conversion factors for conversion of “owners” and “helpers” in terms of hired worker for computation of “effective labour input”. δ_1 and δ_2 in equation (2) are the conversion factors (or relative marginal productivity) of the owner and helper categories of workers respectively in terms of hired worker.

1.5 δ_1 and δ_2 were used for computing GVA per effective worker = GVA from 67th round / $[L2 + \delta_1 L1 + \delta_2 L3]$. The same conversion factors were used on the number of different types of workers as estimated from NSS 68th round Employment and Unemployment Survey (EUS) (duly adjusted for projected population, as per Population Census 2011) for getting effective LI engaged in that particular activity.

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

Concordance between codes given for workers EUS (2011-12) and ES (2010-11) is given as under:

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

1.7 GVA adjusted for labour productivity (Effective GVA) was then computed as product of Effective LI from EUS and GVA per effective worker from ES. This method, referred to as

“effective LI method” was adopted for the unorganised manufacturing as a whole. Effective LI method was used for the unincorporated enterprises of mechanized road transport, services incidental to transport, courier services, cable operators, professional, scientific & technical activities, activities of membership organisations and all categories of personal services.

1.8 The Effective LI method based on establishment was modified in a few categories of non-financial services, namely, education, health, water transport, storage, real estate, renting of machinery, computer & related services, legal and accounting services, by using effective LI and the GVA per effective worker (GVAPEW) of rural establishments and *urban directory* establishments (establishments with 6 or more workers), as the case may be. This method is referred as “modified effective LI method”.

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

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

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

2. Proposed Methodology:

2.1 In the upcoming new series of NAS with base year 2022-23, GVA for unincorporated sector is proposed to be estimated using data from Annual Survey of Unincorporated Sector Enterprises (ASUSE) and Periodic Labour Force Survey (PLFS). In the third meeting of this Sub-committee results based on direct estimates from ASUSE and LI method were presented. As suggested by the Sub-committee, ELI method has been explored and presented in the sixth meeting. Details of the explored methodology is mentioned as follows, along with the recommendations of the Sub-committee. The current exercise has been done to arrive at National level estimates.

2.2 **Option 1:** Annual GVA estimates for unincorporated sector are compiled directly from ASUSE 2022-23 and 2023-24 data.

2.3 **Option 2:** GVA estimates are compiled compilation category (CC) and sector wise, using LI Method, wherein GVAPW is estimated using ASUSE and number of workers from PLFS data, for different compilation category. Existing compilation categories are prepared re-grouping economic activities at three/four/five-digit level as per NIC 2008. Annual GVA estimates are prepared by aggregating the CC X State wise estimates.

2.4 **Option 3:** GVA estimates are compiled compilation category (CC) and sector wise, using ELI Method using a nested Cobb-Douglas production function. Two stage weighted least square estimation method has been applied to arrive at the estimates. Model Expression:

$$L = \delta_0 + \delta_1 L_2 + \delta_2 L_3 \dots\dots\dots (1)$$

$$Y = A K^\alpha \hat{L}^\beta \dots\dots\dots (2)$$

where,

Y = GVA

K = capital; L (L1 + L2 + L3) = Labour

L1 = Owner

L2 = Hired worker (formal + informal)

L3 = Helper

2.5 In the first stage, eq (1) is fitted to estimate total workers using category wise worker information (i.e. L1, L2 and L3), along with corresponding marginal productivity from ASUSE data, at individual CC and sector level. Weighted least square method has been applied where weights are taken as multipliers.

2.6 In the second stage, \hat{L} from eq (1) is used in the modified Cobb Douglas production function for different compilation category, separately for rural and urban sectors. Eq (2) is modified as follows:

$$Y = A K^\alpha [\hat{\delta}_0 + \hat{\delta}_1 L2 + \hat{\delta}_2 L3]^\beta \dots\dots\dots(3)$$

After taking the natural log of eq. (3),

$$\text{Log } Y = \text{Log } A + \alpha \text{Log } K + \beta \text{Log } [\hat{L}] \dots\dots\dots(4)$$

2.7 By using equation (4), α and β are estimated using weighted least square where multipliers are taken as weights.

Using $\hat{\delta}_1, \hat{\delta}_2, \hat{\alpha}$ and $\hat{\beta}$, contribution of L1, L2, L3 and capital in GVA are compiled.

2.8 Combining GVA(L1), GVA(L2), GVA(L3) and GVA(K) along with the workforce estimates of L1, L2 and L3 using PLFS data (adjusted with projected population based on Population Census 2011) for corresponding ASUSE survey year, GVA by ELI method for different CC and sectors are compiled. Concordance between codes given for workers in PLFS and ASUSE is given as follows:

Sl.No.	Description	Code in PLFS	Code in ASUSE
1	working owner	11 & 12	781
2	formal hired worker	31	782
3	informal hired worker	51	783
4	unpaid family member	21	784

3. All India estimates for FY 2022-23 and 2023-24 was presented during the meeting. The results were deliberated in details during the meeting and it was observed that estimates derived using the three methods are diverging widely from the released NAS figures.

Major reason for divergence can be broadly attributed to change in coverage as in the proposed methodology, GVAPW or GVAPW have been estimated uniformly for all the services considering the entire database of ASUSE and PLFS (related to unincorporated sector), as opposed to the truncated approach adopted in the existing series considering urban directory establishments i.e. establishment with only 6 or more workers, which is a meagre 5% of the entire sample of ASUSE.

Another possible explanation is use of different indicators for each of these industries to move the base year estimates in order to arrive subsequent year GVA estimates. For example, using growth rate of private corporate sector to estimate GVA of unincorporated segment of Hotels & restaurants, using GST growth rate for trade & repair services (post 2017-18) etc.

4. Recommendations:

4.1 It was suggested that a detailed comparison of institution sector wise estimates for the upcoming series, using proposed methodologies, with the current official estimates based on the 2011-12 series for FY 2022-23 and 2023-24 may be prepared which will help in assessing the extent of divergence in the overall economy and provide a more comprehensive view of the existing scenario. The exercise will also indicate whether the new estimates capture recent structural changes in the economy more effectively than the existing benchmark.

4.2 In the event of significant differences being observed in the CC wise estimates combining the institutional sectors, it was suggested that a systematic exploration of the underlying causes should be carried out. This analysis may include an assessment of changes in data sources, coverage, classification methods or estimation techniques.

List of participants of 6th meeting of sub-committee of ACNAS held on 23rd September, 2025

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Tmt. R Jaya, Principal Secretary/Commissioner DES -TN
3. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
4. Dr. Sanjay Singh, Director, DSIM, RBI (attended virtually)
5. DES Tamil Nadu (attended virtually)
6. Mr. Arun C Adatte, JD, DEA
7. DES Tripura, (attended virtually)
8. DD, MSME, (attended virtually)
9. Ms Shalu Goyal, DD- DES UP
10. DES UP (attended virtually)
11. Shri Siddhartha Kundu, ADG, NAD
12. Shri Brijendra Singh, DDG, NAD
13. Shri Rajesh Kumar Sharma, DDG, NAD
14. Ms Subhra Sarkar, DDG, NAD
15. Shri Rajeev Kumar, DDG, NAD
16. Ms Monami Mitra, Director, NAD
17. Ms. Meera A. P., Director, NAD
18. Ms Kratika Mittal, Director, NAD
19. Shri Rohit Maurya, Director, NAD
20. Shri Shirke Shrinivas V., Director, NAD
21. Ms. Pooja Rani, Director, NAD
22. Shri Vishal Kumar, Director, NAD
23. Ms. Saroj, JD, NAD
24. Ms Priyanka S. Pant, DD, NAD
25. Ms. Saumya Mishra, DD, NAD
26. Shri Dipankar Mitra, DD, NAD
27. Ms Priyanka Anjoy, DD, NAD
28. Ms Nigar Fatma, DD, NAD
29. Ms Jagrti Garg, DD, NAD
30. Ms Kanwaljit Kaur, AD, NAD
31. Shri A. K. Tripathi, SSO, NAD

F.NO. U-11011/2/2024-NAD(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
 Ministry of Statistics and Programme Implementation
 राष्ट्रीय सांख्यिकीय कार्यालय / National Statistical Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-07/11/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the seventh meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 15th October, 2025

Minutes of the seventh meeting of the Sub-committee of ACNAS for Methodological Improvement held on 15th October, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal
 (Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal
 (Kratika Mittal)
 Director

Minutes of the seventh meeting of the Sub-committee for Methodological Improvements held on 15.10.2025

The seventh meeting of the Sub-committee for Methodological Improvements was held on 15.10.2025 at 02.30 PM in Room no. 201 (Conference Hall), MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure. At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI.

In the meeting, discussion took place on the issues pertaining to following sectors:

1. **Non-Financial Private Corporate (NFPC) Sector**
2. **Non-Departmental Enterprises (NDE)**
3. **General Government Sector**
4. **Unorganized Sector**

The detailed discussion held in the meeting are summarized in succeeding paragraphs.

1. **Non-Financial Private Corporate (NFPC) Sector:**

The Sub-committee was apprised of the methodology being followed in compilation of the estimates of the Non-financial Private Corporate (NFPC) Sector. Changes proposed in the existing methodology were thereafter presented before the Committee. Change in estimates for FY 2022-23 as per the methodology proposed in new series vis-à-vis old series along with decomposition of change in different components were also presented before the Committee. Details of discussion held are given in the subsequent paragraphs.

The Committee was apprised that 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 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, Company category viz. Govt/Non-Govt. 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, with a view to make estimation process more robust, it was proposed to use this additional information. Accordingly, following improvements were presented for the consideration of the Sub-committee:

i. **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&I or INDAS taxonomies) or Non-XBRL format. Companies listed on Indian Stock Exchange, or having turnover more than 100 crores, or Paid-up Capital (PUC) more than 5 crores are mandatorily required to use XBRL format. INDAS taxonomy has been introduced w.e.f. 1st April, 2016 in a phased manner. Use of INDAS taxonomy was made mandatory for bigger companies (turnover more than 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.

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, IC etc. As information on **all** components for variables like other expenses was not available at the time of last base year revision, it was mapped to Intermediate Consumption (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 and following changes were proposed in the existing mapping of variables with SNA aggregates:

Variable	Existing Mapping	Proposed 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 (dynamic)
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)
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

ii. **Change in ratios used in estimation of Non-XBRL companies**

As mentioned above, the XBRL companies are mandated to file financial returns following either C&I or INDAS taxonomies, wherein the 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 should be included in Output. In absence of such bifurcation in Non-XBRL data, ratios are estimated using C&I data (i.e. proportion of operating income within total Other Income). Accordingly, a share of Other Income is added to Output of Non-XBRL companies. Similarly, ratios were used for other variables like Finance cost, Other expense etc. In 2011-12 series, this was as per the recommendation by the Sub-committee on Private Corporate Sector including PPPs. The details of ratios used in 2011-12 series are as follows:

Variable as per accounts of companies	Mapped to SNA Aggregate		
	Other income	28% as Output	54% as Property Income Received
Finance cost	89% as Property Income Paid	6% as IC	
Other expense	7% as Property Income Paid	19% as IC	0.2% as OCT Paid

OCT: Other Current Transfer, IC: Intermediate Consumption

These ratios were worked out for base year and used in all subsequent years. However, it was proposed to re-calculate these ratios, each year, in the new series. The revised ratios calculated for 2022-23 are as follows:

Variable as per accounts of companies	Mapped to SNA Aggregate		
	Other income	8% as Output	44% as Property Income Received
Finance cost	88% as Property Income Paid	11% as IC	
Other expense	1% as Property Income Paid	81% as IC (for Mfg.), 92% as IC (for remaining sectors)	0.5% as OCT Paid

iii. **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 last base year revision, industrial activity codes were assigned either by manual profiling of bigger companies or using the information of NIC code embedded in Corporate Identification Number (CIN) of a company which is assigned at the time of registration. However, over a period of time, if a company changes its business, the same may not be reflected in its CIN. Thus, 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 change in business activities of a company can be captured. The above-mentioned information available in MGT forms was proposed to be used to assign the industrial activity code to the companies based on major economic activity reported in MGT form.

iv. **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 can also be used to segregate economic activities and consequently the value added by each business of the enterprise. In the third meeting of the Sub-committee on methodological improvements held on 16th April, 2025, results generated for FY 2022-23 following the proposed methodology for segregating the multi-activities were presented. The Sub-committee accepted the methodology and suggested to present the results before the ACNAS for final decision. Accordingly, in the second meeting of ACNAS held on 14th May, 2025, the methodology for

segregation of activities in case of multi-activity enterprises in NFPC Sector, along with results for 2022-23, was presented. The results were accepted by the ACNAS. Indicators proposed for segregating various aggregates are summarized in the table given below:

Aggregate	Method of segregation
Output	In proportion to industry-wise Output-turnover ratio as per single activity companies; then pro rata adjusted to company level total
IC	In proportion to industry-wise Input-Output ratio as per single activity companies; then pro rata adjusted to company level total
GVA	Derived figure
Compensation of Employees	In proportion to CE- GVA share in single activity companies; Multi activity CE thus obtained is then pro rata adjusted to company level total
Production Tax less Subsidy	In proportion to Net Production Tax-GVA share in single activity companies; Multi activity Tax thus obtained is then pro rata adjusted to company level total
Operating Surplus	In proportion to OS-GVA share in single activity companies; Multi activity OS thus obtained is then pro rata adjusted to company level total
Property Income Received	In proportion to Property Income Received-OS ratio as per single activity companies; then pro rata adjusted to company level total
Property Income Paid	In proportion to activity wise OS
Balance of Primary Income	Derived figure
Other Current Transfer Received	In proportion to Other Current Transfer Received - Balance of Primary Income Ratio as per single activity companies; then pro rata adjusted to company level total
Other Current Transfer Paid	In proportion to activity wise OS
Income Tax Paid	In proportion to activity wise OS
Savings	Derived figure

v. **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. The following formula was used to arrive at the estimates:

$$\begin{aligned}
 & \textit{Aggregate}_{population} \\
 &= \textit{Aggregate}_{reporting_PLC} \times \frac{(\textit{Global PUC})_{PLC}}{(\textit{Reporting PUC})_{PLC}} \\
 &+ \textit{Aggregate}_{reporting_NPLC} \times \frac{(\textit{Global PUC})_{NPLC}}{(\textit{Reporting PUC})_{NPLC}}
 \end{aligned}$$

Due to non-availability of PUC at disaggregated level in 2011-12 series, multiplier was applied at economy level (though separately for Public and Non-Public Limited companies).

However, the availability of frame of active companies has enabled NAD to use the multiplier at disaggregated level in 2022-23 series instead of using it at 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 was felt more appropriate to apply a scaling up factor at Industry x Size Class (0-5 crore, 5-50 crore and 50 crore and above) level.

vi. **Use of LLP data**

There has been a substantial increase in the coverage of Limited Liability Partnership (LLP) companies. Count of reporting LLPs has grown from less than ten thousand in 2013-14 to more than 1.3 lakhs in 2022-23. Estimates of LLP are compiled using Production approach. The frame of active LLPs is also now being shared by MCA along with Industry code as per NIC 2004/NIC 2008. In order to account for non-reporting LLPs, multiplier based on variable 'Obligation to contribution', available in both frame and reporting set, was proposed to be used.

All the suggested improvements outlined in preceding paras for NFPC sector were accepted by the Sub-committee. However, the Sub-committee suggested to assess the change in ratios for Non-XBRL companies, if 1st revenue decile class for C&I companies was used instead of all C&I companies.

2. Non-Departmental Enterprises (NDE)

As suggested in the second meeting of ACNAS, the segregation of activities in case of multi-activity NDEs was also done following the methodology adopted for Non-Financial Private Corporate Sector. About 100 multi-activity reporting companies accounting for 10% of overall NDE GVA were found for FY 2022-23.

The Committee was apprised that there are only a limited number of companies in each industry, and each industry is dominated by even smaller number of companies. Industry-wise ratios based on single activity companies are not likely to represent the industry. Therefore, in absence of any other alternative, ratios calculated for companies in NFPC sector were used.

