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# Achieving One Trillion Dollar Economy for Tamil Nadu: Some Implications and Concerns

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## Abstract

This study examines whether Tamil Nadu's economy will become a US $1 trillion economy by 2030, given its current slow growth regime, inflation, and rupee depreciation. Our analyses indicate that, assuming an inflation rate of 5% and 2% exchange rate depreciation per annum, the Tamil Nadu economy needs to grow at a real growth rate of 13.2% per annum for 8 consecutive years from 2023-24 to 2030-31 to reach the US $1 trillion target. Considering the growth contributions of sub sectors, this study simulates multiple growth strategies to achieve 9% overall growth, which would achieve the target in 2033-34. Further, it examines whether export promotion will help to achieve this target. Finally, it shows that the current level of debt-GSDP ratio is a hindrance to growth. It suggests that ensuring 14% nominal (i.e., 9% real) growth of economy, the state should target for a revenue surplus from 2023-24 onwards, such that it contains its fiscal deficit to only 2% level and obtains a sustainable threshold debt level of about 18% in 2034-35.

**Keywords**: Economic growth, exchange rate movement, incremental capital output ratio, sustainable threshold debt

**JEL Codes:** H63, D72, H72, C22, E32

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# 1. Introduction

Tamil Nadu has been one of India's most progressive states, in terms of many economic and social parameters. It is the second-largest economy in the country. Its share in India's GDP was 9.2% in 2021-22. Tamil Nadu is a highly-industrialized state, contributing 12.1% of manufacturing GDP of the country. It ranks first in number of factories and urbanization; second in credit deposit ratio, low IMR and low birth rate (RBI 2022); second in head count ratio (percentage of population who are multidimensionally poor) (Niti Aayog 2021); third in literacy and female literacy (Census of India 2011). It ranks fourth in export preparedness index 2021 and National Logistic Index 2021 (Niti Aayog & Institute for Competitiveness 2021) (Ministry of Commerce and Industry 2021).

Growth matters as it paves the way for development and prosperity of a country or state. Over the past few years, Tamil Nadu had lost its edge in terms of economic growth. From 2005-06 to 2011-12, Tamil Nadu economy (in 2004-05 base) grew at an annual rate of 10.3%, against all-India growth of 8.2%; from 2012-13 to 2021-22, (in 2011-12 base) it grew only at the rate of 6.43%, as against all-India growth of 5.48%.[1]

The newly elected Chief Minister of Tamil Nadu had announced at the Investors Conclave in July 2021 an ambitious target to make Tamil Nadu a US$1 trillion economy by 2030. The state has also set a target to bring in investment of ₹23 trillion by 2030. In other fora, the Chief Minister said that Tamil Nadu's export should be increased to $100 billion by 2030 (from the current level of $26 billion).

It is well known that the COVID-19 pandemic affected all economies, including Tamil Nadu economy. Its real growth rate declined to 1.42% in 2020-21, and the growth of nearly half of the sub-sectors (forestry & logging; mining & quarrying; electricity; gas; a sector comprising trade, hotels, and restaurants; a sector consisting of transport, storage, communication etc.; public administration) contracted.

While growth rate has fallen, Tamil Nadu is one of the few states which had a positive growth. At the all-India level, the growth rate declined by 6.6%. The recent Russia-Ukraine war has aggravated the challenges faced by the economy. Further, the government finances are under stress. According to the recent budget, the total outstanding debt of Tamil Nadu state will reach ₹ 6.53 lakh crore at the end of fiscal year 2022-23, i.e., the debt-GSDP ratio will reach 26.3%, as against the 20% ceiling suggested by the Fiscal Responsibility and Budget Management (FRBM) Review Committee.[2] This high debt-GSDP rate may be a hindrance to growth.

Given this background, the central questions are: will Tamil Nadu's economy become a one trillion dollar economy by 2030 or not? If yes, how much growth is needed to achieve the target? To achieve the required growth, what are the growth strategies required in general, and for specific sub-sectors of the economy? Will the investments and exports targets of Government help in achieving the target? Will the fiscal space facilitate the state to achieve its target?

This study attempts to provide answers to these questions. The next Section briefly discusses on the calculations of how and when US$ 1 trillion economy can be achieved using different assumptions on growth rate, exchange rate etc. The following two Sections explain the growth profile of the Tamil Nadu economy and the sectoral growth pattern. The subsequent Sections present the structural composition of GSDP and the relative contributions of sectoral growths to aggregate growth of the Tamil Nadu economy. Then, the relation between growth and exports in Tamil Nadu, and between growth and invested capital in industries, are examined. The next Section reviews some fiscal issues, while the final Section provides concluding remarks.

## 2. TOWARDS A US$ TRILLION TAMIL NADU ECONOMY

In 2022-23, the projected GSDP (nominal) of Tamil Nadu in the state's budget document is ₹24,84,807 crore, i.e., ₹ 24.85 trillion (or 0.32 US$ Trillion). To meet the target of US$ 1 trillion Tamil Nadu economy in 2030, the nominal growth rate for the next eight years starting from 2023-24 to 2030-31 can be derived using certain assumptions on exchange rate.

