



## District-Level GDP Estimation

**For Prelims:** [Gross Domestic Product](#), **District Domestic Product**, [Sectors of Indian Economy](#), [Gross Value Added](#)

**For Mains:** India's AI Mission and Global Competitiveness, AI and Economic Growth in India

[Source:BI](#)

### Why in News?

India's economic growth has long been assessed through **national and state-level [Gross Domestic Product \(GDP\) estimates](#)**, leaving **districts (District Domestic Product (DDP) Estimation)** overlooked in economic assessments.

- Prime Minister Narendra Modi has emphasized that to achieve the USD 5 trillion economy target, India must determine district-wise contributions and implement localized development strategies.

### What is the Current GDP Estimation Methodology?

- **Current GDP Estimation Methodology:** India's GDP is estimated using a mix of **top-down** and **bottom-up** approaches, depending on the sector.
  - The **primary sector** (agriculture, forestry, fishing, and mining) follows a **bottom-up** approach, aggregating data from the district level upwards.
  - The **secondary (manufacturing, construction)** and **tertiary (services, trade, banking) sectors** follow a **top-down** approach, where national GDP is apportioned to **states and districts** based on indicators like employment levels and infrastructure presence, rather than measuring economic activity directly at the district level.
- **Limitations:** Current GDP Estimation method overlooks **local sectoral strengths**, particularly in the **secondary and tertiary sectors**.
  - Economic growth varies across districts even within the same state, but a **lack of granular data leads to generic policies**.
    - The approach misses real-time activity, causing inaccuracies, while data gaps in the unorganised sector (unpaid labor (especially by women) weaken GDP estimates.
  - The **State of Working India (SWI 2023) report** highlights that the link between GDP growth and employment is weak at the national level, and this issue is even more pronounced at the district level.
  - Without employment-linked GDP data, development policies may focus solely on economic output rather than job creation and social equity.

## Case Study

- During Covid-19, the **Ministry of Statistics and Programme Implementation (MoSPI)** applied a uniform GDP distribution, leading to discrepancies.
  - Uttar Pradesh (UP) objected, citing significant errors in its estimated **Gross State Value Added (GSVA)**. With **25% GSVA from agriculture** and **65% of its workforce in the sector**, UP argued that its economy was less affected than industrial states.
- The one-size-fits-all approach exaggerated UP's GDP decline, highlighting the need for a **bottom-up, district-level GDP estimation** for accuracy.

# GDP AND RELATED TERMS

### GROSS DOMESTIC PRODUCT (GDP):

- Total monetary value of all finished goods/services produced within a country in one year
- 3 methods to calculate GDP - expenditures, production, income Method
- Provides an economic snapshot to estimate a country's economy/growth rate
- GDP is not an accurate measure of the overall living standard/well-being of a country
- GDP = Goods and services consumed (C) + Investments (I) + Govt expenditures(G) + (Exports(X) - Imports(M))

GDP	Measures economic activity within the physical borders of a country Producers can be native or foreign-owned entities
GNP	Measures overall production of people/corporations native to a country Includes those based abroad (by natives) but not foreign-owned domestic production
GNI	Sum of all income earned by citizens/nationals of a country (domestic + abroad) GNI = domestic income + indirect business taxes + depreciation + net foreign factor income

### Nominal GDP (NGDP)

- GDP at current prices
- Includes inflation/pace of rising prices
- Used to compare different quarters of output (in same year)

### Real GDP (RGDP)

- Inflation-adjusted GDP
- More accurate reflection of the output of an economy than NGDP
- Used to compare GDP of 2 or more years
- Calculated using a GDP Price Deflator
- $RGDP = NGDP \div GDP\ Deflator$

$GDP\ Price\ Deflator = (NGDP \div RGDP) \cdot 100$

**Example: Assume a country that only produces bread**

**Year 2021:** It produced 100 units of bread @ price Rs 10 (each)  
Then, GDP @ current price - Rs 1000

**Year 2022:** It produced 110 units of bread @ price Rs 15 (each)  
Then, GDP @ current price - Rs 1650

**RGDP for year 2022 (base year - 2021) =  $110 \times Rs\ 10 = Rs\ 1,100$**   
Here, **GDP Deflator** would be -  $1,650 \div 1,100 = 1.50$  (or 150%)