The Committee suggested to segregate the activities of multi-activity NDEs following the methodology approved for Non-financial Private Corporate Sector, using the single activity ratio based on private corporate sector which was more robust.

3. General Government:

i. Adjustment for pension:

Committee was briefed about the proposal for making adjustment in the pension payments for accurately capturing the compensation of employees. Pension payments represent deferred compensation for work already done. Present value of the future pension entitlement for the serving employees is required to be imputed for each accounting period to arrive at the pension payable to serving employees. As a proxy, however, the annual pension outgo to retired employees is treated as the accrued pension of the serving employees.

With the introduction of the National Pension System (NPS) in 2004, some employees are now covered under a defined contribution plan, while others remain under the Old Pension Scheme (OPS), a defined benefit plan. If all the employees are part of OPS, the pension paid out to retired employees may be considered as a proxy for the serving employees' pension, as has been the practice so far. Now, with the introduction of NPS, contribution of government towards pension of such employees as well as employees' own contribution are both reported under compensation of employees in the budget document. If pension being provided to retired employees is also added to compensation to employees, as was being done when there was no NPS, without considering that some of the employees are now covered under NPS (and this number is growing year after year), it may lead to overestimation of the Net Value Added (NVA). The value of pension payment as per OPS being included in Compensation of Employees should taper off in the same manner as number of employees under OPS.

To make adjustment in the pension payments, following methods were proposed before the committee: -

1. A factor based on the ratio of OPS serving employees to OPS retired employees may be applied to pension amount paid under OPS
2. A factor based on the ratio of OPS serving employees in the total serving employees may be applied to pension amount paid under OPS.
3. Since the methods mentioned above require data not only from the Center but from all states also (latter may not be readily available), a factor based on an average retirement period, say 39 years, starting from 2005-06 may be 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. Gradually in 39 years, no pension amount as per OPS will be treated as CE.

In States where OPS is still operational, no adjustment was proposed to be made. Similarly, no adjustment was proposed to be made in case of Armed forces covered under Ministry of Defence. The calculations using the combination of (i) 1 and 3, (ii) 2 and 3 and (iii) only 3 above, were presented before the subcommittee. For methods at 1 & 2 above, states where information wasn't received, the calculation was based on method as indicated at 3 above. Subcommittee agreed with the proposal and suggested to use method indicated at 3 above for making adjustment in the pension payment, citing no dependency on external data.

ii. **Imputation of accommodation provided by government in lieu of HRA**

To accurately reflect the compensation of government employees who receive housing instead of House Rent Allowance (HRA), it was proposed to make imputation to account for the value of the accommodation provided. This ensures that the compensation of these employees and hence the valuation of housing services provided by government is properly captured in estimates of Net Value Added.

To ensure accurate accounting, imputed rent for government-owned dwellings occupied by employees was proposed to be removed from "owner-occupied" dwellings. The information on number of such households who are residing in employer quarters (with requisite NIC) to the total number of households with dwellings was proposed to be taken from the NSS 78th round survey on Multiple Indicator Survey in India. The valuation of housing services provided by the government was proposed to be done by cost of production approach by taking into account consumption of fixed capital on government dwellings and cost of repair and maintenance on them. The value of housing services availed by employees, so imputed, would be included in the private final consumption expenditure. The proposal was accepted by the subcommittee.

4. Unorganized Sector: Estimation of GVA per worker-

The following agenda points as raised by Chairman of the Sub-committee were presented during the meeting

1: List of compilation categories

1.1 Estimates of RSE of GVA per worker (GVAPW) from ASUSE and those of estimated number of workers from PLFS were presented for the existing compilation categories at national level. Sub-committee noted that RSE of GVAPW was more than 10% for five compilation categories viz. 'Manufacture of transport equipments', 'Manufacture of wood and products of wood', 'Postal activities', 'Recording, publishing and broadcasting activities' and 'Recreational, cultural and sporting activities'. After detailed deliberations, it was observed that RSE values did not indicate that any major change in the reclassification of the existing compilation categories is not required. Hence, it was recommended to continue with the existing structure.

2: Arriving at Estimates of GVAPW for the FY: 2022-23

2.1 The issue regarding different survey periods of ASUSE and PLFS in contrast to the requirement of FY 2022-23 as reference year for new series of National accounts was also discussed in detail. As mentioned by the Chairman, during the fieldwork, ASUSE: 2021-22 (April'21-March'22) and ASUSE: 2022-23 (Oct'22-Sep'23) had missed the period of April'22-Sep'22 i.e. the first two quarters of FY: 2022-23. This has led to a need to firm up the views of the sub-committee as to how the estimate of GVAPW for the FY: 2022-23 will be derived.

2.2 In response to this concern of reference period, NAD informed that first quarter of ASUSE 21-22 (i.e. Apr'21 to Jun'21) had certain coverage issues, owing to COVID, which can be inferred from the published report. More importantly, sub-round wise multipliers are also not available for ASUSE 21-22, 22-23 and 23-24 that created difficulty in deriving 'sub-round' wise i.e. quarterly estimates of GVAPW for different years to use the same for appropriate interpolation in arriving at the estimate of GVAPW for the FY: 2022-23. It was also informed that level estimates are not being derived from ASUSE 22-23 and instead GVAPW, which is a ratio estimate, is being used from ASUSE 22-23 industry-wise along with corresponding workforce estimates derived from PLFS 22-23 after adjusting with projected population (Report of M/o Health & Family Welfare) to arrive at GVA of unincorporated sector.

2.3 It was also brought to the notice of the Sub-committee that ASUSE 23-24 also follows the same reference period of Oct'23 to Sept'24, while the future rounds of ASUSE will be conducted following a calendar year approach. Taking in view this difference in reference period of ASUSE over the years and other factors as discussed in the preceding paragraph, Sub-committee recommended the proposal of using GVAPW from any existing round of ASUSE, while mentioning the underlying assumption of ratio estimates behaving consistently across the quarters/sub-rounds outside survey period.

3: Labour Input vs. Effective Labour Input Methods

3.1 The existing series uses a mix of the simple 'Labour Input (LI) Method' and 'Effective Labour Input (ELI) Method' for compiling GVA with the latter adopted for most of the industries. In order to decide whether the existing ELI method should continue for these industries, the Chairman had suggested that variation in labour productivity across different categories of workers (namely owner, hired worker and helper) and across States if any, may be presented for an appropriate decision.

3.2 Labour productivity across the aforementioned three categories of workers – L1 (owner), L2 (formal + informal hired worker), L3 (helper), were presented for all-India separately for rural and urban sectors. It was observed that in most of the compilation categories marginal productivities of L2 was found to be higher than that of L1 (excluding marginal productivity of capital), while in some cases marginal

productivities of L3 was more than that of L1 (excluding marginal productivity of capital). After detailed deliberation, Sub-committee has recommended that Labour Input method may be used, in principle, for deriving GVA estimates from ASUSE and PLFS. However, it was suggested that comparison of labour productivity for few major States may also be included in the report of the Sub-committee.

4: Issue of Modified ELI Method

4.1 In the existing series, urban component of GVA for non-financial services like education, health, real estate, computer & related services, trade, hotels & restaurants etc. was derived as the product of LI / ELI and GVA per worker / effective worker of 'Directory Establishments' (i.e. those units working with 6 or more workers including at least one hired worker). Since GVAPW for urban directory establishments is likely to be higher as compared to GVAPW for all establishments, it is likely to create an upward bias in the aggregate estimate of GVA. The issue was discussed in a previous meeting of the Sub-committee but final decision was pending. In this respect, Chairman had suggested that GVA estimates may be presented to the Sub-committee based on different approaches as follows:

(i) No change in the existing approach (Use of combination of LI / ELI / Modified ELI methods) – The same was presented before the Sub-committee and the results show a downward revision of around 16% in the GVA for FY 2022-23 for unincorporated sector as compared to released GVA estimates for FY 2022-23.

(ii) Use of LI methods across all industries with the use of GVAPW for urban Directory Establishments in selected industries as in the existing series – It was reported to the Sub-committee that around 4% of the estimated establishments of urban sector from ASUSE 22-23 fits into the criteria of urban directory establishments. In view of an extremely truncated sample and biased results, this methodology was not proposed by NAD.

(iii) Use of LI method across all industries but without using GVAPW for urban Directory Establishments and instead using GVAPW for all establishments combined – Using LI method separately for rural and urban sectors, GVA was compiled using compilation category wise GVAPW from ASUSE 22-23 along with corresponding workforce estimates from PLFS 2022-23, adjusted with projected population. A decline of around 18% was observed in the GVA estimates for unincorporated sector in comparison to the published estimates for FY 2022-23.

4.2 Two approaches for GVA compilation were mainly examined: Labour Input (LI) and Effective Labour Input (ELI). Direct estimates of GVA from ASUSE were also presented before the Sub-committee. However, Sub-committee recommended against using the direct level estimates from ASUSE in absence of comprehensive or benchmarked totals aligned with national accounts. The sub-committee noted that LI approach has the advantage of requiring fewer assumptions and in view of the discussion on labour productivity of different categories of workers as recorded in para 3.2. Presently, the exercises were also undertaken considering all units covered in ASUSE and not just focusing on establishments i.e. units with at least one hired worker. The Sub-committee also recommended to explore Labour Input method for establishments separately for rural and urban sector. It was decided to consider this agenda in a subsequent meeting of the subcommittee to recommend the suggested method in the upcoming series.

Annexure

List of participants of 7th meeting of sub-committee of ACNAS held on 15.10.2025, 2025

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Shri. Ravi Shankar, Advisor, DSIM, RBI
4. Dr. Rose Mary K Abraham, Economic Advisor, Representative from DEA
5. Dr. Mausumi Das, Professor, DSE (attended virtually)
6. Dr. Chetan Ghate, Director, ISI (attended virtually)
7. Prof. Partha Ray, Director, NIBM
8. Dr. Rajesh K Chauhan, Deputy Director, DES Uttar Pradesh
9. DES UP (attended virtually)
10. DES Tripura, (attended virtually)
11. DES Tamil Nadu (attended virtually)
12. Shri. N.K. Santoshi, DG (CS)
13. Shri Siddhartha Kundu, ADG, NAD
14. Shri Brijendra Singh, DDG, NAD
15. Shri Rajesh Kumar Sharma, DDG, NAD
16. Ms Subhra Sarkar, DDG, NAD
17. Shri Rajeev Kumar, DDG, NAD
18. Ms Monami Mitra, Director, NAD
19. Shri Rohit Maurya, Director, NAD
20. Ms. Meera A. P., Director, NAD
21. Ms Kratika Mittal, Director, NAD
22. Ms. Pooja Rani, Director, NAD
23. Shri Shirke Shrinivas V., Director, NAD
24. Shri Vishal Kumar, Director, NAD
25. Ms. Saroj, JD, NAD
26. Mr. Suraj Kumar, DD, NAD
27. Ms. Saumya Mishra, DD, NAD
28. Ms Priyanka Anjoy, DD, NAD
29. Ms Nigar Fatma, DD, NAD
30. Ms Jagrti Garg, DD, NAD
31. Ms Kanwaljit Kaur, AD, NAD
32. Shri Yogesh, SSO, NAD
33. Shri. Anil Kumar, SSO, NAD
34. Ms. Vartika Agarwal, Consultant

F.NO. U-11011/2/2024-NAD(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
 Ministry of Statistics and Programme Implementation
 राष्ट्रीय सांख्यिकीय कार्यालय / National Statistical Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-17/11/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the eighth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 27th October, 2025

Minutes of the eighth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 27th October, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal
 (Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal
 (Kratika Mittal)
 Director

Minutes of the eighth meeting of the Sub-committee for Methodological Improvements held on 27.10.2025

The eighth meeting of the Sub-committee for Methodological Improvements was held on 27.10.2025 at 02.30 PM in Room no. 609, MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure. At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI.

In the meeting, discussion took place on following issues pertaining to Quarterly National Accounts:

- Exploring GST Data for sector-wise QGVA Compilation and Assessing Data Gaps in Various Economic Sectors/Sub-sectors.
- Improving Institutional Sector-wise Estimation Procedure in QNA system and Methodology of Quarterization in various Economic sectors.
- Methodology for quarterly GVA estimates of Financial Services Sector

The detailed discussion held in the meeting are summarized in succeeding paragraphs.

Agenda Item: Exploring GST Data for sector-wise QGVA Compilation and Assessing Data Gaps in Various Economic Sectors/Sub-sectors

(i) In the Sixth Meeting of the Sub-committee of ACNAS for Methodological Improvement, held on 23.09.2025, use of GST data as an indicator for compiling Quarterly estimates of GVA at Nominal Prices for various economic activities were presented. It was proposed in the sixth meeting that Matched Paired Estimation methodology with treatment for outliers, will be used for computation of Quarterly growth rates. The Sub-Committee observed that the removal of outliers using the aforementioned methods might also lead to the exclusion of certain large companies having a significant share in their respective sectors. Accordingly, it was suggested that for each economic activity, a list of major companies may be prepared so that their data can be analyzed separately.

(ii) It was apprised to the Sub-committee that currently GSTN is providing the complete unit level data for Manufacturing, Retail Trade and Wholesale Trade sector and in case of non-financial sector, data is being provided against 3 lakh (approx.) CIN of private corporate sector. It was also apprised to the Sub-committee that GSTN may also provide HSN/ SAC wise aggregate GST data. Accordingly, based on the data availability, the methodology for computing the quarterly growth rate using outward supply information from GST data was presented before the Sub-committee under two scenarios:

Scenario I: HSN/ SAC wise aggregate GST data is received from GSTN.

Scenario II: Unit level GST data, as currently being provided for (i) All institutional sectors of Manufacturing, Retail Trade and Wholesale Trade, and (ii) Private Corporate part of other Non-financial Services sector.

(iii) It was proposed to the Sub-committee that Under scenario I, as the unit level data may not be available, growth rate will be computed directly based on aggregate data (Industry/ Institution wise).

(iv) Under scenario II, the following methodology was presented:

- (a) Industry/ Institutional sector wise unit level data will be divided into two Sets. First set will be comprising top entities having more than 1% share in total output within institutional x industry sector class. Second set will be comprising all other remaining entities.
- (b) In the first set having top entities, imputation for missing observation will be done based on the growth rate observed in the reporting entities and then total output after imputation will be computed.
- (c) In the second set of remaining entities, the output will be computed using matched pair estimation and outlier removal (using band of Mean \pm 2*Std. Dev. of log growth rate) procedure.
- (d) Based on the output computed for both the sets, the total output will be computed and thereafter, growth rate of this total output will be used for estimation of quarterly GVA of respective industry/ institutional sector.

(v) It was also informed to the Sub-committee that in case of Non-financial services sector (Private Corporate) for which truncated data is being received, the coverage of most of the industry sector is more than 70% in terms of total output. Accordingly, it was proposed that under scenario II, GST outward supply data will be used as per proposed methodology for the following industry/ institutional sector:

(a) Manufacturing – Quasi and Household sector

(b) Wholesale and Retail Trade – All the institutional sectors

(c) Private Corporate part of Hotel; Road Transport; Remediation Services; Storage; Real Estate and Professional Services; and Other Services (Education, Health, Recreation, Activities of membership etc.) sectors.

(vi) Under scenario I, as the HSN/ SAC wise aggregate GST data may be received, Industry/ Institution wise growth rate based on aggregate outward supply data will be used for estimation of the quarterly GVA of following Industry/ Institutional sector:

(a) Manufacturing – Quasi and Household sector

(b) Wholesale and Retail Trade - All the institutional sectors

(c) Communication – Public, Quasi and Household sector

(d) IT – Public, Quasi and Household sector

(e) Hotels and Restaurants; Road Transport; Remediation Services; Storage; Real Estate and Professional Services; Renting; and Other Services (Education, Health, Recreation, Activities of membership etc.) - All the institutional sectors

(vii) Further, it was apprised to the Sub-committee that coverage of Private Corporate part of Manufacturing, Telecommunication and IT sectors is adequate under listed companies in terms of share in GVA. In the financial results of listed companies, the variables for both output and input are available, therefore, it is better indicator for GVA estimation than GST data specifically for those sectors where input-output ratio is high and growth in input is not aligned to the growth in the output. Accordingly, it was proposed that for the estimation of quarterly GVA of Private Corporate part of Manufacturing, Telecommunication and IT sectors, the quarterly financial results of listed companies will be used as per existing practice.