Assuming a fixed exchange rate of ₹ 80.73 per 1 US$ (as on 22nd September 2022), the derived nominal growth rate required to achieve the target size of US $ 1 trillion by 2030-31 will be 15.9% (Table 1).

Regarding inflation rate, which is needed to derive the real growth rate, the annual CPI (consumer price index) inflation (i.e., 12-month average from April to March) from 2014-15 to 2021-22 and GDP deflator-based inflation from 2014-15 and 2021-22 are compared. While they exhibit year-on-year fluctuations, the average CPI inflation for Tamil Nadu was 5.35% (against an all-India rate of 4.84%), and the average GDP deflator-based inflation for Tamil Nadu was 4.03% (as against an all-India GDP derived inflation of 4.33%).[3]

Since, in general, the CPI-based inflation is considered for economic analyses, this study assumes an inflation rate of 5% for Tamil Nadu in coming years. It is noted that although the target inflation rate as per the Monetary Policy Framework for the country is 4%, this study assumes 5% for Tamil Nadu.

Assuming an inflation rate of 5% in Tamil Nadu, the Tamil Nadu economy needs to grow at a real rate of 10.9% per annum for 8 consecutive years (i.e., from 2023-24 to 2030-31) to reach the US $1 trillion target. Since Tamil Nadu had already registered an annual real growth of 10.3% from 2005-06 to 2011-12, the state has the potential to achieve the required growth rate.

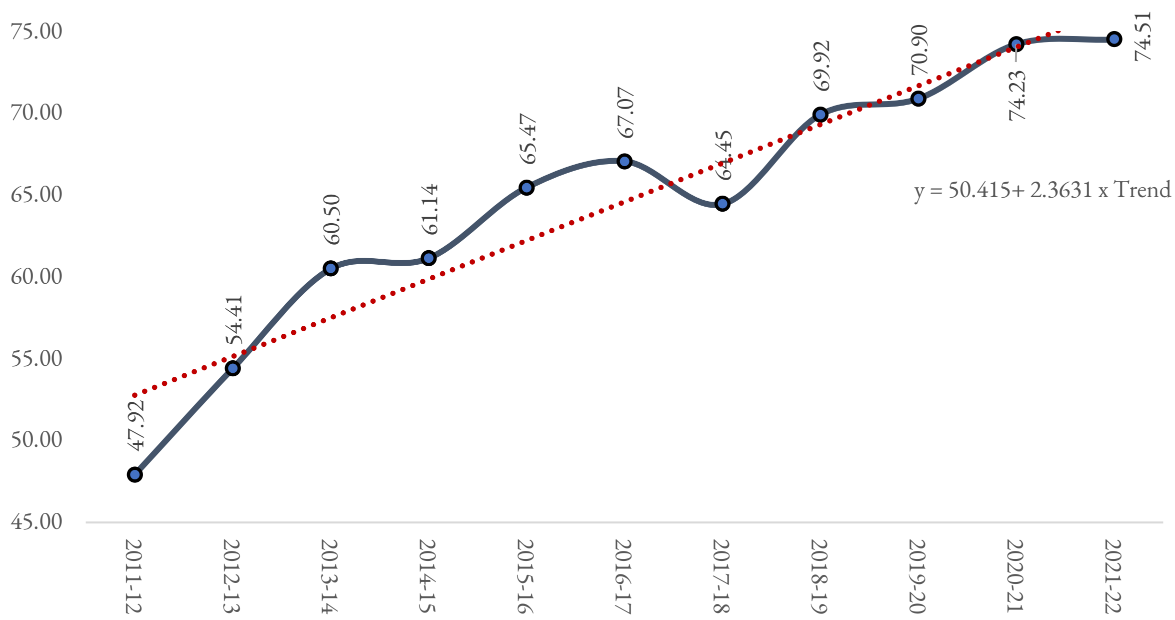
However, it is noticed that the growth of Tamil Nadu economy is not independent of the growth of other Indian States. When the Indian economy grew at 8.2% from 2005-06 to 2011-12, Tamil Nadu recorded 10.3% growth; when the growth of Indian economy slowed down to 5.48% since 2012-13, Tamil Nadu's growth also declined to 6.43%, a reduction of about 4 percentage points. This low growth regime is of great concern.

