

Reducing GDP discrepancies: India needs radical improvements in estimation

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Using GST data could help correct inflated real growth figures

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India's gross domestic product (GDP) estimates have long been the subject of controversy. For this reason, it is encouraging to see a recent news report that the government is planning to improve GDP measurement by using data from the goods and services tax (GST). If the plan is implemented, it would represent a great step forward, and redound to the credit of the leadership at the Ministry of Statistics and Planning Implementation (Mospis). Consider why.

Any statistical agency needs to decide whether it will measure GDP from the production side or from the expenditure side. In principle, the two measures should give the same result, since everything that is produced in an economy is sold (or stored as inventory, which is also counted as expenditure). But measuring production and spending in an economy as large as India's is difficult, and inevitably the two measures do not coincide.

At this point, the agency needs to make another choice. Some choose to average the two measures. But Mospis uses only one series — the production side — as its official GDP estimates, on the grounds that it is more reliable. But Mospis also produces expenditure-side estimates. And the discrepancies between these two series are worth examining for they reveal much about India's problems in estimating GDP.

The table shows the discrepancy between production- and expenditure-side growth estimates for all the years since the current methodology was introduced.

ESTIMATES OF GDP GROWTH

| | REAL | | | NOMINAL | | |
|-------------|-------------|--|--------------------------------|-------------|--|-----------------------------|
| | GDP growth | Discrepancy between production and expenditure growth in percentage points | Discrepancy as % of GDP growth | GDP growth | Discrepancy between production and expenditure growth in percentage points | Discrepancy as % GDP growth |
| 2013 | 5.5 | 0.8 | 15 | 13.8 | 1.8 | 12.9 |
| 2014 | 6.4 | -0.8 | -13 | 13.0 | -0.2 | -1.9 |
| 2015 | 7.4 | 0.1 | 2 | 11.0 | -1.0 | -8.9 |
| 2016 | 8.0 | 1.0 | 12 | 10.5 | 0.7 | 6.3 |
| 2017 | 8.3 | 1.7 | 21 | 11.8 | 1.4 | 11.9 |
| 2018 | 6.8 | 1.2 | 18 | 11.0 | 0.8 | 7.1 |
| 2019 | 6.5 | -2.5 | -39 | 10.6 | -1.6 | -14.8 |
| 2020 | 3.9 | 2.0 | 51 | 6.4 | -0.8 | -12.5 |
| 2021 | -5.8 | -1.6 | 28 | -1.2 | -1.8 | 144.6 |
| 2022 | 9.7 | -5.1 | -53 | 18.9 | 0.4 | 2.0 |
| 2023 | 7.6 | 0.1 | 1 | 14.0 | -1.0 | -6.9 |
| 2024 | 9.2 | 4.3 | 47 | 12.0 | 0.0 | 0.0 |

Note: Figures are for financial years ending in the year indicated (i.e. 2013 refers to 2012-13). Positive discrepancy implies that the production side estimate of GDP growth exceeds that on the expenditure side. Shaded area corresponds to the Covid years

Two features of the real estimates are particularly noteworthy. First, the difference between the two measures of GDP growth can be quite high. For example, in the financial years (FY) 2016-17 and 2017-2018, the discrepancy accounted for around 20 per cent of GDP growth. In FY20 and FY24, the discrepancy was even higher, around 50 per cent. In other words, about half of GDP growth for 2020 and 2024 ended up being “explained” by the discrepancy. This is clearly problematic.

Second, positive discrepancies predominate, meaning that real production-side growth estimates tend to be higher than their corresponding expenditure-side measures. In fact, discrepancies are positive for no less than eight of the past 10 years, excluding the measurement-challenged Covid years. In other words, for most of the past decade, Mospi simply could not find the expenditure-side counterparts to production-side GDP growth.

Why not? It’s possible that a serious problem developed during this period in measuring expenditure. But this seems unlikely. If measurement was the problem, then one should see evidence of it in the nominal numbers. But in fact the nominal discrepancies are smaller and much more evenly distributed between positive and negative values than the real discrepancies. This suggests that the problem occurred when the nominal numbers were translated into real ones.

How did that happen? Essentially, because Mospi uses a flawed price index to deflate production-side GDP, one that gives far too much weight to volatile international commodity prices. Consequently, during periods when oil prices fall, as happened repeatedly during the past decade (with the major exception being 2022, when Russia invaded Ukraine), the GDP deflator will be underestimated. And when this too-low deflator is used to deflate the nominal production aggregates, the real GDP figures become overstated.

In other words, the real problem (pun intended) — the real reason for the large and one-sided discrepancies in the two measures of growth—is that real growth on the production side has been overestimated.

All this said, expenditure data does need to be improved. After all, the nominal discrepancies are still significant, often amounting to 1 percentage point of growth. A key problem in measuring GDP from the expenditure side is the difficulty in measuring consumption, since this activity takes place in many different retail shops up and down the country — and now, increasingly, online. Expenditure-side deflators, less flawed than those on the production side, also need improvement. And all this matters hugely because consumption is the major component of aggregate demand, accounting for 56 per cent of the nation’s GDP, according to the latest estimates.

This is where GST data can help. After all, the GST applies (at least in principle) to every significant consumption transaction in the country, which means that virtually every transaction can be measured. In particular, the GST does a much better job of capturing transactions in smaller establishments, which pay GST but whose accounts are not captured in Mospi’s existing database.

Moreover, GST data can be broken down in a variety of interesting ways, such as by consumption of durable goods, non-durable goods and services; or between domestic production and imports. It could even be broken down further to track otherwise-difficult-to-measure activities, such as restaurant meals. Also, GST data is timely (with only a month's lag) and available at high frequency (monthly). So, using GST should lead to considerable improvements in the quarterly GDP estimates.

At the same time, GST data could be used to improve the estimates of state-level GDP. After all, if national estimates are flawed, gross state domestic products (GSDPs) are even more so. Currently, for many of the organised sub-sectors, GDP is calculated at the national level and then apportioned across states based on imperfect proxies. A much better approach would be to measure for each sub-sector how much of the GST collection comes from each state. Several states are right now planning to improve GSDP estimation, and the use of GST data could help in this regard.

Our analysis of discrepancies points to the need for radical improvements in GDP estimation. Constructing better deflators is clearly essential. But it would also be important to improve the nominal estimates. The good news is that if India were to use GST data to do this, it would join the small group of advanced countries that use tax data for better GDP estimation. As in the digital space, India will have leap-frogged to the frontier.

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