(viii) For 'Repair & Maintenance of Motor Vehicles' sector, as per existing practice, the quarterly GVA at current prices is estimated using growth in Domestic Sales of Vehicles of all categories inflated by TTM-weighted WPI. It was proposed that the same methodology will be continued.

(ix) After detailed deliberations, the Sub-committee agreed for the proposed methodology with the following suggestions:

- (a) Sub-committee observed that under scenario II of using GST data, preparation of set of top entities on the basis of the entities having 1% and more share in the total output, may have the possibility that the set so prepared does not cover the major part of the total output in case of some industries. Therefore, Sub-committee suggested that the top entities covering the 80% share of total output of respective industry may be taken in the set.
- (b) Sub-committee also suggested that in the second set of entities under scenario II, simple match paired method may be used for computation of total output of this set.

Agenda Item II: Improving Institutional Sector-wise Estimation Procedure in QNA system and Methodology of Quarterization in various Economic sectors

(i) It was apprised to the Sub-committee that availability of GST data at disaggregate level with the identifier for the type of Institutional Sector, will improve the Institutional sector-wise estimation of Quarterly GVA for these sectors and will address the following issues of current series:

- For the Private Corporate part of the major Non-Financial Services sectors, the data source has been Listed Companies' Financial results. However, for certain economic sectors/sub-sectors (e.g., Real Estate, Wholesale and Retail Trade, Other Business Services, Education, Health etc), the coverage of listed companies at quarterly level is not adequate.
- For the Public sector, no indicators were used, irrespective of any economic sectors/subsectors.
- For Unincorporated (Quasi and HH) part, indicators were not adequate.

Methodology for Quarterization:

(ii) It was proposed that for quarterisation of GVA estimates of the Base year 2022-23, the proportion of Outward Taxable supply in GST data will be used for all those sectors where GST data will be used as indicator for GVA estimation as proposed above.

(iii) Similarly, for Private Corporate part of Manufacturing, Telecommunication and IT sectors, it was proposed that the proportion of GVA of listed companies reporting the quarterly financial results will be used for quarterisation in the base year for these sectors.

(iv) For the remaining sectors such as Agriculture and Allied sector, Mining, Electricity and Construction sectors, the quarterisation will be based on the related data/ indicators as detailed below:

Sector/ Sub-sector	Method of Quarterization
Crop	<p>(a) The Ministry of Agriculture has provided quarterly production estimates for 62 Crops, which constitutes 70% share in Total Crop GVO. For these crops, crop-wise quarterisation of GVO in the base year will be done using quarterly production estimates.</p> <p>(b) For the remaining crops, and irrigation part equal Quarterization will be done.</p>
Livestock	<p>(a) For Major Livestock Products (Milk, Egg, Meat and Wool), season-wise (Summer, Rainy and Winter) production estimates are being provided by Department of Animal Husbandry and Dairying. Estimates of each season comprising of 4 months, will be first divided equally in all the 4 months. From this monthly estimates, quarter-wise production estimates will be computed which will be used for quarterisation of GVO of major livestock products in the base year.</p> <p>(b) For all other livestock products (~6% share in total GVO of Livestock), quarterly data is unavailable. Therefore, it was proposed to do equal quarterization of GVO of these livestock products in the base year.</p>
Forestry & Logging	Currently, Quarterly data is not available for this sector. Therefore, it was proposed to do equal quarterisation of GVO in the base year as per existing practice.
Fishing & Aquaculture	Quarterly production data of Inland and Marine Fish is being provided by Department of Fisheries. The same will be used for quarterisation of GVO of this sector in the base year.
Mining & Quarrying	For Mining & Quarrying, the quarterisation will be based on the monthly data of relevant Index of Industrial Production (IIP) and Index of Core Industries (ICI of Coal, Crude oil and Natural gas).
Construction	Constant price estimates of GVA of Construction sector is estimated using volume extrapolation of Input items (Cement, Steel, Bricks and tiles, Fixtures and fittings, Bitumen and Bitumen mixtures and Glass and Glass products, etc.)

	using the indicators ICI Cement, Steel Consumption data, IIP Wood, Wood Products, IIP Non-Metallic Mineral products, IIP Infrastructure and Construction Goods. These indicators will be used for quarterisation purpose of this sector in the base year.
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(v) After detailed deliberation, Sub-committee acknowledged the improvement in the institutional sector-wise estimation of GVA of various sectors and also agreed for the proposed method for the quarterisation of GVA of various sectors in the base year.

Methodology for estimation of Quarterly Product Taxes and Subsidies at current prices:

I. Estimation of Quarterly Product Taxes at current prices

(i) It was apprised to the Sub-committee that for Central product taxes (except GST) and State product taxes (except GST), direct estimates are available at monthly level from website of CGA and CAG, respectively. The same will be used for the estimation of quarterly product taxes as per existing practice. However, in case of GST, at present Gross GST collection was being used for quarterly estimates. It will be replaced by Net GST collection available from GST portal which is in alignment with Annual Estimates of GST.

(ii) For local body taxes which is around 3% of total product taxes, quarterly information is not available. Therefore, it was proposed that as per existing practice, past trend at annual level will be used for estimation of local body taxes at quarterly level.

(iii) The sub-committee agreed for the proposed methodology.

II. Estimation of Quarterly Product Subsidies at current prices

(i) It was apprised to the sub-committee that for major product subsidies of centre (**Nutrient Based Fertilizers Subsidy, Urea Subsidy and Petroleum Subsidy**), direct estimates are available at monthly level from website of CGA.

(ii) For other product subsidies of centre (around 5% of total Centre subsidies), information is not available at monthly/ quarterly level. Therefore, it was proposed that Budget estimates/ Revised estimates of other product subsidies of centre will be divided equally at quarterly level.

(iii) Data on total subsidies of the states are available at monthly level from the website of CAG. For the estimation of State Product subsidies at quarterly level, it was proposed that as per existing practice, Quarterly estimates of previous year will be moved with year on year growth observed in total subsidies of states at quarterly level.

(iv) The Sub-committee agreed for the proposed methodology for Estimation of Quarterly Product Subsidies at current prices.

Agenda Item III: Methodology for quarterly GVA estimates of Financial Services Sector

(i) It was apprised to the Sub-committee that for Financial sector, estimation is basically involved at Nine sub-sectoral level under which, S-122 (Deposit Taking Corporations), S-125 (Other Financial Intermediaries except Insurance Corporations & Pension Funds), S-126 (Financial Auxiliaries) and S-128 (Insurance Corporations) contribute more than 90% share in the total GVA of Financial sector. The proposed sector-wise methodology for estimation of quarterly GVA of Financial Sector was presented in the meeting. Sub-sector wise methodology as proposed in the meeting are given in succeeding paras.

S-121- Central Bank (RBI):

(ii) It was informed to the Sub-committee that as per existing practice, for quarterly estimates of GVA of RBI, past year growth is applied at annual level and then equal quarterisation is done. In Annual National Accounts, the cost method (Output = IC + CE + CFC + Net taxes on production) will be used for estimation of GVA of RBI as approved by the Sub-committee. Ministry has requested RBI to provide data on CE at quarterly level. Accordingly, it was proposed that if the quarterly CE is available from RBI the same will be used for estimation of quarterly GVA of RBI. Otherwise, existing practice will be continued. The Sub-committee agreed for the proposed methodology.

S-122- Deposit Taking Corporations:

(iii) It was apprised to the sub-committee that at present, growth in aggregate bank deposit and credit is used as an indicator for estimation of quarterly GVA at current prices of this sub-sector. Following methodologies were proposed for estimation of quarterly GVA of this sub-sector in the new series:

Method A: In each quarter, Growth Rate observed in Aggregate Credit + Deposit will be taken as proxy of the Annual growth rate. Thereafter, the Annual GVA will be quarterized based on the latest quarter-wise distribution observed in (Interest Earned + Interest Expanded) for all public and private sector banks.

Method B: Quarterly GVA will be estimated by extrapolating the estimates of the same quarter of previous year with the growth Rate observed in Aggregate Credit + Deposit.

Method C: In this method, it was proposed to compute the FISIM at quarterly level for estimation of quarterly GVA. Accordingly, RBI has been requested to provide Quarter-wise information of FISIM on loans and FISIM on deposits. However, an attempt has also been made for computing the FISIM using the Outstanding Credit, Outstanding Deposit, Lending Rate and Deposit Rate on monthly basis sourced from RBI.

(iv) Results of all the above methods were also presented before the Sub-committee. It was noted by the Sub-committee that quarterly FISIM calculated as per Method C, has resulted in the negative growth in FISIM for FY 2023-24. Accordingly, Sub-committee suggested that NAD may revisit the methodology of computing the FISIM at quarterly level in consultation with the RBI, and the findings may be presented in the next meeting of the Sub-committee.

S-125 & S-126- Other Financial Intermediaries except Insurance Corporations & Pension Funds & Financial Auxiliaries

(v) In the current series, information on data of revenue from operations in respect of Listed NBFCs, Stock Brokers, Stock Exchanges etc are received from BSE at quarterly level. Year-on-year growth in revenue observed in any particular quarter is used to estimate the GVA of this sub-sector for the respective quarter. It was apprised to the sub-committee that same data source may be used as Indicator in the new series. However, Sub-committee suggested that NAD may explore the computation of FISIM at quarterly level for S-125.

S-127- Money Lenders and Remaining Unorganised Segments except Insurance Agents:

(vi) For this sub-sector, data is not available at quarterly level. Therefore, it was proposed that growth rate observed in previous year may be taken as proxy.

S-128- Insurance Corporations (Life and Non-Life Insurance):

(vii) It was apprised to the sub-committee that in the existing series, for public life insurance, Net premium earned information from LIC and for Non-Life Insurers, Gross Direct Premium underwritten information available from IRDAI are being used as indicators for estimation of quarterly GVA at current prices for this sub-sector. For Private Life Insurance, no indicator was available in the existing series. It was also informed to the sub-committee that in the current practice, annual estimates are prepared first for LIC and Non-Life using growth rates observed in related indicator in particular quarter and imputed growth rates for remaining quarters. Quarterization in LIC is done in proportion of the quarterly Net Premium Income for LIC, and for Non-Life Insurance, equal Quarterization is done.

(viii) It was proposed that for Quarterly estimation of GVA of LIC and Private Life Insurance respectively, information on Net premium earned may be used as an indicator for quarterly estimation of GVA and also for the quarterisation of base year estimates of this sub-sector. For Non-Life Insurers, it was proposed that information on Gross Direct Premium underwritten as available from IRDAI will be used as an indicator. However, quarterisation of base year estimates of this sub-sector will be done in proportion of the mentioned indicator instead of equal quarterisation.

(ix) After deliberation, the sub-committee agreed for the proposed methodology for estimation of quarterly GVA of Insurance Corporations.

The meeting ended with vote of thanks to the chair.

Annexure**List of participants of 8th meeting of sub-committee of ACNAS held on 27.10.2025**

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Dr. Rajesh K Chauhan, Deputy Director, DES Uttar Pradesh
4. DES UP (attended virtually)
5. Dr. Mausumi Das, DSE (attended virtually)
6. Prof. Partha Ray, Director NIBM (attended virtually)
7. Dr. Chetan Ghate, ISI, (attended virtually)
8. DES Tripura, (attended virtually)
9. DES Tamil Nadu (attended virtually)
10. Shri. N.K. Santoshi, DG (CS)
11. Shri Siddhartha Kundu, ADG, NAD
12. Shri Brijendra Singh, DDG, NAD
13. Shri Rajesh Kumar Sharma, DDG, NAD
14. Ms Subhra Sarkar, DDG, NAD
15. Shri Rajeev Kumar, DDG, NAD
16. Ms Monami Mitra, Director, NAD
17. Ms. Meera A. P., Director, NAD
18. Ms Kratika Mittal, Director, NAD
19. Ms. Pooja Rani, Director, NAD
20. Shri Vishal Kumar, Director, NAD
21. Ms. Saroj, JD, NAD
22. Ms Priyanka Anjoy, DD, NAD
23. Ms Nigar Fatma, DD, NAD
24. Ms Kanwaljit Kaur, AD, NAD
25. Ms. Vartika Agarwal, Consultant, NAD

F.NO. U-11011/2/2024-NAD(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
 Ministry of Statistics and Programme Implementation
 राष्ट्रीय सांख्यिकीय कार्यालय / National Statistical Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-24/11/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the ninth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 4th November, 2025

Minutes of the ninth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 4th November, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal

(Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal

(Kratika Mittal)
 Director

Minutes of the ninth meeting of the Sub-committee for Methodological Improvements held on 04.11.2025

The ninth meeting of the Sub-committee for Methodological Improvements was held on 04.11.2025 at 10.00 AM in Room no. 609, MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure. At the outset, the chairperson welcomed the sub-committee members as well as the officers from National Accounts Division (NAD), MoSPI.

In the meeting, discussion took place on the issues pertaining to following sector:

A. Agriculture sector

B. Private Final Consumption Expenditure

The detailed discussion held in the meeting are summarized in succeeding paragraphs.

A. Agriculture Sector

Seed rate as input for crop sector

Sub-committee was briefed about the current methodology followed for the estimation of seed value as an input in the crop sector. It was informed that the seed rate for 24 major crops is available annually from the Cost of Cultivation Studies (CCS) conducted by the Ministry of Agriculture and Farmers Welfare (MoAgFW). For the remaining crops, seed value estimation is carried out using fixed seed rate along with prices of certain crops in the current series. In those cases where prices for current year is not available, corresponding WPI is used to estimate the same. However, data sources for used seed rates are not available.

Share of seed value for crops not covered under CCS is relatively insignificant, in comparison to those already available from CCS. Hence, it was proposed to restrict the estimation of seed value to only those crops for which seed rate is available from CCS.

However, Sub-committee suggested adopting a combined approach by using relevant CCS information along with the current methodology for the remaining crops. Sub-committee also emphasized that although contribution of non-CCS crops is insignificant, excluding them entirely would result in incomplete coverage of the crop sector. It was also recommended that whenever updated seed rate is available for crops not covered under CCS, the same may be incorporated while estimating the input cost for crop sector.

Consumption of Diesel in tractor and diesel engine

Sub-committee was apprised about the existing methodology used for estimating the consumption of diesel oil in the crop sector, which is derived from the number of tractors and diesel engines in use along with their respective per-unit consumption norms. The data on the number of tractors is obtained from the Ministry of Agriculture and Farmers Welfare

(MoAgFW), while the number of diesel engines was estimated based on information from Indian Livestock Census (ILC) conducted in 1997 and 2003. The norms of diesel consumption per tractor and per diesel engine were established using data collected from the Cost of Cultivation Studies (CCS) for the base year 2011–12. For subsequent years, these consumption norms have been updated by applying the movement in the Wholesale Price Index (WPI) for diesel, thereby adjusting the base year estimates to reflect price and usage trends over time.

Sub-committee was informed that State Directorates of Economics and Statistics (DES) have been requested to provide updated information on the number of diesel engines in crop sector and on diesel consumption by tractors and diesel engines. Similarly, MoAgFW has also been approached to share any relevant data from CCS as available with them. However, despite these efforts, the required information has not yet been received from either source.

Given that no updated data on the number of diesel engines are available beyond ILC 1997 and 2003, it was proposed to retain the same number of diesel engines as previously assumed since 2016-17.

Recognizing these limitations, Sub-committee suggested exploring alternative data sources for improving the estimation of both the number of diesel engines and the consumption of diesel in tractors and diesel engines. Possible alternative sources could include, MoAgFW, surveys conducted by National Sample Survey Office (NSSO), irrigated area under crop and cropping intensity.