**Table 1: Growth Required to Achieve a US$ 1 Trillion Economy by 2030-31 with a Fixed Exchange Rate**

| Year | Nominal GSDP (₹ Crore) | Nominal GSDP (₹ Trillion) | Derived Nominal Growth (%) | Real Growth Rate (%) | Exchange Rate (₹ / US$) | Nominal GSDP (US$ Trillion) | Per Capita GSDP (₹) | Per Capita GSDP US$ |
|---|---|---|---|---|---|---|---|---|
| 2022-23 | 2484807 | 24.8 | - | - | 80.73 | 0.31 | 323290 | 4005 |
| 2023-24 | 2879125 | 28.8 | 15.9 | 10.9 | 80.73 | 0.36 | 373481 | 4626 |
| 2024-25 | 3336017 | 33.4 | 15.9 | 10.9 | 80.73 | 0.41 | 431473 | 5345 |
| 2025-26 | 3865414 | 38.7 | 15.9 | 10.9 | 80.73 | 0.48 | 498467 | 6174 |
| 2026-27 | 4478822 | 44.8 | 15.9 | 10.9 | 80.73 | 0.55 | 576774 | 7144 |
| 2027-28 | 5189573 | 51.9 | 15.9 | 10.9 | 80.73 | 0.64 | 667375 | 8267 |
| 2028-29 | 6013113 | 60.1 | 15.9 | 10.9 | 80.73 | 0.74 | 772219 | 9565 |
| 2029-30 | 6967343 | 69.7 | 15.9 | 10.9 | 80.73 | 0.86 | 893535 | 11068 |
| 2030-31 | 8073000 | 80.7 | 15.9 | 10.9 | 80.73 | 1.00 | 1033913 | 12807 |

Under these circumstances, the target remains ambitious and difficult to achieve, since the assumption of a constant exchange rate is a strong one. The history of average annual exchange rate movement shown in Figure 1 indicates that the exchange rate increased from ₹ 47.92 per US$ in 2011-12 to ₹74.51 per US$ in 2021-22, registering an average annual change of ₹ 2.36 (it is also significant at 1%). Therefore, it is not wise to assume a constant exchange rate.

**Figure 1: Exchange Rate Movement (₹ per US$)**




Source (Basic Data): RBI Website.

Given the fact that the average annual depreciation of Indian rupee viz.-a-viz. the US $ varies in different time intervals (2.7% during 2014-15 to 2021-22; 3.03% during 2014-15 to 2018-19; 2.1% during 2019-20 to 2021-22), we assume 2% depreciation. Table 2 shows that the implied nominal growth rate would be 18.2% and the required real growth rate would be 13.2%, which is a very ambitious target.[4]

**Table 2: Growth Required to Achieve a US$ 1 Trillion Economy by 2030-31 with a Varying Exchange Rate**

| | Nominal GSDP (₹ Crore) | Nominal GSDP (₹ Trillion) | Derived Nominal Growth (%) | Real Growth Rate (%) | Exchange Rate (₹ /US$) | Nominal GSDP (US$ Trillion) | Per Capita GSDP (₹) | Per Capita GSDP US$ |
|---|---|---|---|---|---|---|---|---|
| 2022-23 | 2484807 | 24.8 | - | - | 80.73 | 0.31 | 323290 | 4005 |
| 2023-24 | 2936707 | 29.4 | 18.2 | 13.2 | 82.34 | 0.36 | 380950 | 4626 |
| 2024-25 | 3470792 | 34.7 | 18.2 | 13.2 | 83.99 | 0.41 | 448904 | 5345 |
| 2025-26 | 4102008 | 41.0 | 18.2 | 13.2 | 85.67 | 0.48 | 528977 | 6174 |
| 2026-27 | 4848021 | 48.5 | 18.2 | 13.2 | 87.38 | 0.55 | 624319 | 7144 |
| 2027-28 | 5729708 | 57.3 | 18.2 | 13.2 | 89.13 | 0.64 | 736836 | 8267 |
| 2028-29 | 6771742 | 67.7 | 18.2 | 13.2 | 90.92 | 0.74 | 869644 | 9565 |
| 2029-30 | 8003287 | 80.0 | 18.2 | 13.2 | 92.73 | 0.86 | 1026391 | 11068 |
| 2030-31 | 9458806 | 94.6 | 18.2 | 13.2 | 94.59 | 1.00 | 1211394 | 12807 |

Since Tamil Nadu's economy registered an average growth of around 6.4% from 2012-13 to 2021-22, the required real growth rate of 13.2% is not feasible. That is, this scenario is ruled out. Therefore, we examine the alternative scenarios with real growth of

1. 6.5% (close to the current level);
2. 8%;
3. 9% (as per medium-term fiscal plan of the Government of Tamil Nadu); and
4. 10%.