- Factor Cost (FC)** = Total value of the inputs that go into manufacturing a good
- Market Price (MP)** = Factor Cost + Indirect Taxes - Subsidies
- $GDP\ at\ FC = GDP\ at\ MP + Subsidies - Indirect\ Taxes$
- $GDP\ at\ MP = GVA \times MP$
- $GDP\ at\ MP$  is the measure of GDP in India
- Gross Value Added (GVA)** = GDP + subsidies on products - taxes on products

$d$  = depreciation       $NFA$  = Net Factor Income from Abroad  
 $NNP$  = Net National Product       $NDP$  = Net Domestic Product

## What are the Challenges in Implementing District-Level GDP Estimation?

- Informal Sector:** Regional units like **districts** face challenges in DDP estimation due to the **high reliance on informal labor and the unorganized sector**, leading to underestimation.
  - Additionally, the free movement of goods, services, and factor payments across district boundaries further complicates accurate assessment.
- Financial & Logistical Barriers:** Setting up a **robust statistical framework** for district-level

GDP estimation requires **significant investment** in **infrastructure, training, and digital tools**.

- **Inconsistent Data Collection:** Statistics under the **Concurrent List** creates fragmentation between the **Centre and States**, while the decentralized statistical system across ministries lacks uniformity, making **DDP estimation inconsistent**.
  - The absence of standardized district-level data collection leads to inaccuracies across states.
- **Lack of Standardized Methodology:** No internationally accepted framework, like the System of National Accounts (SNA) 2008, for estimating DDP.
  - Defining key metrics such as the **base year is challenging due to variations in economic activities across districts**.
- **Political and Administrative Hurdles:** States are responsible for compiling Sub-State/DDP but often fail to execute it effectively.
  - Variability in state policies and political priorities leads to delays and inconsistencies in data collection, affecting the uniformity and reliability of DDP estimation.

## What are the Benefits of District-Level GDP Estimation?

- **Boosting Fiscal Federalism:** Decentralized economic data empowers district administrations to develop tailored strategies, ensuring **better resource utilization and targeted investments**.
- **Accurate Economic Analysis:** Helps assess how national or state-level policies impact different districts.
- **Equitable Growth:** Ensures **rural and underdeveloped districts** are included in the growth narrative, preventing economic disparities.
- **Policy Reforms:** The **15th Finance Commission** recommended **performance-based grants** for local governance, district GDP data can help allocate these resources effectively.
  - **State and national policies** should be adjusted based on **district-level economic insights**.

## What Should Be the Way Forward for Robust DDP Estimation?

- **Pilot Project:** The government can start with a **pilot project** in districts with high economic activity to test DDP estimation models. Successful models can then be scaled to other districts.
  - Strengthen collaboration between states and research institutions, as seen in the Assam-Pahle India Foundation MoU, to develop **district vision documents**.
- **Local Data Collection Mechanisms:** The government should strengthen district statistical offices, train local data collectors, and ensure strong Central-State collaboration for accuracy.
  - Every **USD 1 investment in data yields USD 32** in development benefits, underscoring its long-term value.
- **Real-Time Economic Indicators:** Aligning with the Sub-National Accounts Committee's recommendations for improving GSDP and DDP estimation, district-level economic dashboards can be developed to track employment trends, tax collections, credit growth, and business activity.
  - Digital tools like **Artificial Intelligence, satellite imagery, and big data analytics** should be leveraged to improve **district-level economic measurement**.
- **Expand Role of MoSPI:** The role of MOSPI should be expanded beyond technical guidance and capacity building to ensure uniformity and interstate comparability in DDP estimation.

### **Drishti Mains Question:**

Discuss the limitations of India's current GDP estimation methodology. How can a bottom-up approach improve economic policymaking?

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### Prelims

**Q. A rapid increase in the rate of inflation is sometimes attributed to the “base effect”. What is “base effect”?** (2011)

- (a) It is the impact of drastic deficiency in supply due to failure of crops
- (b) It is the impact of the surge in demand due to rapid economic growth
- (c) It is the impact of the price levels of previous years on the calculation of inflation rate
- (d) None of the statements (a), (b) and (c) given above is correct in this context

**Ans: (c)**

### Mains

**Q. Explain the difference between computing methodology of India’s Gross Domestic Product (GDP) before the year 2015 and after the year 2015.** (2021)

PDF Refernece URL: <https://www.drishtiias.com/printpdf/district-level-gdp-estimation>