B. Private Final Consumption Expenditure (PFCE):

Proposal for Adoption of COICOP 2018 to the feasible extent

It was informed that at its forty-ninth session, the UN Statistical Commission endorsed the revised Classification of Individual Consumption According to Purpose (COICOP 2018) and recommended that countries use the classification as a statistical standard. As per the information available on United Nations (UN) Website the COICOP 2018 publication has undergone a final review and is being prepared for publication. The complete structure and pre-copy-editing version of the manual is available on UN's website. It is accordingly proposed to Adopt COICOP 2018 to the feasible extent in PFCE compilation. The Committee examined the proposal to adopt COICOP 2018 in line with the recommendations of the UN Statistical Commission. Key changes include:

- Introduction of a fourth hierarchical level (sub class level) in COICOP 2018 which resulted in considerable increase in number of categories.
- Tailoring is now included in the title of 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”.
- 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)

- In division 07 (Transport) added a group, 07.4 (Transportation services for goods), which had previously been included in the expenditure on the good itself and in group 08.1 (Postal services).
- 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. were moved to division 08 in COICOP 2018.
- Division 09 (previously named Recreation and Culture) was renamed as “Recreation, sport and culture” to better reflect its content. Equipments which are now used mainly for information and communication got shifted from earlier division 09 to new Division 08 as indicated above.
- Former division 11 Restaurants and hotels got renamed to Restaurants and accommodation services to better reflect the content of the Division
- Former division 12 (Miscellaneous goods and services) was split into two: division 12 (Insurance and financial services) and division 13 (Personal care, social protection and miscellaneous goods and services).

Accordingly, the proposed list of items for PFCE compilation for the 2022-23 series (Annexure I) as well as their mapping with the PFCE items of 2011-12 series were presented before the Committee. The Committee after detailed deliberations approved the proposal.

Proposed Revisions to Commodity Flow

The following changes were proposed in respect of the Commodity flow approach:

- Wastage ratios/ percentage loss may be 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
- Seed ratemay be used as computed from Cost of Cultivation Survey
- Not to incorporate feed separately as it may be part of Own Consumption/ Inter Industry Consumption.
- In case of Agricultural items production as compiled as part of production side estimates will be considered.
- Use of HCES 2022-23 data for compiling quantity retained for own consumption.
- Inter Industry Consumption, Trade and Transport Margin, Commodity/Item wise Output, Change in Stock, GFCF etc. will be used as compiled for Supply Use Table (SUT); otherwise Annual Survey of Industries (ASI)/ Annual Survey of Unincorporated Enterprises (ASUSE) data will be used.
- GFCE may be used from Budget documents/ M/o Food and Public Distribution

The Committee expressed consent on the above proposal.

Proposals on the methods of compilation of estimates and other related aspects

A method for direct estimation of Benchmark estimates of PFCE for certain commodities from HCES 2022-23 was presented. In general, this method is proposed to be used for items which are expected to exhibit low income elasticity or consumed widely across

household groups and has limited use for intermediate consumption. Considering that these items are staple or commonly used good, the HCES data is expected to closely reflect actual household consumption patterns. Additionally, for some items where the estimates based on this method are closely aligned with existing level of PFCE, this method is proposed. In this method, for base year the estimates may be prepared using the value of per capita consumption based on HCES 2022-23 and Population Projection of M/o Health and Family Welfare.

For Constant/Current price estimates of subsequent years, growth in Net Marketable Surplus in Volume/ Value terms obtained from Commodity flow will be used. CPI of the respective items will be used to derive Current/Constant price estimate. This method is proposed to be used for the items against which the proposed method is indicated as “*Direct*” in Annexure II. Also, for certain items, the proposed method is indicated as “*Direct- ISG*” in Annexure II, it is proposed that base year estimates may be prepared using the value of per capita consumption based on HCES 2022-23 and Population Projection of M/o Health and Family Welfare. These items are identified on the basis that in general its consumptions are likely to increase over time. For subsequent years, Inter Survey Growth may be used for extrapolating Base year estimates for these items. The results based on these methods were also presented before the Committee.

Further for certain items against which the proposed method is indicated as “*Commodity Flow*” in Annexure II it is proposed to use Commodity flow method for deriving the estimates. The detailed proposal for the remaining PFCE items as indicated in Annexure II was also presented before the Committee including the results from the Milk study undertaken through NDRI, inclusion of PFCE on Social Protection etc.

The Committee deliberated on the proposals and approved the proposals subject to the following:

- For electricity, for quantity, CEA data on electricity sold (Domestic) may be used and prices as derived from HCES 2022-23 may be used. The price may be moved forward using CPI (electricity).
- In case of “Passenger transport by railway” PFCE may be computed as 90% of passenger earning.
- As regards proposal on inclusion of PFCE on Social Protection using ASUSE data, the Sub-committee suggested that as the sample sizes in ASUSE for NIC 87 and 88 are very small it is not desirable to publish this PFCE in NAS separately. Instead, it may be combined with the PFCE of Other Services as also advised by Sub Committee III.

PDS food items

It was proposed that in case of food items supplied under PDS, PFCE of PDS items will be 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, DoF&PD may be used. Further as advised by the Sub-committee III, for PDS items, separate price relatives may be considered subject to its availability. Otherwise, PDS price may be kept same as that of base year and Price may be updated on availability of new price data. Sub Committee agreed with the proposals.

PFCE Estimation for Road Transport Sector

The Committee was informed that for compiling PFCE in respect of mechanized passenger road transport, repair and maintenance of personal transport equipments etc., following information are needed:

- Earning per vehicle for different types of commercial vehicles
- Percentage of total earnings attributable to households use
- Cost on fuels, lubricants, repairs & maintenance of personal vehicles etc.

For getting updated information on these items, this Ministry has entrusted a study to Centre for the Study of Regional Development, Jawaharlal Nehru University (JNU). The study is planned to consider 5 States viz., Uttar Pradesh, Maharashtra, Tamil Nadu, Gujarat, Karnataka and NCT of Delhi and the field work of the study is currently progressing. It was proposed that the results from the study may be utilized for compiling estimates in respect of Parts and accessories for personal transport equipment, Fuels and lubricants for personal transport equipment, Maintenance and repair of personal transport equipment, Other services related to personal transport equipment (New item), Passenger transport by road (mechanized), Transport services for goods (To be shifted to Div.7 from former Div.8). For non-mechanised part of passenger transport by road, PFCE may be derived using HCES 2022-23 expenditure share of Non-mechanised to Mechanised. The Sub Committee agreed with the above proposal.

Use of VAHAN Data

1. Deriving vehicle stock

Apart from the above data requirement from the study being undertaken by JNU, data on the stock of vehicles is needed vehicle type -wise. Earlier a proposal for using Vahan registration data for deriving Vehicle stock was discussed in the meeting of Sub Committee I. The sub-committee II was informed that Financial Year-wise, Vehicle category x Vehicle class -wise registration data is available on Vahan portal for all States except Telangana. A tentative mapping is prepared to derive data according to Vehicle type-wise. Using data from Road Transport Year Book 2019-20, Share of Telangana separately in the Total number of newly registered transport and non-transport motor vehicles during 2019-20 is calculated. Using these shares, number of vehicle registrations for Telangana is estimated for different vehicle types for the years 2014-15 onwards and accordingly the total all India figures are derived. Then the stock values are computed following different proposed methods based on assumed lifespan of vehicles. Sub Committee I, while discussing the Vahan data had observed that vehicle insured may be explored in place of vehicle registered since it is giving a very high stock of vehicles. Accordingly, detailed data was obtained from e-Transport (MMP), NIC. Using this data and the data downloaded from Vahan portal, results of the vehicle stock computation using the following methods were presented before this Committee:

Method 1: Considering vehicles registered in last 15 years (inclusive of current year) - For both personal and commercial vehicles:

- Stock of 2022-23(base year) = Sum of number of vehicle registrations for FYs 2008-09 to 2022-23.
- Stock for 2023-24= Stock of 2022-23+ number of vehicles registered in 2023-24 - number of vehicles registered in 2008-09
- This method can be continued for the successive years.

Method 2: Considering vehicles registered in last 12 years (inclusive of current year) - For personal vehicles:

Same as method 1 except that number of years considered here is 12 years (inclusive of current year)

Method 3: Considering vehicles registered in last 10 years (inclusive of current year) - For personal vehicles:

- Same as method 1 except that number of years considered here is 10 years (inclusive of current year)

Method 4: Considering vehicles registered in last 20 years (inclusive of current year) - For commercial vehicles:

- Same as method 1 except that number of years considered here is 20 years (inclusive of current year)

Method 5: Considering number of vehicles insured (according to vehicle type)

- In this method number of vehicles insured (according to vehicle type) is considered as proxy for vehicle stock.

Sub Committee II observed that Method 5 is leading to significant underestimation. The Committee after deliberation suggested that NAD may consult MoRTH regarding the average lifespan of commercial vehicles used in different types of enterprises.

PFCE of Motor car and Motor cycle

A proposal for computing PFCE of Motor cars and motor cycles using sale price as obtained from e-transport (MMP) was also presented before the Committee which was agreed by the Committee.

PFCE Estimation for milk, other dairy products, Butter, Ghee and Ice cream

As per COICOP 2018, it was proposed to classify the Butter & Ghee and Ice Cream under Oil & Fats and Sugar, confectionery and desserts respectively, whereas it is covered under Milk & Milk Products in 2011-12 series. The rates/ratios and retail prices based on the study conducted by NDRI was proposed to derive the estimates. The production of Milk as available from the production side estimates will be used as base estimates to apply the study rates and ratios. Based on this, the PFCE estimates of Milk and other dairy products, Butter & Ghee, Ice Cream for the 2022-23 was also presented before the committee. The methodology as proposed was agreed.

Annexure I

Proposed list of items for PFCE compilation for the 2022-23 series and mapping with the PFCE items of 2011-12 series

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	PFCE Codes: 2011-12 series	PFCE Items: 2011-12 series
01	Food and non-alcoholic beverages	1	Food and non-alcoholic beverages
01.1	Food	1.1	Food
01.1.1	Cereals and cereal products	1.1.1	Bread, cereals and pulses
01.1.1.1	Wheat and wheat products	1.1.1.2	Wheat
01.1.1.2	Rice and rice products	1.1.1.1	Rice
01.1.1.3	Sorghum and sorghum products	1.1.1.3	Jowar
01.1.1.4	Pearl Millet and Pearl Millet products	1.1.1.4	Bajra
01.1.1.5	Finger Millet and Finger Millet products	1.1.1.6	Ragi
01.1.1.6	Other cereals and cereal products	1.1.1.7	Barley
		1.1.1.5	Maize
		1.1.1.8	Small millets
		1.1.1.9	Other cereals
01.1.1.7	Bread and bakery products	1.1.1.11	Bread & Biscuit
01.1.2	Meat	1.1.2	Meat
01.1.2.1	Chicken	1.1.2.9	Chicken
01.1.2.2	Beef/ Buffalomeat	1.1.2.1	Beef
		1.1.2.5	Buffalomeat
01.1.2.3	Pork	1.1.2.2	Pork
01.1.2.4	Mutton/ Goat meat	1.1.2.3	Mutton
		1.1.2.4	Goatmeat
01.1.2.5	Other meat and its products	1.1.2.6	Other meat products
		1.1.2.7	Duck
		1.1.2.8	Fowl
01.1.3	Fish and seafood	1.1.3	Fish and seafood
01.1.4	Milk, other dairy products and eggs	1.1.4	Milk, cheese and eggs
01.1.4.1	Milk and other dairy products	1.1.4.1(P)	Milk and milk products
01.1.4.2	Eggs	1.1.4.2	Eggs
01.1.5	Oils and fats	1.1.5	Oils and fats

01.1.5.1	Groundnut oil	1.1.5.5	Groundnut oil
01.1.5.2	Coconut oil	1.1.5.3	Coconut oil
01.1.5.3	Mustard oil	1.1.5.2	Mustard oil
01.1.5.4	Butter and Ghee	1.1.4.1(P)	Milk and milk products
01.1.5.5	Other edible oils	1.1.5.13	Imported oils
		1.1.5.1	Vanaspati
		1.1.5.4	Gingelly oil
		1.1.5.6	Linseed oil
		1.1.5.7	Castor oil
1.1.5.8	Other edible oils		
01.1.6	Fruits and nuts	1.1.6	Fruit
01.1.6.1	Banana	1.1.6.1	Banana
01.1.6.2	Mango	1.1.6.2	Mango
01.1.6.3	Coconut	1.1.6.7	Coconut
01.1.6.4	Citrus fruits	1.1.6.4	Citrus fruits
01.1.6.5	Grapes	1.1.6.3	Grapes
01.1.6.6	Copra	1.1.6.8	Copra
01.1.6.7	Cashew kernels	1.1.6.5	Cashew kernels
01.1.6.8	Groundnut	1.1.6.6	Groundnut
01.1.6.9	Other fruits	1.1.6.9	Other fruits
01.1.6.10	Fruit products	1.1.6.10	Fruit products
01.1.7	Vegetables, tubers, plantains, cooking bananas and pulses	1.1.7	Vegetables
01.1.7.1	Onions	1.1.7.1	Onion
01.1.7.2	Potatoes	1.1.7.2	Potato
01.1.7.3	Other vegetables and tubers	1.1.7.4	Other vegetables
		1.1.7.3	Sweet potato
		1.1.1.12	Tapioca
01.1.7.4	Vegetable products	1.1.7.5	Vegetable products
01.1.7.5	Green gram	1.1.1.14	Moong
01.1.7.6	Black gram	1.1.1.15	Urad
01.1.7.7	Gram whole	1.1.1.10	Gram whole
01.1.7.8	Pigeon peas	1.1.1.13	Arhar
01.1.7.9	Masoor	1.1.1.16	Masoor
01.1.7.10	Other pulses	1.1.1.18	Other Pulses
01.1.7.11	Gram Products	1.1.1.17	Gram Products
01.1.8	Sugar, confectionery and desserts	1.1.8	Sugar, jam, honey, chocolate and confectionery
01.1.8.1	Gur	1.1.8.2	Gur
		1.1.8.4	Palm Gur
01.1.8.2	Refined Sugar	1.1.8.3	Refined Sugar
01.1.8.3	Sugar confectionery	1.1.8.5	Sugar confectionery

01.1.8.4	Ice cream	1.1.4.1(P)	Milk and milk products
01.1.9	Ready-made food and other food products	1.1.9	Food products n.e.c.
01.1.9.1	Salt	1.1.9.1	Salt
01.1.9.2	Oilseeds	1.1.5.11	Rapeseed and mustard
		1.1.5.9	Sesamum seed
		1.1.5.10	Linseed
		1.1.5.12	Other oilseeds
01.1.9.3	Spices	1.1.9.2	Spices
01.1.9.4	Sugar cane for chewing	1.1.8.1	Sugar cane for chewing
01.1.9.5	Other food	1.1.9.3	Other food
01.2	Non-alcoholic beverages	1.2	Non-Alcoholic Beverages
01.2.1	Coffee, tea and cocoa drinks	1.2.1	Coffee, tea and cocoa
01.2.1.1	Coffee	1.2.1.1	Coffee
01.2.1.2	Tea	1.2.1.2	Tea
01.2.1.3	Cocoa	1.2.1.3	Cocoa
01.2.2	Water, Soft drinks, Fruit and vegetable juices, Other non-alcoholic beverages	1.2.2	Mineral waters, soft drinks, fruit and vegetable juices
02	Alcoholic beverages, tobacco and narcotics	2	Alcoholic Beverages, Tobacco and Narcotics
02.1	Alcoholic beverages	2.1	Alcoholic Beverages
02.2	Tobacco	2.2	Tobacco
02.2.1	Cigarettes	2.2.2	Cigarettes
02.2.2	Tobacco chewing	2.2.1	Tobacco chewing
02.2.3	Bidi	2.2.3	Bidi
02.2.4	Other tobacco products	2.2.4	Other tobacco products
02.3	Narcotics	2.3	Narcotics
02.3.1	Pan	2.3.1	Pan
02.3.2	Areca nut	2.3.2	Areca nut
02.3.3	Opium	2.3.3	Opium
03	Clothing and footwear	3	Clothing and footwear
03.1	Clothing	3.1	Clothing
03.1.1	Clothing materials	3.1.1	Clothing materials
03.1.2	Garments , Other articles of clothing and clothing accessories	3.1.2	Garments & Other articles of clothing and clothing accessories
03.1.3	Cleaning, repair, tailoring and hire of clothing		
03.1.3.1	Cleaning, repair and hire of clothing	3.1.3	Cleaning, repair and hire of clothing
03.1.3.2	Tailoring	12.5.4	Tailoring services
03.2	Footwear	3.2	Footwear
04	Housing, water, electricity, gas and other fuels	4	Housing, water, electricity, gas and other fuels
04.1	Gross rentals, equipment and material for housing	4.1	Gross rentals for housing