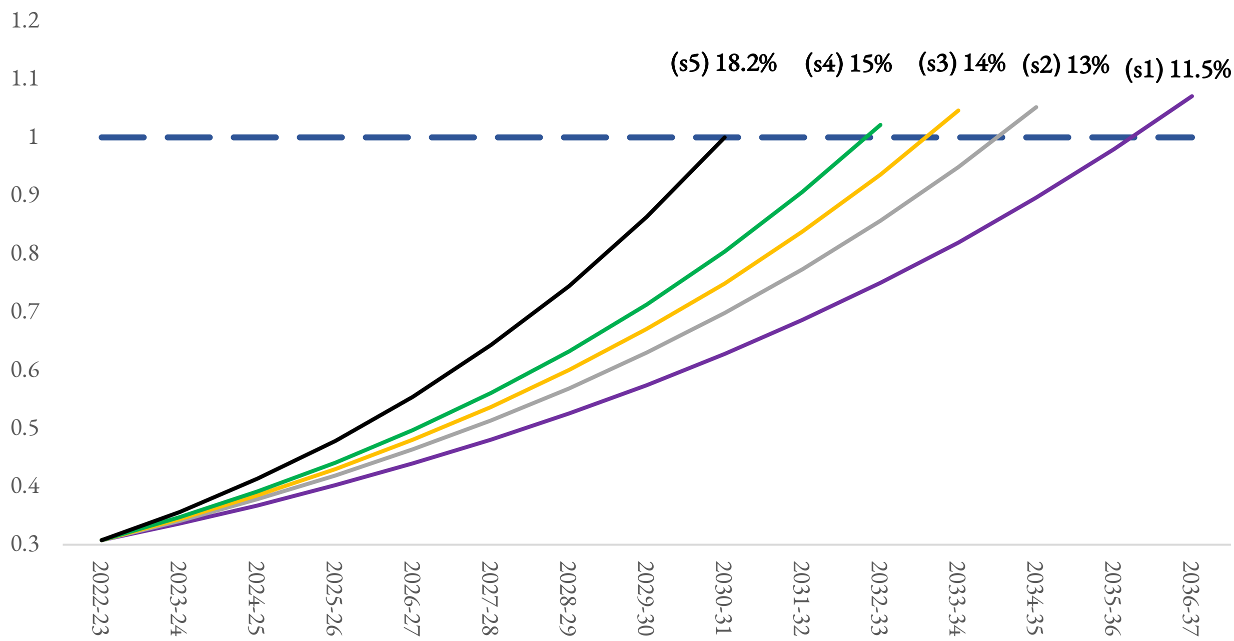
Based on these real growth rates and 5% inflation, the derived nominal growth rate in respective scenarios would be 11.5% (S1); 13% (S2); 14% (S3); and 15% (S4). Assuming 2% exchange rate depreciation in all years, simulations can be done with alternative growth assumptions to arrive at the year by which the US$1 trillion target would be reached. The simulation results are shown in Figure 2, which also shows the scenario 5 (S5) for derived nominal growth rate of 18.2% (i.e. 13.2% real growth), as in Table 2.

The US$ 1trillion economy target is reached by 2030-31 at the nominal growth rate of 18.2% (S5). The target is shifted to 2032-33 with 15% nominal growth rate (S4), to 2033-34 with 14% (S3), and even further to 2034-35 with 13% (S2). The target would be reached in 2035-36 with growth rate of 11.5% (S1).

Thus, with the optimistic scenario of 15% nominal growth, the target is expected to be reached in 2032-33; with 14% rate (as in medium term fiscal plan), it would be reached in 2033-34; and with a generally accepted level of 13% (8% real rate + 5% inflation), the target would be reached in 2034-35.

Therefore, reaching the target in 2030 is ruled out.[5] The 14% scenario (S3) assumed in medium-term fiscal plan appears to be achievable. We can however be more confident of nominal growth rate of 13%. Thus, the achievement of the goal of a trillion-dollar economy is possible either in 2033-34 or 2034-35.

**Figure 2: Simulations to Show the Year in Which the Tamil Nadu Economy Reaches US$1 Trillion Target (with 2% Exchange Rate Depreciation Every Year)**




The 9% real growth scenario to achieve the target by 2033-34 is shown in Table 3. Under this scenario, the per capita income of the state in the terminal year will be US$13,400 - a shade higher than the US$13,205 per capita income required to classify as a developed country as of now (World Bank 2022). It is note that for higher exchange rate depreciation, required nominal and real rates of growth will be higher. With a real growth rate of 8%, the target would get postponed by one more year to 2024-35. We should also keep this in mind as a possible scenario.

In all the scenarios, we have indicated the growth rate as being the same every year. This is a matter of convenience for calculation. In real life, growth rates may change from year to year. What the scenarios indicate is that, on average, the relevant target growth rate should be achieved.

**Table 3: 9 % Growth Scenario to Achieve US$1 Trillion**

| Year | Nominal GSDP (₹ Crore) | Nominal GSDP (₹ Trillion) | Derived Nominal Growth (%) | Real Growth Rate (%) | Excha-nge Rate (/US$) | Nominal GSDP (US$ Trillion) | Per Capita GSDP (₹) | Per Capita GSDP US$ |
|---|---|---|---|---|---|---|---|---|
| 2022-23 | 2484807 | 24.8481 | | | 80.73 | 0.31 | 323290 | 4005 |
| 2023-24 | 2832680 | 28.3268 | 14.0 | 9.0 | 82.34 | 0.34 | 367456 | 4462 |
| 2024-25 | 3229255 | 32.2926 | 14.0 | 9.0 | 83.99 | 0.38 | 417664 | 4973 |
| 2025-26 | 3681351 | 36.8135 | 14.0 | 9.0 | 85.67 | 0.43 | 474731 | 5541 |
| 2026-27 | 4196740 | 41.9674 | 14.0 | 9.0 | 87.38 | 0.48 | 540448 | 6185 |
| 2027-28 | 4784284 | 47.8428 | 14.0 | 9.0 | 89.13 | 0.54 | 615255 | 6903 |
| 2028-29 | 5454083 | 54.5408 | 14.0 | 9.0 | 90.92 | 0.60 | 700427 | 7704 |
| 2029-30 | 6217655 | 62.1766 | 14.0 | 9.0 | 92.73 | 0.67 | 797391 | 8599 |
| 2030-31 | 7088127 | 70.8813 | 14.0 | 9.0 | 94.59 | 0.75 | 907780 | 9597 |
| 2031-32 | 8080464 | 80.8046 | 14.0 | 9.0 | 96.48 | 0.84 | 1034909 | 10727 |
| 2032-33 | 9211729 | 92.1173 | 14.0 | 9.0 | 98.41 | 0.94 | 1179841 | 11989 |
| 2033-34 | 10501372 | 105.014 | 14.0 | 9.0 | 100.38 | 1.05 | 1345071 | 13400 |

We now examine the possibility of raising the real growth to the required level of 9% (i.e., 14% in nominal term) in the subsequent sections.

## 3. Growth Profile Of Tamil Nadu Economy

While Tamil Nadu registered a strong real growth performance of 10.3% (as against all-India growth of 8.2%) from 2005-06 to 2011-12, its average growth declined to 6.43% (as against all-India growth of 5.48%) from 2012-13 to 2021-22 (Figure 3). Tamil Nadu's growth pattern is more volatile than India's growth pattern. Its trend (potential) growth rate (generated using the HP filter) continuously declined, from 6.72% in 2013-14 to 6.17% in 2019-20, and further to 5.8% in 2021-22.[6]

Even if we consider the state's strong growth potential during 2005-06 to 2011-12, we may expect to achieve the average nominal growth in the range of 14-15%. However, this is a highly optimistic scenario, given the recent growth trend. Interstate comparison (Figure 4) reveals that Tamil Nadu ranked fifth in average growth (10.3%) during 2005-06 to 2011-12. During 2012-13 to 2021-22, it ranked only tenth (with about 6.3% real growth).

**Figure 3: Economic Growth: Tamil Nadu and India**

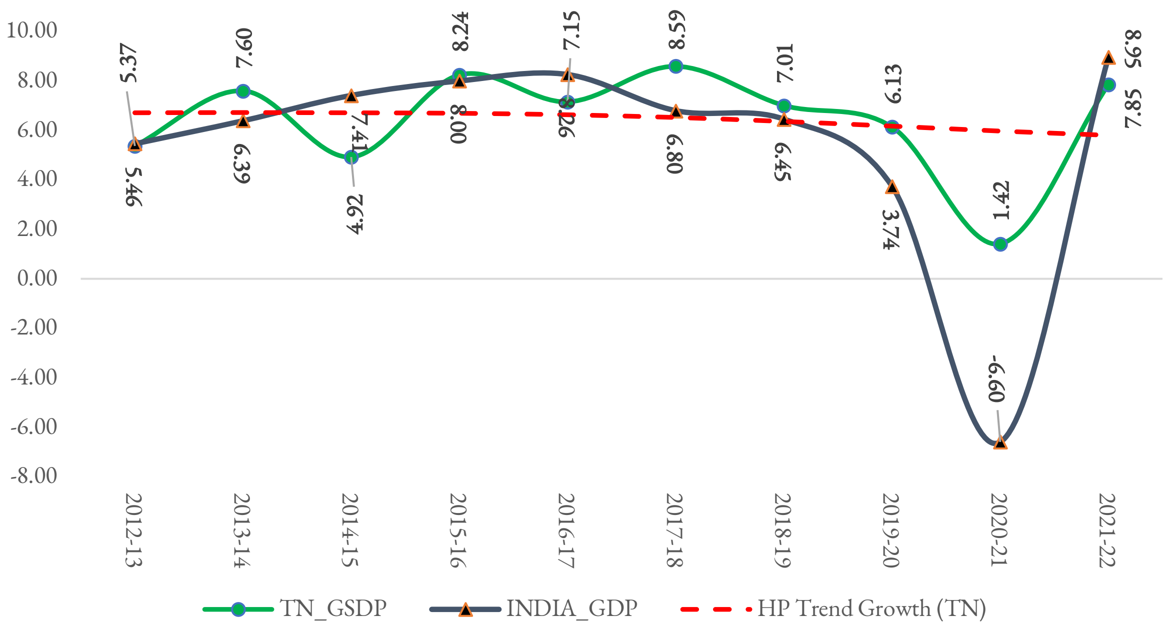
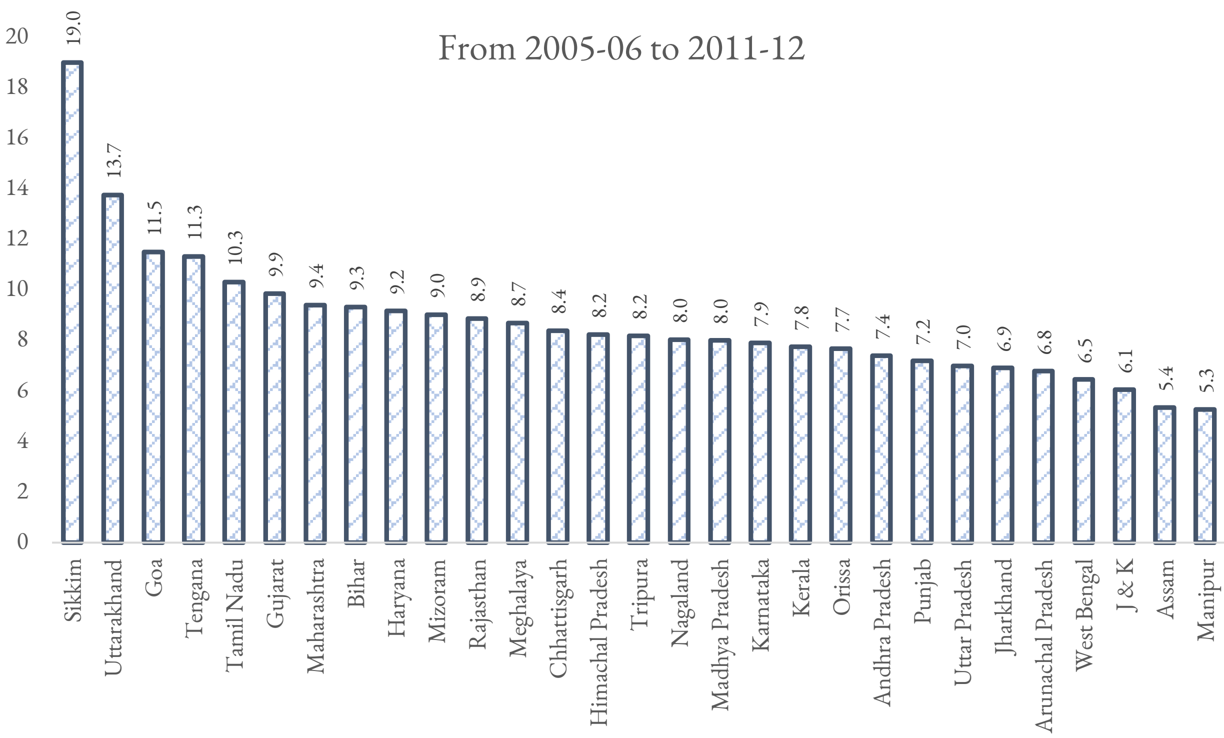
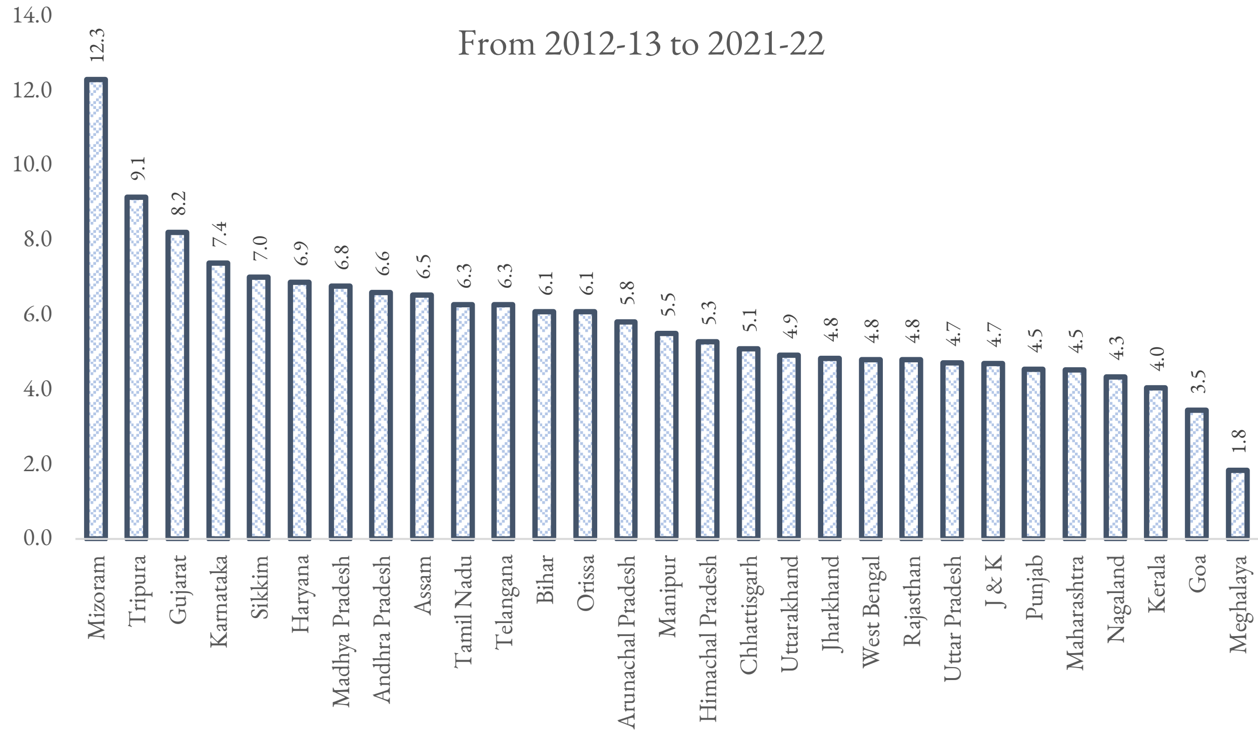