04.1.1	Actual and imputed rental payments made for housing	4.1.1	Actual rentals for housing (this included imputed as well)
04.1.2	Services for the maintenance, repair and security of the dwelling	4.1.2	Services for the maintenance and repair of dwelling
04.1.3	Security equipment and materials for dwelling maintenance and repair	5.5(P)	Tools and equipment for house & garden
04.2	Water supply and miscellaneous services relating to the dwelling	4.2	Water supply and miscellaneous services relating to the dwelling
04.2.1	Water supply	4.2.1	Water supply
04.2.2	Refuse collection, Sewage collection, Other services related to the dwelling	4.2.2	Refuge collection, sewage collection and other services relating to dwelling n.e.c.
04.3	Electricity, gas and other fuels	4.3	Electricity, gas and other fuel
04.3.1	Electricity	4.3.1	Electricity
04.3.2	Gas		
04.3.2.1	LPG	4.3.2	Gas
04.3.2.2	Other Gas (Gobar Gas)	4.3.4.5	Gobar gas
04.3.3	Liquid fuels (Kerosene)	4.3.3	Liquid fuels
04.3.4	Solid fuels	4.3.4-4.3.4.5	Solid fuels
		4.3.4.1	Coal
		4.3.4.2	Firewood
		4.3.4.3	Dung fuel
		4.3.4.4	Charcoal
		4.3.4.6	Gas coke
		4.3.4.7	Other fuel
05	Furnishings, household equipment and routine household maintenance	5	Furnishing, household equipment and routine household maintenance
05.1	Furniture and furnishing, carpets and other floor coverings	5.1	Furniture and furnishing, carpets and other floor coverings
05.1.1	Furniture and furnishings	5.1.1	Furniture and furnishings
05.1.2	Carpets and other floor coverings	5.1.2	Carpets and other floor coverings
05.1.3	Clock and watches	12.2.1(P)	Jewellery, clocks and watches
05.1.4	Repair of computer, persnal & Hhs goods, furniture, furnishings and floor coverings (s)	5.1.3	Repair of computer, persnal & Hhs goods, furniture, furnishings and floor coverings
05.2	Household textiles	5.2	Household textiles
05.3	Household appliances	5.3	Household appliances
05.4	Glassware, tableware and household utensils	5.4	Glassware, tableware and household utensils
05.5	Tools and equipment for house and garden	5.5(P)	Tools and equipment for house & garden
05.6	Goods and services for routine household maintenance	5.6	Goods and services for routine household maintenance
05.6.1	Non-durable household goods	5.6.1	Non-durable household goods

05.6.2	Domestic services and household services	5.6.2	Domestic services and household services
06	Health	6	Health
06.1	Health Services		
06.2	Medicines and Health products		
07	Transport	7	Transport
07.1	Purchase of vehicles	7.1	Purchase of vehicles
07.1.1	Motor cars	7.1.1	Motor cars
07.1.2	Motorcycles	7.1.2	Motor cycles
07.1.3	Bicycles and animal drawn vehicles	7.1.3	Bicycles
		7.1.4	Animal-drawn vehicles
07.2	Operation of personal transport equipment	7.2	Operation of personal transport equipment
07.2.1	Parts and accessories for personal transport equipment	7.2.1	Spare parts and accessories for personal transport equipment
07.2.2	Fuels and lubricants for personal transport equipment	7.2.2	Fuels and lubricants for personal transport equipment
07.2.3	Maintenance and repair of personal transport equipment	7.2.3	Maintenance and repair of personal transport equipment
07.2.4	Other services related to personal transport equipment		
07.3	Passenger transport services	7.3	Transport services
07.3.1	Passenger transport by railway	7.3.1	Passenger transport by railway
07.3.2	Passenger transport by road	7.3.2	Passenger transport by road
07.3.3	Passenger transport by air	7.3.3	Passenger transport by air
07.3.4	Passenger transport by sea and inland waterway	7.3.4	Passenger transport by sea and inland waterway
07.3.5	Other passenger transport services	7.3.5	Other purchased transport services
07.4	Transport services for goods	8.1(P)	Postal services
08	Information and communication	8	Communication
08.1	Information and communication equipment		
08.1.1	Fixed telephone equipment, Mobile telephone equipment	8.2	Telephone and telefax equipment
08.1.2	Information processing equipment and software excluding games	9.1.3	Information processing equipment
08.1.3	Equipment for the reception, recording and reproduction of sound and vision	9.1.1	Equipment for the reception, recording and reproduction of sound and pictures
08.2	Information and communication services		
08.2.1	Communication Services	8.1(P)	Postal/Communication Services
08.2.2	Television and radio licences and fees, Subscriptions to audiovisual streaming services and rental of audiovisual content	9.4(P)	Recreational and cultural services
09	Recreation, sport and culture	9	Recreation and culture

09.1	Recreational durables	9.2	Other major durables for recreation and culture
		9.1.2	Photographic and cinematographic equipment and optical instruments
		9.2.1	Major durables for outdoor recreation
		9.2.2(P)	Musical instruments and major durables for indoor recreation
09.2	Other recreational goods	9.3(P)	Other recreational items and equipment, gardens and pets
		9.3.1	Games, toys and hobbies
		9.3.2	Equipment for sport, camping and open-air recreation
09.3	Garden products and pets	9.3(P)	Other recreational items and equipment, gardens and pets
		9.3.1	Garden products, plants and flowers
09.3.2	Pets and pet products	9.3.4	Pets and related products
09.4	Recreational services, Cultural services	9.4(P)	Recreational and cultural services
09.5	Cultural goods		
09.5.1	Musical instruments	9.2.2(P)	Musical instruments and major durables for indoor recreation
09.5.2	Audiovisual media	9.1.4	Recording media
09.6	Newspapers, books and stationery	9.5	Newspapers, books and stationery
		9.5.1	Books
		9.5.2	Newspapers and periodicals
		9.5.3	Miscellaneous printed matter
		9.5.4	Stationery and drawing materials
10	Education	10	Education
11	Restaurants and accommodation services	11	Restaurants and hotels
12	Insurance and financial services	12(P)	Miscellaneous goods and services
12.1	Insurance	12.3	Insurance
12.1.1	Life insurance	12.3.1	Life insurance
12.1.2	Non-life insurance	12.3.2	Insurance connected with transport and fire
12.2	Financial services	12.4	Financial services other than insurance
12.2.1	Financial intermediation services indirectly measured	12.4.1	FISIM
12.2.2	Explicit charges by deposit-taking corporations (S), Other financial services (S)	12.4.2	Other financial services n.e.c.
13	Personal care, social protection and miscellaneous goods and services		Miscellaneous goods and services
		12(P)	
13.1	Personal care	12.1	Personal care
13.1.1	Electric, other appliances, articles and products for personal care	12.1.2	Electric and other appliances for personal care

13.1.2	Hairdressing salons and personal grooming establishments	12.1.1	Hairdressing salons and personal grooming establishments
13.2	Other personal effects	12.2-12.2.1	Personal effect n.e.c
		12.2.2	Other personal effects
13.3	Other services	12.5	Other services n.e.c
13.3.1	Religious services	12.5.5	Religious services
13.3.2	Legal services	12.5.1	Legal services
13.3.3	Funeral services	12.5.2	Funeral services
13.3.4	Business services	12.5.3	Business services
13.3.5	Social protection		

Annexure II

Proposals on PFCE Compilation

PFCE Codes: 2022-23 series	PFCE Items: 2022-23 series	Proposed method (<i>Direct: Benchmark estimates from HCES 2022-23 and extrapolation using growth in Net MS; Direct-ISG: Benchmark estimates from HCES 2022-23 and extrapolation using inter survey growth; Commodity flow</i>)	Proposal
01	Food and non-alcoholic beverages		
01.1	Food		
01.1.1	Cereals and cereal products		<i>Change in grouping as per COICOP(Pulses in separate group)</i>
01.1.1.1	Wheat and wheat products	Direct	
01.1.1.2	Rice and rice products	Direct	
01.1.1.3	Sorghum and sorghum products	Direct	
01.1.1.4	Pearl Millet and Pearl Millet products	Direct	
01.1.1.5	Finger Millet and Finger Millet products	Direct	
01.1.1.6	Other cereals and cereal products	Direct	<i>It is proposed not to compile barley, maize and small millets separately. But to include them in Other cereals and cereal products</i>
01.1.1.7	Bread and bakery products	Direct	
01.1.2	Meat		
01.1.2.1	Chicken	Direct	
01.1.2.2	Beef/ Buffalomeat	Direct	<i>It is proposed to combine Beef and Buffalo meat</i>
01.1.2.3	Pork	Direct	
01.1.2.4	Mutton/ Goat meat	Direct	<i>It is proposed to combine Mutton and Goat meat</i>

01.1.2.5	Other meat	Direct	<i>It is proposed not to compile duck, fowl, Other meat products separately but to include them in Other meat</i>
01.1.3	Fish and seafood	Commodity Flow	<i>It is proposed not to compile estimates separately for Inland Fish, Marine Fish and Fish curing but to estimate PFCE for Fish and Fish products</i>
01.1.4	Milk, other dairy products and eggs		<i>Name change</i>
01.1.4.1	Milk and other dairy products	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates using Commodity Flow approach for milk and milk products (including sweets). Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price. In case of ex-farm price (milk), it is proposed to use the price as calculated for the compilation of production side estimate for respective years.	<i>It is proposed to exclude Butter, Ghee and Ice cream from here and compile separately using data from Milk study done through NDRI in 2021-22.</i>
01.1.4.2	Eggs	Direct	
01.1.5	Oils and fats		<i>To shift oilseeds to "Ready-made food and other food products"</i>
01.1.5.1	Groundnut oil	Commodity Flow	
01.1.5.2	Coconut oil	Commodity Flow	
01.1.5.3	Mustard oil	Direct	
01.1.5.4	Butter and Ghee	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates using Commodity Flow approach for Butter and Ghee. Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price. In case of ex-farm price(milk), it is proposed to use the price as calculated for the compilation of production side estimate for respective years.	<i>Proposed for new item in the PFCE compilation using data from Milk study done through NDRI in 2021-22. Earlier it was included in PFCE of Milk Products</i>
01.1.5.5	Other edible oils	Direct	<i>Proposed not to compile PFCE of Gingelly oil, linseed oil, castor oil, palm oil, vanaspati separately but compile only PFCE of Other edible oil.</i>
01.1.6	Fruits and nuts		<i>Name change</i>
01.1.6.1	Banana	Commodity Flow	
01.1.6.2	Mango	Commodity Flow	
01.1.6.3	Coconut	Direct	
01.1.6.4	Citrus fruits	Commodity Flow	
01.1.6.5	Grapes	Commodity Flow	

01.1.6.6	Copra	Direct	
01.1.6.7	Cashew kernels	Commodity Flow	
01.1.6.8	Groundnut	Commodity Flow	
01.1.6.9	Other fruits	Commodity Flow	
01.1.6.10	Fruit products	Commodity Flow	
01.1.7	Vegetables, tubers, plantains, cooking bananas and pulses		<i>Name change. To include pulses here</i>
01.1.7.1	Onions	Direct	
01.1.7.2	Potatoes	Commodity Flow	
01.1.7.3	Other vegetables and tubers	Direct	<i>Proposed not to compile PFCE of sweet potato and tapioca separately but compile PFCE of Other vegetables and tubers.</i>
01.1.7.4	Vegetable products	Commodity Flow	
01.1.7.5	Green gram	Direct	
01.1.7.6	Black gram	Direct	
01.1.7.7	Gram whole	Direct	
01.1.7.8	Pigeon peas	Direct	
01.1.7.9	Masoor	Direct	
01.1.7.10	Other pulses	Direct	
01.1.7.11	Gram Products	Direct	
01.1.8	Sugar, confectionery and desserts		<i>Name change. Sugar cane for chewing shifted to another separate group</i>
01.1.8.1	Gur	Direct	<i>Proposed not to compile Palm Gur separately</i>
01.1.8.2	Refined Sugar	Commodity Flow	
01.1.8.3	Sugar confectionery	Commodity Flow	
01.1.8.4	Ice cream	It is proposed to use updated rates/ratios and retail prices based on the study done through NDRI in 2021-22 for compilation of estimates using Commodity Flow approach for Ice cream. Since the study provided prices in respect of 2021-22 for extrapolating the same it is proposed to use growth in CPI of respective items in case of retail price.	<i>Proposed for new item in the PFCE compilation using data from Milk study done through NDRI 2021-22. Earlier it was included in PFCE of Milk Products.</i>
01.1.9	Ready-made food and other food products		<i>Name change. To include oilseeds and sugar cane for chewing here</i>
01.1.9.1	Salt	Direct-ISG	
01.1.9.2	Oilseeds	Commodity Flow	<i>Oil seeds to be shifted here. Proposed not to compile Rapeseed and mustard, Linseed, Sesamum seed and Other Oil seeds separately but compile only PFCE of Oil seeds.</i>
01.1.9.3	Spices	Direct-ISG	

01.1.9.4	Sugar cane for chewing	As compiled by Agriculture Unit in production side	
01.1.9.5	Other food	Direct	
01.2	Non-alcoholic beverages		
01.2.1	Coffee, tea and cocoa drinks		
01.2.1.1	Coffee	Direct	
01.2.1.2	Tea	Direct	
01.2.1.3	Cocoa	Direct	
01.2.2	Water, Soft drinks, Fruit and vegetable juices, Other non-alcoholic beverages	Direct	<i>Name change</i>
02	Alcoholic beverages, tobacco and narcotics		
02.1	Alcoholic beverages	Direct	
02.2	Tobacco		
02.2.1	Cigarettes	Direct	
02.2.2	Tobacco chewing	Direct	
02.2.3	Bidi	Direct	
02.2.4	Other tobacco products	Direct	
02.3	Narcotics		
02.3.1	Pan	Direct-ISG	
02.3.2	Arecanut	Commodity Flow	
02.3.3	Opium	Commodity Flow	
03	Clothing and footwear		
03.1	Clothing		
03.1.1	Clothing materials	Commodity Flow	
03.1.2	Garments, Other articles of clothing and clothing accessories	Commodity Flow	
03.1.3	Cleaning, repair, tailoring and hire of clothing		<i>To shift tailoring here</i>
03.1.3.1	Cleaning, repair and hire of clothing	100% of GVO of NIC 95292 and 96010 may be 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 may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. These shares may be derived annually using ASUSE	