**Figure 4: Average Real Economic Growth of Indian States**





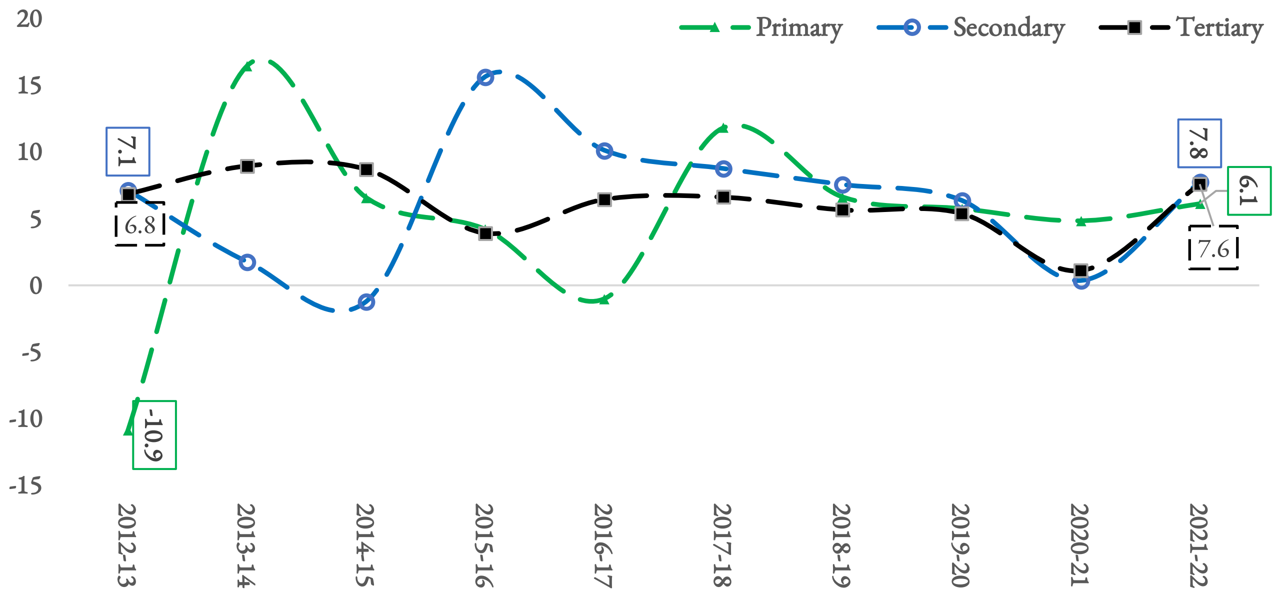

## 3.1 Growth Pattern of Three Broad Sub Sectors

Sectoral growth patterns reveal that during 2012-13 to 2021-22, the primary sector (consisting of agriculture crops, livestock, forestry and logging, fishing and aquaculture and mining and quarrying) grew at an average rate of 5.05%, while the secondary sector (comprising manufacturing, electricity, gas, water supply etc. and construction) recorded an average growth of 6.43% (Figure 5).

The tertiary or services sector grew at an average rate of 6.12%. These rates are relatively low, as compared to their respective sectoral growths of 6.05%, 10.09%, and 11.28% during the 2005-06 to 2011-12 period. The fall in growth rates of these sector, particularly the services sector (with more than 50% share), is the major concern.

Further, the growth paths of both the primary sector and the secondary sector are more volatile than the services growth curve. The high volatility in both primary and secondary sectors implies that the risk-adjusted returns from them are low, so they may find it difficult to attract private investments. Since nearly 42% of the workers are in agriculture and the state has larger number of MSMEs, the stable growth of these sectors is important.

**Figure 5: Sectoral Growth in Tamil Nadu**




## 3.2 Structure of GSDP

Like in many other Indian States, the structure of gross state domestic product (GSDP) in Tamil Nadu has been shifting away from primary (agriculture) towards non-primary sectors.

- The share of primary sector in total GSDP (in 1999-00 prices) of Tamil Nadu in 1999-00 was about 17% (not shown in Fig. 5).
- As indicated in Table 4, its share declined to 12.11% in 2011-12, and further to 10.6% in 2020-21.
- The secondary sector share was 29.6% in 1999-00, but its share increased to 33.56% in 2011-12, and remained more or less the same level till 2020-21.
- The share of tertiary sector was 53% in 1999-00 and stabilized around 46% during 2011-12 to 2020-21.
- It is noted that between 2011-12 to 2020-21, the share of primary sector declined by 1.52 percentage points. This trend is expected to continue.

## 3.3 Contributions of Sectoral Growth Rates

Relative contributions of the sectors to overall growth rate in each year can be computed by decomposing growth as a weighted sum of sectoral growth rates, with weights being equal to the respective share of the sector in the overall GSDP in the previous year.