03.1.3.2	Tailoring	100% of GVO of NIC 14105 may be considered as PFCE. This GVO may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. This share may be derived annually using ASUSE	<i>To be shifted to Div. 3 from earlier Div.12</i>
03.2	Footwear	Commodity Flow	
04	Housing, water, electricity, gas and other fuels		
04.1	Gross rentals, equipment and material for housing		<i>Name change. To include security,materials etc. as well</i>
04.1.1	Actual and imputed rental payments made for housing	PFCE may be computed as sum of GVO of Ownership of Dwelling and Housing services provided by the Govt.	<i>Name change</i>
04.1.2	Services for the maintenance, repair and security of the dwelling	To include security as well in the item. Repair & Maintenance of Dwelling from Construction Unit. 50% of the estimates in respect of respective item: Security & Driver from HCES-2022-23 may be considered as PFCE in respect of security services. NIC 801 growth from ASUSE may be used for extrapolation in respect of security services.	
04.1.3	Security equipment and materials for dwelling maintenance and repair	Commodity Flow	<i>Shifted to Div. 4 from earlier Div. 5 (Bifurcated from old item Tools and equipment for house & garden)</i>
04.2	Water supply and miscellaneous services relating to the dwelling		
04.2.1	Water supply	Direct-ISG	
04.2.2	Refuse collection, Sewage collection, Other services related to the dwelling	50% of Output of Remediation and Other Utility service	
04.3	Electricity, gas and other fuels		
04.3.1	Electricity	Benchmark estimate 2022-23 from HCES 2022-23 using Per capita consumption and Population projection data.For subsequent years, the base year estimates of consumption of electricity may be moved forward using CEA data on electricity sold (in KWH), and current price estimate may be derived using CPI (electricity).	
04.3.2	Gas		<i>To include Gobar gas shifted from solid fuels.</i>

04.3.2.1	LPG	Domestic consumption from "Indian Petroleum & Natural Gas Statistics" and retail price as obtained from HCES 2022-23 may be used. Base year retail price may be moved forward using CPI(LPG).	
04.3.2.2	Other Gas (Gobar Gas)	For Gobar gas PFCE may be considered as 100% GVO	<i>To be shifted here from solid fuels</i>
04.3.3	Liquid fuels (Kerosene)	Domestic consumption separately for PDS and Non PDS from Indian Petroleum & Natural Gas Statistics and PDS and retail price as obtained from HCES may be used. Base year PDS and retail price may be moved forward using CPI(Kerosene-PDS) and CPI (Kerosene-Other sources) respectively subject to availability of separate price relatives; otherwise Kerosene (PDS) price will be same as base year. Price will be updated on availability of new price data.	
04.3.4	Solid fuels	Direct-ISG	<i>Proposed not to compile PFCE of coal, firewood, charcoal, dung fuel, gas coke, other solid fuels separately but compile PFCE of solid fuels using HCES. Also to shift Gobar Gas to Gas from Solid fuels</i>
05	Furnishings, household equipment and routine household maintenance		
05.1	Furniture and furnishing, carpets and other floor coverings		
05.1.1	Furniture and furnishings	Commodity Flow	
05.1.2	Carpets and other floor coverings	Commodity Flow	
05.1.3	Clock and watches	Commodity Flow	<i>To be shifted to Div. 5 from earlier Div. 12(though as per COICOP 2018 watches lie under Div. 13). Jewellery not to be compiled as it is part of Valuables.</i>
05.1.4	Repair of computer, personal & HH goods, furniture, furnishings etc.	100% of GVO of NIC 95- 95292 may be considered as PFCE. GVO of NIC 95-95292 may be derived as certain % of GVO of Repair of computers and personal and household good etc. This share may be derived annually using ASUSE	<i>Slight change. Also in COICOP 2018 in general hire/repair/maintenance is also considered separately against each item. But due to unavailability of disaggregated data PFCE on repair may be compiled together except for clothing, dwelling and personal transport equipment.</i>
05.2	Household textiles	Direct	
05.3	Household appliances	Direct	

05.4	Glassware, tableware and household utensils	Direct	
05.5	Tools and equipment for house and garden	Direct	<i>To shift few items to Div. 4</i>
05.6	Goods and services for routine household maintenance	Direct	
05.6.1	Non-durable household goods	Direct	
05.6.2	Domestic services and household services	100% GVO of Private households with employed persons	
06	Health		<i>To split into two items. Ie. Health Services and Medicines and Health products</i>
06.1	Health Services	PFCE of Health Services may be computed as GVO-GFCE-Exports+Imports.	
06.2	Medicines and Health products	PFCE in respect of Medicines and Health products may be computed using Commodity flow.	
07	Transport		
07.1	Purchase of vehicles		
07.1.1	Motor cars	Using data from Vahan (Sale price)	
07.1.2	Motorcycles	Using data from Vahan (Sale price)	
07.1.3	Bicycles and animal drawn vehicles	Commodity Flow/ Using data from All India Cycle Manufacturers' Association (subject to availability)	<i>To merge Bicycles and animal drawn vehicles</i>
07.2	Operation of personal transport equipment		
07.2.1	Parts and accessories for personal transport equipment	Using data from study being undertaken through JNU	<i>Slight name change</i>
07.2.2	Fuels and lubricants for personal transport equipment	Using data from study being undertaken through JNU	
07.2.3	Maintenance and repair of personal transport equipment	Using data from study being undertaken through JNU	
07.2.4	Other services related to personal transport equipment	Using data from study being undertaken through JNU	<i>New item. To be compiled using data from study</i>
07.3	Passenger transport services		
07.3.1	Passenger transport by railway	PFCE may be computed as 100% of passenger earning	

07.3.2	Passenger transport by road	Using data from study being undertaken through JNU for Mechanised part. For non mechanised part PFCE may be derived using share of Non mechanised to Mechanised in total annual expenditure derived from HCES 2022-23	
07.3.3	Passenger transport by air	Using DGCA and BPM6 data. 100% passenger revenue adjusted for exports and imports and Govt expenditure (Object Head : FTE and DTE)) may be taken as PFCE	
07.3.4	Passenger transport by sea and inland waterway	To be considered as 100% GVO of Household sector as PFCE	<i>Proposed not to compile PFCE separately for organised and unorganised. But to consider PFCE as 100% GVO of Household sector</i>
07.3.5	Other passenger transport services	Commodity flow of Ancilliary Transport Services using SUT	<i>Name change as per COICOP. Commodity flow of Ancilliary Transport Services using SUT</i>
07.4	Transport services for goods	Using data from study	<i>To be shifted to Div.7 from former Div.8</i>
08	Information and communication		
08.1	Information and communication equipment		
08.1.1	Fixed telephone equipment, Mobile telephone equipment	Direct	<i>Change as per COICOP</i>
08.1.2	Information processing equipment and software excluding games	Direct	<i>To include software excluding games in Div. 8 by shifting it from earier Div.9</i>
08.1.3	Equipment for the reception, recording and reproduction of sound and vision	Direct	<i>Slight name chane as per COICOP. To be shifted to Div. 8 from former Div. 9</i>
08.2	Information and communication services		
08.2.1	Communication Services	Commodity flow	
08.2.2	Television and radio licences and fees, Subscriptions to audiovisual streaming services and rental of audiovisual content	Direct-ISG	<i>To be shifted to Div. 8 (with name change) from former Div. 9</i>
09	Recreation, sport and culture		<i>Change as per COICOP</i>
09.1	Recreational durables	Commodity flow	<i>Slight grouping change. Also, to merge Photographic and cinematographic equipment and optical instruments and Major recreational durables</i>
09.2	Other recreational goods	Commodity Flow	<i>Slight grouping change. Also, to merge Games, toys and hobby-related articles and Sporting, camping and open-air recreation equipment</i>

09.3	Garden products and pets		<i>Slight grouping change</i>
09.3.1	Garden products, plants and flowers	Direct-ISG	<i>Slight name change</i>
09.3.2	Pets and pet products	Direct	
09.4	Recreational services, Cultural services	Direct-ISG	<i>Slight name change</i>
09.5	Cultural goods		<i>Slight change as per COICOP</i>
09.5.1	Musical instruments	Direct	<i>Slight change as per COICOP</i>
09.5.2	Audiovisual media	Direct	<i>Slight change as per COICOP</i>
09.6	Newspapers, books and stationery	Direct	<i>Proposed not to compile PFCE of Books, Newspaper and Periodicals, Miscellaneous printed matter and Stationery and drawing separately but compile PFCE of Newspaper, books and stationery together</i>
10	Education	Output-GFCE may be considered as PFCE	
11	Restaurants and accommodation services	Benchmark estimates to be derived from HCES 2022-23. For extrapolating the benchmark estimates growth in GVO may be used.	<i>Name change</i>
12	Insurance and financial services		<i>Former Div. 12 split into 2</i>
12.1	Insurance		
12.1.1	Life insurance	100% of Life Insurance Output	
12.1.2	Non-life insurance	Commodity flow	<i>Name change</i>
12.2	Financial services		<i>Name change</i>
12.2.1	Financial intermediation services indirectly measured	PFCE may be considered as FISIM allocated to Household(personal) sector	
12.2.2	Explicit charges by deposit-taking corporations (S) , Other financial services (S)	PFCE may be considered as certain % of Actual Receipts (Charges). This % may be derived annually using RBI data i.e. Share of Household Loan+ Household Deposit in total Loan+Deposit in respect of SCBs	<i>Name change</i>
13	Personal care, social protection and miscellaneous goods and services		<i>Former Div. 12 split into 2</i>
13.1	Personal care		
13.1.1	Electric, other appliances, articles and products for personal care	Direct	<i>Slight name change</i>
13.1.2	Hairdressing salons and personal grooming establishments	Direct-ISG	
13.2	Other personal effects	Commodity flow	
13.3	Other services		

13.3.1	Religious services	100% of GVO of NIC 9491 may be considered as PFCE. GVO of NIC 9491 may be derived as certain % of GVO of Activities of Membership organisations. This share may be derived annually using ASUSE	
13.3.2	Legal services	50% of Output of legal service may be considered as PFCE.	
13.3.3	Funeral services	100% of GVO of NIC 96030 may be considered as PFCE. This GVO may be derived as certain % of GVO of Personal services including- washing, hair dressing, custom tailoring and funeral related services. This share may be derived annually using ASUSE	
13.3.4	Business services	To be considered as 100% GVO of Household sector as PFCE	
13.3.5	Social protection	It is proposed to include PFCE on Social Protection by using ASUSE data i.e. by considering the 100% of estimated Outputs of enterprises (both Market and Non-Profit) with 2-digit NIC code 87 (Residential care activities) and 88 (Social work activities without accommodation) as PFCE. As advised by Sub Committee III of ACNAS not to publish this PFCE in NAS separately. Instead, it may be combined with the PFCE of Other Services.	<i>Proposed to include new item</i>

Annexure**List of participants of 9th meeting of sub-committee of ACNAS held on 04.11.2025**

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Dr. Rajesh K Chauhan, Deputy Director, DES Uttar Pradesh
4. DES UP (attended virtually)
5. Dr. Sanjay Singh, DSIM, RBI (attended virtually)
6. DES Tamil Nadu (attended virtually)
7. Shri. N.K. Santoshi, DG (CS)
8. Shri Siddhartha Kundu, ADG, NAD
9. Shri Brijendra Singh, DDG, NAD
10. Shri Rajesh Kumar Sharma, DDG, NAD
11. Ms Subhra Sarkar, DDG, NAD
12. Shri Rajeev Kumar, DDG, NAD
13. Ms Monami Mitra, Director, NAD
14. Ms. Meera A. P., Director, NAD
15. Ms. Pooja Rani, Director, NAD
16. Ms Kratika Mittal, Director, NAD
17. Shri Shrike Shrinivas V, Director, NAD
18. Shri Vishal Kumar, Director, NAD
19. Ms. Saroj, JD, NAD
20. Shri Suraj Kumar, DD, NAD
21. Ms Priyanka Anjoy, DD, NAD
22. Ms Priyanka S. Pant, DD, NAD
23. Shri Dipankar Mitra, DD, NAD
24. Ms Nigar Fatma, DD, NAD
25. Ms Kanwaljit Kaur, AD, NAD
26. Ms. Vartika Agarwal, Consultant, NAD

F.NO. U-11011/2/2024-NAD(ACNAS)
 भारत सरकार / Government of India
 सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
 Ministry of Statistics and Programme Implementation
 राष्ट्रीय सांख्यिकीय कार्यालय / National Statistical Office
 राष्ट्रीय लेखा प्रभाग / National Accounts Division

के. एल. भवन /Khurshid Lal Bhawan
 जनपथ /Janpath,
 नई दिल्ली /New Delhi-110001
 दिनांक /Dated-12/12/2025

कार्यालय ज्ञापन / OFFICE MEMORANDUM

Subject: - Minutes of the tenth meeting of the Sub-committee of ACNAS for Methodological Improvement held under the Chairpersonship of Dr. G. C. Manna on 14th November, 2025

Minutes of the tenth meeting of the Sub-committee of ACNAS for Methodological Improvement held on 14th November, 2025 under the Chairpersonship of Dr. G. C. Manna, Professor, Institute for Human Development are enclosed herewith.

Kratika Mittal

(Kratika Mittal)
 Director

To

All the Members of the Sub-committee for Methodological Improvement

Copy to: -

1. Prof. Biswanath Goldar, Chairman (ACNAS)
2. Dr. G. C. Manna, Professor (IHD) and Chairperson, Sub-committee of ACNAS for Methodological Improvement.

Kratika Mittal

(Kratika Mittal)
 Director

Minutes of the tenth meeting of the Sub-committee for Methodological Improvements held on 14.11.2025

The tenth meeting of the Sub-committee for Methodological Improvements was held on 14.11.2025 at 10.00 AM in Room no. 201, MoSPI, Khurshid Lal Bhawan, Janpath, New Delhi under the chairpersonship of Dr G. C. Manna, Professor, Institute for Human Development. The list of participants is placed at Annexure.

At the outset, the Chairman welcomed all the participants in the meeting. Agenda items in respect of Unincorporated Sector, Agriculture and allied sector, Consumption of Fixed Capital, Advance and Quarterly Estimates were discussed in detail and recommendations thereon are listed in the subsequent paragraphs.

A. Compilation of GVA from unincorporated sector using ASUSE and PLFS

In the current 2011-12 series, GVA estimates in respect of unincorporated segments of manufacturing and services sectors are compiled indirectly through Effective Labour Input Method (ELI Method) using the benchmark-indicator procedure. In this method, benchmark GVA estimates are prepared at detailed activity level (compilation categories) for base year using estimated effective labour input estimates from Employment and Unemployment Survey (EUS) 2011-12 and value added per effective worker in corresponding activity using Enterprise Survey (ES) 2010-11. For subsequent years, base year GVA estimates are extrapolated using appropriate indicators for a concerned economic activity.

Proposed Methodologies:

In the new series of the NAS with base year 2022–23, it has been proposed that the Gross Value Added (GVA) for the unincorporated sector will be estimated using productivity information from the Annual Survey of Unincorporated Sector Enterprises (ASUSE) and workforce estimates from Periodic Labour Force Survey (PLFS). Methodologies broadly based on Labour Input and Effective Labour Input were proposed in the meetings of the Sub-committee and in third meeting of ACNAS.

To determine whether ELI method should continue to be used in the new series, the Chairman recommended an analysis of labour productivity variations across different worker categories namely L1: owner, L2: hired worker (formal + informal), and L3: helper at all-India and for some States.

Accordingly, labour productivity for these three categories was estimated at all-India level, separately for rural and urban sectors. The results indicated that, for most of the compilation categories, marginal productivity of L2 (hired workers) exceeded that of L1 (owners), even after adjusting for the marginal productivity attributable to capital. In certain categories, productivity of L3 (helpers) was also higher than that of working owners. These findings highlighted significant intra-enterprise variations in labour productivity and after extensive deliberations and discussions within the Sub-committee and Advisory Committee on National Accounts Statistics (ACNAS), it was recommended that, in principle, the Labour Input Method may be adopted for deriving GVA estimates using GVA per worker from ASUSE and workforce estimates from PLFS data. However, Chairman of the Sub-committee emphasized the need for a detailed comparative assessment before finalizing the methodology.

Based on the recommendations of the Sub-committee, GVA estimates were presented using the following three approaches.

Method 1 - Labour Input (LI) method compiled separately for rural and urban sectors:

Gross Value Added (GVA) was estimated by applying productivity differentials derived from ASUSE data to workforce estimates obtained from PLFS. The calculations were carried out separately for rural and urban sectors, and further disaggregated by corresponding CC categories. By multiplying sector-specific productivity with respective workforce figures, GVA estimates for each sector were obtained. Aggregating sector wise estimates, total GVA for unincorporated sector was obtained.

Method 2 - Labour Input (LI) method based on OAE and HWE separately:

In this approach, sector and compilation category-wise GVA estimates were compiled separately for Own Account Establishments (OAE – without any hired worker) and Hired Worker Establishments (HWE – with at least one hired worker), using separate productivity differentials for OAE and HWE from ASUSE and corresponding workforce estimates from PLFS. GVA contributions of OAEs and HWEs were then aggregated to arrive at the overall sectoral GVA. In an attempt to study the estimates of GVAPW of OAE from ASUSE and average annual earnings from PLFS for own account workers, Chairman of the Sub-committee suggested to study the comparability of annual earnings from PLFS data for two separate categories of households:

- Type-I: Households with self-employed member (status code:11) with no helpers/unpaid worker (status code 21) and
- Type-II Households with self-employed member (status code:11) with at least one unpaid worker/helper (status code 21).

Since Block 6 of PLFS records current weekly status information at NIC two-digit level, the above results were presented before the Sub-committee using estimated annual earnings based on self-employed and unpaid family workers (current weekly status codes 11 and 21 of Block 6 of ASUSE). Comparison of GVA from ASUSE for OAE (with no unpaid worker and with at least one unpaid worker) was made with respective average annual earning of households with self-employed members (with and without unpaid family worker).

From the above exercise, it was observed that for most of the NIC two-digits, average annual gross earnings from PLFS was more in comparison to GVA of ASUSE. Accordingly, the sub-committee inferred that this indicated presence of a downward bias in the GVA for OAEs derived from ASUSE.

Method 3 - Labour Input (LI) method with at least one hired worker:

In continuation to the aforementioned approach, LI method was applied for only those establishments with at least one hired worker (HWE) in both rural and urban sectors separately. This approach used around 25% of records covered in ASUSE, instead of full coverage of ASUSE data as in method 2. Productivity differentials from ASUSE were calculated for each sector and CC, along with corresponding workforce estimates from PLFS. Aggregating over compilation categories, GVA was estimated industry wise.

After detailed deliberations on all the proposed methodologies, Sub-committee felt the need for a simple and uniform approach for arriving at the estimates of GVA of unincorporated sector. Accordingly, keeping in view the findings of an apparent downward bias in the average GVA for OAEs from the ASUSE as noted under Method 2 above, Method 3 was recommended to be adopted uniformly for compilation of GVA of unincorporated sector.

B. Agriculture and allied Sector

1. Price of Trees Outside Forests (TOF) for subsequent year

Sub-committee was briefed about the methodology followed in current series for estimation of production and price of TOF for base year and subsequent year. In the new series, State-wise production of TOF will be estimated using India State Forest Report (ISFR) published by Forest Survey of India (FSI). Prices of TOF for base year of new series have been sought from State Directorates of Economics & Statistics (DES). For subsequent years, if prices are not available from DES, it was proposed that the growth observed in price of Industrial Wood from State Forest Department (SFD) with respect to its corresponding base year price, will be applied on base year price of TOF. The proposal was accepted by Sub-committee.

However, one of the members of the Sub-committee recommended that a study may be conducted in future for collecting State-wise price of TOF, if the information is not available from the States regularly.

2. Estimation of value of Toddy for crop sector

Sub-committee was informed about the consumption approach followed for estimation of production of toddy using CES 2011-12 and projected population at sector x State level. It was proposed to use HCES 2022-23 and 2023-24 results along with 'Population Projection' based on the report of the Ministry of Health and Family Welfare. For subsequent years, till next HCES data be made available, results of HCES 2023-24 would be retained, with necessary adjustments based on the projected population, to arrive at GVO of toddy State-wise. Sub-Committee recommended the proposed methodology.

3. Issue related to updated animal feed consumption rate in calculation of GVA for livestock sector

Sub-committee was briefed about the rates and ratios being used in current series for estimation of animal feed. In the Sub-committee on new rates and ratios, updated animal feed based on a study titled '*Assessment of Livestock Feed and Fodder*' conducted by Agricultural Development and Rural Transformation Centre (ADRTC), Institute for Social and Economic Change, Bengaluru, which was awarded by M/o Ag&FW was presented as at that point of time it was the only available rate information and it was recommended in principle. However, implementing the same is resulting in negative GVA for some of the States. This phenomenon is primarily due to continued use of fixed animal feed rate (kg per animal per day) since 2011-12 and fodder and concentrate prices being adjusted for price effect with WPI (cattle feed and food grains). It was also informed that comments from Department of Animal Husbandry (the nodal ministry as far as livestock sector is concerned) on the proposed study report is awaited.

Presently, States have been requested for prices of fodder and manufactured animal feed (concentrates) for FY 2022-23. It was informed that the same is being analysed for computing value of feed in the new series.

After detailed discussion on this issue, the Sub-committee was of the opinion that a proposal may be finalized based on the inputs from concerned department. Manifold increase in input cost of

livestock sector because of inclusion of updated animal feed rate and corresponding prices was broadly acknowledged by the Sub-committee.

4. Rates and ratios remaining unchanged in agriculture and allied sector

Sub-committee was informed that in the ongoing series, certain rates are being used to arrive at GVO and GVA item-wise for the four sub-sectors. These rates and ratios could not be updated due to unavailability of updated information. List of items for which rates and ratios are proposed to remain unchanged are as follows:

Sl. No.	Sub-sector	Item	Estimation Procedure	Proposal	% share in each sub-sector
1	CROP	Production of Paddy	Production of paddy has been estimated as 1.5 times production of rice received from M/o AgFW	No change in methodology	8.49
2		Production of raw tea	Production of raw tea has been estimated as 4.44 times production of processed tea received Tea Board	No change in methodology	0.62
3		Production of tobacco stem	Production of tobacco stem has been estimated as 86.63% of production of tobacco leaves received from State DES	No change in methodology	0.13
		Price of tobacco stem	50% of price of tobacco leaves	No change in methodology	
4		Price of small millets	75% of weighted average price of Jowar, Bajra, Barley, Maize and Ragi in reference year	Weighted average price of Jowar, Bajra, Barley and Ragi in reference year	0.02
5		Price of other pulses	85% of weighted average price of Arhar, Urad, Moong, Masur and Horsegram in reference year	Weighted average price of State wise reported pulses in reference year	0.10
7		Value per hectare of other oilseeds	85% of weighted average of value per hectare of Linseed, Sesamum, Castorseed, Niger seed and Safflower	Value per Hectare will be estimated using simple weighted	0.39
8		Value per hectare of other sugars	90% of value per hectare of sugarcane and gur	average price of selected crops in	0.01

9		Value per hectare of other fibres	90% of weighted average of value per hectare of Sanhemp and Mesta	a particular category	0.00	
10		Value per hectare of other drugs and narcotics	For States of Madhya Pradesh and Rajasthan: 90% of weighted average of value per hectare of Opium For Other States: 90% of weighted average of value per hectare of Tobacco & Tobacco stem		0.65	
11		Value per hectare of other condiments and spices	90% of weighted average of value per hectare of dry chillies, dry ginger, cardamom and black pepper		0.56	
13	LIVESTOCK	Species wise mortality rates	Mortality rates are used from earlier Directorate of Marketing & Inspection (DMI) reports	Discussions were held with Dept. of Animal Husbandry.		
14		Production of duck eggs not covered under ISS	The production of duck eggs is estimated as 3.5% of production of hen egg for Gujarat, and 3% of production of hen egg for Goa, Mizoram, Daman & Diu and Dadra & Nagar Haveli and Delhi.	Updated information not available. Proposed - no change in methodology.	3.42	
15		Yield rate of camel hair & Pig bristle	800 gm per camel per year 155 gm per slaughtered pig per year			0.00
16		Production of dung	Production of dung (bovine, sheep and goat) is estimated using population and fixed evacuation rate of respective species			
17		Production of Dung Fuel	Production of dung fuel is estimated 40% of production of raw cakes. Production of raw cake is compiled using fixed utilization rate on production of dung			1.68
18		Production of Dung Manure	Production of dung manure is compiled using fixed utilization rate on production of dung			3.29
19		Value of output of Meat (Bovines & Ovines)	Value of meat (bovine and ovine) is obtained by multiplying production with current price. Final value of meat is arrived at after adjusting quantity produced in			11.11

		manufacturing sector with a fixed percentage.	
20	Production of Poultry Meat	Production of chickens and ducklings killed is estimated by considering one-third number of the eggs hatched, 50% of the hen and cock population, 50% of the duck and drake population, total population of chickens and ducklings, and 62.5% of the other poultry population. From this total, the populations of hens, cocks, ducks, drakes, chickens, and other poultry for the subsequent year are deducted.	10.81
21	Output of Meat by-products (edible offals & glands, heads & legs, fat from slaughtered, hides & skin, other by-product)	Value of output of meat by-products for cattle meat, buffalo meat, goat meat, sheep meat, and pig meat is estimated as 16% of output of cattle meat, 14.49% output of buffalo meat, 21.49% output of goat meat, 23.05% output of sheep meat, and 9.4% output of pig meat	2.25
22	Output of fats from fallen animals (only for cattle and buffalo)	Value of output of fat from fallen cattle and buffalo is estimated based on number of fallen animals, fixed yield rate, and current year's price. The number of fallen animals is calculated using the mortality rate and bovine population.	0.00
23	Output of Cattle hides, Buffalo hides, Goat skin and Sheep skin (fallen animals)	The output of fats from fallen for Cattle hides, Buffalo hides, Goat skin and Sheep skin is estimated as number of fallen animal and current value of hides/ skin per animal	0.26
24	Output of Camel hair/Goat hair /Pig bristles	The output of camel hair, goat hair, and pig bristle is estimated using yield rate (in kilograms per animal), respective populations and current price.	0.01
27	Market charges for livestock sector	The estimate for market charges for livestock sector as input was prepared using the information on number of slaughtered	States have been requested for relevant information 0.04

			animals along with fixed slaughtering charges.		
28		Operational Cost	Operational cost as input for livestock sector is prepared using 0.25% of value of output of Milk Group, Hides & Skin, Poultry Meat, Eggs Group, Wool Group, Silk & Honey Group & Increment group	No change in methodology	0.97
25	FORESTRY	Output of Industrial wood inside forest (unrecorded)	For estimating production of unrecorded industrial wood, 10% of recorded production is used.	Information was sought from State forest dept. and FSI. Updated information not available. Proposed - no change in methodology.	0.26
26	FISHERY	Production of Subsistence fish	Production is estimated by applying 12.5% on production of inland fish.	Information was sought from Dept of fisheries. Updated information not available. Proposed - no change in methodology	5.73
29		Value of Fish salting/sun dried/subsistence	Value of input for Fish salting/sun dried/subsistence is estimated as 1% of value of output of salted fish (let out)/sundried (let out) /subsistence fish respectively	No change in methodology	0.47

After detailed deliberations, Sub-committee acknowledged the limitation of data and accepted the proposals. However, Sub-committee recommended that a formal request may be made to the Department of Animal Husbandry to revise the existing methodology for the collection of Poultry meat in the Integrated Sample Survey (ISS). Also, it was suggested that an additional item Operational Cost for the livestock sector may be incorporated into the ISS data collection framework which can be used in future base revision exercise.

C. Consumption of Fixed Capital

Average Useful Life of Assets used in compilation of Consumption of Fixed Capital:

The sub-committee was apprised that the consumption of fixed capital is compiled using Perpetual Inventory Method (PIM) along with straight line method which requires availability of reliable estimates of average age of various types of fixed assets in different industries and institutional sectors. The average life of assets is revisited periodically to account for technological changes and obsolescence, operating environment, maintenance practices, regulations in force etc.

It was informed that currently NAD compiles industry-wise and asset-wise CFC separately for institutional sectors (General Government, Departmental Enterprises, Non-Departmental Enterprises, Private Corporations, Quasi Corporations and Household Sector).

The sub-committee was informed that NAD has undertaken extensive discussions with the concerned agencies Ministries and Departments, Industry Associations, referred to 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. The guidelines pertaining to average life of asset in manuals by International Agencies were also referred to for understanding the prevalent norms for life of assets used by other countries while compiling CFC.

Based on the inputs from above cited sources, the proposal for revised average useful life of assets was presented before the sub-committee. The revision in CFC for FY 2022-23 and 2023-24 due to use of proposed life table for average useful life of assets *vis-à-vis* the life table currently being used in compilation of CFC (assuming *ceteris paribus* i.e. using net stock compiled based on GFCF published in National Accounts Statistics -2025) were also presented before the sub-committee.

The sub-committee appreciated the extensive exercise undertaken in revising the average useful life of assets and recommended the proposed revised life table.

D. Advance and Quarterly Estimates

Agenda Item I: Methodology for quarterly GVA estimates of Financial Services Sector

(i) In the Eighth Meeting dated 15.10.2025 of the Sub-committee for Methodological Improvement, discussion was held on methodology of Compilation of Quarterly GVA Estimates for Financial Services sector. For the sub-sector S-122 (Deposit Taking Corporations), initially three methodologies were presented in the Eighth Meeting of the Sub-committee. Sub-committee suggested to revisit the methodology of computing the FISIM at quarterly level in consultation with the RBI. For the sub-sector S-125 (Other Financial Intermediaries except Insurance Corporations & Pension Funds), Sub-committee suggested to explore the computation of FISIM at quarterly level. Accordingly, details were presented in the meeting as follows.

(ii) **S-122 (Deposit Taking Corporations):** As per suggestion of the sub-committee and in consultation with RBI, FISIM has been compiled both Aggregate (All Scheduled commercial Bank) as well as Dis-aggregate (Bank-wise) levels. It was observed that there was no change in overall

growth rates due to this factor but volatility across various quarters in a year was still there. After due deliberation, the sub-committee observed that Method B (based on growth Rate observed in Aggregate Credit + Deposit) was more stable whereas Method C (based on growth rate observed in Quarterly FISIM) was more appropriate conceptually but showing volatility. The Sub-committee suggested that out of the Method B and Method C, the method which shows minimum divergence with annual estimates and stability over the period, may be adopted.

(iii) **S-125 (Other Financial Intermediaries except Insurance Corporations & Pension Funds):** In case of S-125, quarterly estimates based on the data of listed companies were shown to the Sub-committee. The Sub-committee suggested that FISIM based approach may be explored if data of NBFCs become available as it will be more aligned to the annual approach.

(iv) **S-126 (Financial Auxiliaries):** In case of S-126, it was apprised to the sub-committee that only data which is available at quarterly level, is the financial results of listed Stock-broker companies. Accordingly, it was proposed that the growth rate in Revenue from operations of the concerned listed companies will be used as an indicator of GVA of this sector. The sub-committee agreed to the proposed methodology.

Agenda Item II: Methodology for quarterly GVA estimates of Public Administration & Defence

(i) It was apprised to the sub-committee that in the current series both Compensation of Employees (CE) and Consumption of Fixed Capital (CFC) of Public Administration and Defence Sector at quarterly level is estimated using past years' growth. Since, data on CE and CFC were not available at quarterly level and no high frequency indicators could be identified that may reflect the changes observed in the CE and CFC, it was proposed to follow the existing practice for estimation of quarterly GVA of Public Administration and Defence Sector. It was also proposed that if there will be any policy implication in a particular year that may have impact on CE such as implementation of pay commission etc., the adjustment in the estimation of GVA of the sector will be made accordingly. For quarterisation in the base year, it was proposed that CE will be quarterized in proportion of quarterly Salary & Wages of Central and State Government, and CFC at current prices will be equally apportioned in all the quarters.

(ii) Noting the non-availability of appropriate indicator for estimation of quarterly GVA of this sector, the sub-committee agreed to the proposed methodology.

Agenda Item III: Methodology for quarterly estimates of various Expenditure Components

I. Government Final Consumption Expenditure (GFCE) (at current prices)

(i) Government final consumption expenditure consists of expenditure incurred by general government in its production of non-market final goods and services and market goods and services provided as social transfers in kind.

(ii) It was apprised to the Sub-committee that in the current series, Quarterly estimates of GFCE for the reference quarter are obtained by extrapolating the estimated GFCE of the same quarter of the previous year with growth observed in the combined quarterly revenue expenditure of Central and State governments net of interest payments and subsidies. Monthly data on Revenue

Expenditure, Interest Payments and Subsidies for the central government and state government are available respectively from the website of Controller General of Accounts (CGA), Department of Expenditure, Ministry of Finance and website of Comptroller and Auditor General of India (CAG).

(iii) It was proposed to continue the existing methodology for estimation of quarterly GFCE. For quarterisation of GFCE in the base year, the proportion of combined quarterly revenue expenditure of Central and State governments net of interest payments and subsidies will be used.

(iv) It was also apprised to the sub-committee that the constant price estimates of compensation of employees will be prepared by deflating the estimates of compensation of employees at current prices by CPI-IW as has been agreed by subcommittee on Constant Price Estimates. Estimates of net purchase of commodities and services at constant prices will be obtained by deflating current price estimates by the composite weighted index with updated weights for FY 2022-23.

(v) With the change in FCI's status from market producer to non-market producer, food subsidy will be treated as social transfer in kind instead of product subsidy. To estimate constant price values for these transfers, the base year estimates will be moved based on the growth in food grain offtake under the National Food Security Act (NFSA). The current price estimates of Food Subsidy will be available directly from the website of CGA.

(vi) After detailed deliberation, sub-committee agreed to the proposed methodology.

II. Private Final Consumption Expenditure (PFCE):

In case of Private Final Consumption Expenditure (PFCE), following points were discussed:

A) Methodology of Quarterization;

B) Selection of Indicators for various items and

C) Methodology of Estimation of Quarterly item-wise PFCE.

A) Methodology of Quarterization

(i) For Obtaining Quarterly PFCE estimates for 2022-23, the Base year Household Consumption Expenditure Survey Data has been proposed to derive Quarter-wise share of Annual PFCE value against each item. HCES 2022-23 was not conducted sub-round wise, rather survey period was divided into 10 Panels of each constituting three consecutive months as given below:

Panel	Months
Panel 1	August - October
Panel 2	September - November
Panel 3	October - December
Panel 4	November - January
Panel 5	December - February
Panel 6	January - March
Panel 7	February - April
Panel 8	March - May
Panel 9	April - June
Panel 10	May - July

Hence, in order to generate Quarter-wise consumption share of various items, it was proposed to generate Quarter and item wise Total Expenditure estimates from HCES using the Panel-wise Multiplier information.

(ii) Each panel covers 3 months, constituting two consecutive quarters partially. Hence, panel-wise estimated Total expenditure against a specific commodity were distributed in the months constituting the panel. Then, respective monthly expenditures were clubbed to obtain the Quarter-wise expenditure information. However, after distribution of panel-wise estimates into quarters, it has been seen that, Q3 and Q4 represented higher proportion of total expenditure than the Q1 and Q2. It has been due to under/over coverage of certain months in the panel-wise HCES design. Accordingly, quarter-wise total expenditure estimates were divided by adjustment factor (based on number of months falling in a quarter in panel-wise design) to obtain the final quarter-wise distribution against each commodity.

(iii) Subcommittee observed that the proposed methodology is relying on the aggregate Total Expenditure estimates, and therefore, fluctuations in the quarter-wise total population will not be reflected in quarter-wise total expenditure share. Accordingly, the Sub-committee suggested to derive the total quarterly expenditure using average MPCE (quarter-wise) multiplied by the mid-point projected population.

(iv) Noting that in different panels, set of households will be different and accordingly their consumption basket will also be different, the Sub-committee suggested that for deriving estimates of various quarters, relevant panels may only be used, rather than mixing multiple panels. Therefore, Panel 3 and Panel 6 will provide estimates for Q3 and Q4 respectively. Panel 1 may be used for Q2 estimates. For deriving estimate for Q1 (Apr'22-June'22) for FY 2022-23, the data pertaining P9 i.e., Apr'23-June'23 cannot be used, because the item-wise estimates for Q1 may have upward bias due to inflation. Therefore, it has been suggested to adjust the Q1 estimates using P9 data pertaining to HCES 2023-24.

B) Selection of Indicators for various items:

It was apprised to the subcommittee that, in some countries, the major data source for Quarterly PFCE estimation is continuous Household Expenditure Surveys. However, India conducts Household Consumption Expenditure Survey (HCES) at Multiyear Intervals. Hence, regular Quarterly PFCE estimates cannot be sourced from HCES. In this context, QNA Manual (2017) suggests combining data from surveys conducted at multiyear intervals with other data sources for extrapolation of benchmark period estimates. Other data sources may include survey of retailers, domestic production of consumer goods and VAT systems etc. Accordingly, suitable indicators were proposed for various items. These indicators include production side indicators as well as indicators sourced from other non-conventional sources. It was also apprised to the Sub-committee that the items considered for Quarterly PFCE compilation are based on items considered for Annual National Accounts estimates of PFCE.

C) Methodology of Estimation of Quarterly item-wise PFCE

(i) It was apprised to the Sub-committee that based on the different approaches for the estimation of PFCE at quarterly level, PFCE items have been divided into 4 major groups viz., (i)

Agricultural/ Raw food items; (ii) Manufactured Food and Non-Food Items; (iii) Services Items; and (iv) Remaining items such as Electricity, Gas, Rail Transport, Purchase of vehicles, salt, spices, etc. Whereas, within each group the methodology of estimation will be similar.

(ii) The methodology for estimating PFCE of Agricultural/ Raw food items is broadly based on the growth in the production of respective items as available from the administrative sources. The Sub-committee suggested to explore concerned data such as foodgrain stock from FCI, etc. for consideration while estimating PFCE of Agricultural/ Raw food items.

(iii) For estimation of PFCE of Manufactured Food and Non-Food Items, it was proposed to use the growth in respective item-level IIP or HSN-wise GST data (outward supply) for Retail Trade as per the availability.

(iv) In case of PFCE of Services Items, the growth rate observed in the GVO at current prices of respective Services will be used for estimation of PFCE at current prices.

(v) For other remaining items, different indicators which also include administrative data sources such as e-Vahan, Central Electricity Authority, M/o Railways, etc., have been identified and proposed for the estimation of PFCE.

(vi) The details of the methodology as proposed for different groups of PFCE items along with list of items covered in each group are given at the **Annexure**. It was also informed to the Sub-committee that list of items of PFCE as indicated for quarterly estimates are preliminary and based on the alignment with Annual estimates.

(vii) After deliberation, Sub-committee agreed to the proposed methodology for PFCE estimation at quarterly level.

III. Gross Fixed Capital Formation (GFCF) (at current prices)

Sub-committee was apprised that GFCF at Quarterly level will be estimated Asset-wise. For each type of asset, suitable indicators and methodology were proposed as follows.

- a. **Dwelling, Other Buildings and Structures (DOBS):** GVO growth of Construction sector at Current Prices will be used as indicator to estimate the DOBS at current prices.
- b. **Machinery and Equipment:** Commodity flow approach will be used for the estimation of Transport Equipment; ICT Equipment; and Other Machinery and Equipment (Elec. and Non Elec.). Ex-factory value at quarterly level for each type of asset will be estimated using the growth in relevant IIP inflated by appropriate WPI. Export and Import data for these assets will be available from DGCIS. For estimation of Machinery and Equipment from Defence which have very small share in GFCF, past year growth will be used.
- c. **Cultivable Biological Resources:** Previous year's growth pattern will be used as no indicator is available at quarterly level. This asset has very small share of around 0.2% in total GFCF.
- d. **Intellectual Property Products:** For estimating the GFCF in respect of intellectual property products like Research & Development and Software, growth in GVO of related industry will be used as an indicator. For other intellectual property products like Mineral Exploration and Evaluation; Entertainment, Literary or Artistic Originals; and others, previous year growth will be used.

Noting that the proposed methodology is conceptually appropriate, Subcommittee agreed to the proposal.

IV. Change in Stocks (at current prices)

(i) In the current series, average growth of agriculture, manufacturing and mining industry at current prices is used to extrapolate the annual figure at current price of the previous year. This annual estimate is apportioned into quarters on the basis of estimated GVA of manufacturing sector at current prices.

(ii) It was proposed that broad industry-wise stock estimates would be compiled based on stock position indicator from the data of quarterly financial results of listed companies and other administrative data.

(iii) The Sub-committee agreed to the proposal.

V. Valuables (at current prices)

(i) It was apprised to the Sub-committee that as per the existing methodology, quarterly estimate of Valuables (at current prices) is compiled using growth in net imports of gold and silver as indicator. For the new series, it was proposed that quarterly estimate of Valuables (at current prices) will be compiled based on the quarterly information on net Import of all the valuable items.

(ii) The Sub-committee agreed to the proposed methodology.

VI. Import and Export of Goods & Services (at current prices)

It was apprised to the Sub-committee that Quarterly data on Import and Export of Services are being provided by RBI, and Quarterly data on Import and Export of Goods are available from Ministry of Commerce. The same will be used in estimation of Import and Export of Goods & Services (at current prices) for new series also.

Data Sources proposed for various PFCE Items and Methodology

(i) Agricultural/ Raw food items

Item	Source	Methodology
Wheat	GVO of Respective Crops as per Provisional (Annual) estimates	<p>Step 1: Provisional (Annual) PFCE Estimates will be prepared first at Constant Prices using the formula, GVO of Respective Crops as per Provisional Estimates*Latest Annual PFCE/GVO ratio at Constant Prices.</p> <p>Step 2: Constant price estimates will be Quarterised using the base year Quarterization strategy</p> <p>Step 3: Quarterly Constant price estimates will be inflated using appropriate CPI</p>
Rice		
Jowar		
Bajra		
Ragi		
Other Cereals (Maize, Barley, Small Millets and Other Cereals)		
Ground nut Oil		
Coconut Oil		
Mustard Oil		
Other Edible oil		
Citrus Fruits		
Grapes		
Copra		
Cashew Kernels		
Groundnut		
Other Fresh Fruits and Fruit Products		
Other Dry Fruits		
Onion		
Potato		
Other Vegetables and Vegetable Products (Radish, Carrot, Garlic, Ginger, Palak, Tomato, Brinjal, Cauliflower, Cabbage, Lady Finger, Pumpkin, Parwal, Kundru, Peas, Beans, Barbati, Gourd)		
Green Gram		
Black Gram		

Gram (Whole) and Gram Products			
Pigeon Pea			
Masoor			
Other Pulses			
Gur			
Banana	Quarterly GVO of respective Items at Constant Prices	Step 1: Quarterly PFCE Estimates will be prepared at Constant Prices using the formula, (Quarterly GVO of Respective Items *Latest Annual PFCE/GVO ratio) at Constant Prices.	
Mango			
Green Coconut			
Meat			
Fish and Seafood			
Milk			
Egg			
Sugarcane for Chewing			Step 2: Quarterly Constant price estimates will be inflated using appropriate CPI

(ii) Manufactured Food and Non-Food Items

Item	Source	Methodology
Wheat Products	Source A: Respective item-level IIP	Method A:
Rice Products		
Bread and Bakery Products	Source B: HSN-wise GST data of Retail Trade (Variable: Outward Taxable Supply)	Step 1: Quarterly Constant price estimates of PFCE will be compiled by extrapolating the base year quarterly estimates using Quarterly IIP growth rate of that item/item-group
Butter and Ghee		
Sugar Confectionery		
Ice Cream		
Water, Soft drinks and other Non-alcoholic Beverage		
Fruit and vegetable juices		
Alcoholic beverages		
Water, Soft drinks and other Non-alcoholic Beverage		
Fruit and vegetable juices		
Tobacco Products (Cigarette, Chewing Tobacco, Bidi, Other Tobacco Products)		
Clothing		
Footwear		
Furniture and furnishing, carpets and other floor coverings		
	Step 1: Quarterly Nominal price estimates of PFCE will be compiled by extrapolating the base year estimates using Quarterly GST growth rate of that item/item-group	
	Step 2: Quarterly Nominal price estimates will be deflated using appropriate CPI	

Household Textiles
Household appliances
Glassware, tableware and household utensils
Tools and equipment for house & garden
Non-durable household goods
Fixed telephone equipment, Mobile telephone equipment
Information processing equipment and software excluding games
Equipment for the reception, recording and reproduction of sound and vision
Recreation Goods
Medicine and Health Products

(iii) Services Items

Item	Source	Methodology
Road Passenger Transport	Quarterly GVO of respective Items at Current Prices	Step 1: Quarterly Nominal price estimates of PFCE will be compiled by the formula, (Quarterly GVO of Respective Items*Latest Annual PFCE/GVO ratio) at Current Prices. Step 2: Quarterly Current price estimates will be Deflated using appropriate CPI
Water Passenger Transport		
Air Passenger Transport		
Domestic services and household services		
Gross rentals, equipment and material for housing		
Health Services		
Information and Communications Services		
Recreational Services		
Education		
Restaurants and accommodation services		
Insurance (Life and Non-Life)		
Banking Services (FISIM)		
Personal Care Services		
Legal Services		
Business Services (Religious Services, Funeral Services, Business Services)		

Refuse collection, Sewage collection, Other services related to the dwelling		
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(iv) Remaining items

Item	Source	Methodology
Refined Sugar	ANA	Extrapolating Base Year Quarterly estimates using growth in latest ANA estimates
Salt		
Spices		
Coffee		
Tea		
Cocoa		
Oilseeds		
Narcotics (Pan,Areca-nut, Opium)		
Water supply		
Purchase of Vehicles	VAHAAN	Extrapolating Base Year Quarterly estimates using growth in Total Sales of Motor Car, Motor, Cycles, Bicycles at Constant Prices
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		
Electricity	CEA	Extrapolating Base Year Quarterly estimates at Constant prices using growth in Total Electricity Generated adjusted for Latest Annual Domestic Electricity Sold/Electricity Generated ratio
Gas and Other Fuels (LPG, PNG, CNG)	PPAC	Extrapolating Base Year Quarterly estimates using Domestic Consumption growth in Gas and Other Fuels at Constant Prices
Railway Passenger Transport	M/o Railways	Extrapolating Base Year Quarterly estimates using Passenger Km of Railways at Constant Prices
Transport services for goods	GVO of Road and Railway Transport	Method 1: GST data for Transport of Goods for extrapolating Base year Quarterly Current Price estimates
		Method 2: Combined Quarterly GVO growth rate in Road Transport and Railway Net Tonne Km. at Constant Prices

The meeting ended with vote of thanks to the chair.

Annexure**List of participants of 10th meeting of sub-committee of ACNAS held on 14.11.2025**

1. Dr. G. C. Manna (Chairperson), Professor, IHD
2. Shri J. Dennis Rajakumar, Director, EPWRF, Mumbai
3. Shri. Sanjay Singh, Director, DSIM, RBI- Member
4. DES UP (attended virtually)
5. DES Tripura, (attended virtually)
6. DES Tamil Nadu (attended virtually)
7. DD, MSME (attended virtually)
8. Shri. N.K. Santoshi, DG (CS)
9. Shri Siddhartha Kundu, ADG, NAD
10. Shri Brijendra Singh, DDG, NAD
11. Shri Rajesh Kumar Sharma, DDG, NAD
12. Ms Subhra Sarkar, DDG, NAD
13. Shri Rajeev Kumar, DDG, NAD
14. Ms Monami Mitra, Director, NAD
15. Ms. Meera A. P., Director, NAD
16. Shri Shirke Shrinivas Vijay, Director, NAD
17. Ms Kratika Mittal, Director, NAD
18. Shri Vishal Kumar, Director, NAD
19. Ms. Saroj, JD, NAD
20. Ms Priyanka Anjoy, DD, NAD
21. Ms Nigar Fatma, DD, NAD
22. Ms. Priyanka S. Pant, DD, NAD
23. Shri Dipankar Mitra, DD, NAD
24. Jagrti Garg, DD, NAD
25. Bharti Gautam, SSO, NAD