The growth decomposition formula is:

$$G(Y) = [(Y_1)_{-1} / Y_{t-1} * (\Delta Y_1/(Y_1)_{-1} ] + [(Y_2)_{-1} / Y_{t-1} * (\Delta Y_2/(Y_2)_{-1} ] + [(Y_3)_{-1} / Y_{t-1} * (\Delta Y_3/(Y_3)_{-1} ] + [(Y_4)_{-1} / Y_{t-1} ] * (\Delta Y_4/(Y_4)_{-1}]$$

In the above equation,

G(Y) is the overall growth rate of GSDP (indicated by $Y_t$) in year t; $(Y_i)_{-1}$ is the ith sector GSDP (i=1,2,3,4; 1-primary, 2-secondary, 3-tertiary and 4-taxes minus subsidies on products) in previous year; $\Delta Y_i$ – change in sector ith GSDP in year t over previous year; each right-side term is $i^{th}$ sector's growth rate $[G(Y_i) = (\Delta Y_i/(Y_i)_{-1}]$ multiplied with sectoral share $[w_i = (Y_i)_{-1}/ Y_{t-1}]$.

**Table 4: Share of GSDP in Tamil Nadu at 2011-12 Prices**

(Percent)

| Sub-Sectors | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | Avg. Share |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.Primary | 12.11 | 10.24 | 11.09 | 11.26 | 10.84 | 10.02 | 10.32 | 10.28 | 10.24 | 10.59 | 10.70 |
| 2.Secondary | 33.56 | 34.12 | 32.27 | 30.39 | 32.47 | 33.37 | 33.43 | 33.60 | 33.68 | 33.33 | 33.02 |
| 3.Tertiary | 46.55 | 47.21 | 47.80 | 49.52 | 47.54 | 47.23 | 46.37 | 45.79 | 45.47 | 45.33 | 46.88 |
| 4.Taxes, minus subsidies on Products | 7.78 | 8.43 | 8.84 | 8.83 | 9.15 | 9.38 | 9.89 | 10.33 | 10.61 | 10.75 | 9.40 |
| GSDP | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source (Basic Data): NSO, MOSPI.

The growth decomposition results in Table 5 shows that the tertiary/services sector is the dominant component of the growth rate (with 10-year average contribution of 2.87%), followed by the secondary sector (2.1%) and the primary sector (0.51%). Thus, the non-primary sectors jointly contributed about 4.97% out of 6.43% average growth of Tamil Nadu. That is, the tertiary and secondary sectors jointly contributed about 75% of average growth of Tamil Nadu. Tamil Nadu needs to stabilize or increase the growths of these two broad sectors.

**Table 5: Contributions of Sectoral Growth Rates to GSDP Growth (%)**

| Sub Sectors | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 10 Yr. Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Primary | -1.32 | 1.69 | 0.73 | 0.47 | -0.11 | 1.18 | 0.68 | 0.59 | 0.50 | 0.65 | 0.51 |
| Secondary | 2.39 | 0.60 | -0.39 | 4.76 | 3.29 | 2.92 | 2.53 | 2.14 | 0.12 | 2.58 | 2.10 |
| Tertiary | 3.19 | 4.23 | 4.16 | 1.94 | 3.06 | 3.12 | 2.62 | 2.47 | 0.50 | 3.44 | 2.87 |
| Taxes- minus subsidies on Products | 1.10 | 1.08 | 0.43 | 1.07 | 0.91 | 1.35 | 1.17 | 0.93 | 0.30 | 1.17 | 0.95 |
| GSDP | 5.37 | 7.60 | 4.92 | 8.24 | 7.15 | 8.59 | 7.01 | 6.13 | 1.42 | 7.85 | 6.43 |
| **% Share of Growth Contribution** | | | | | | | | | | | |
| Primary | -24.53 | 22.19 | 14.82 | 5.76 | -1.53 | 13.79 | 9.76 | 9.65 | 35.00 | 8.26 | 9.32 |
| Secondary | 44.60 | 7.96 | -7.98 | 57.73 | 46.01 | 34.06 | 36.09 | 34.96 | 8.57 | 32.93 | 29.49 |
| Tertiary | 59.39 | 55.65 | 84.53 | 23.51 | 42.85 | 36.38 | 37.42 | 40.27 | 35.58 | 43.84 | 45.94 |
| Taxes- minus subsidies on Products | 20.54 | 14.20 | 8.64 | 13.00 | 12.67 | 15.77 | 16.73 | 15.12 | 20.85 | 14.97 | 15.25 |
| GSDP | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

**Sub Sectoral Growth Strategies to Achieve the Target:** Considering the medium-term fiscal target of the government, and the state's strong growth potential during the 2005-06 to 2011-12 period, we believe the state should target an average nominal growth of 14%. In that scenario, the target of US$ 1 trillion economy is expected to be achieved in 2033-34.

Our discussions (above) on 10-year growth rates of various sub sectors and their contributions to overall growth clearly indicate that the existing growth rates of sub sectors are not sufficient to reach the target real growth rate of 9%. Therefore, we simulate how much growth of the sub-sectors is required to achieve the required real growth rate of 9%. This is done using the sector specific GSDP values (real) for the year 2021-22, and the required (possible) growth rate for each subsector, in seven alternative scenarios. These possible growth strategies are shown in Table 6. It is noted that the government should aim to achieve one of these scenarios every year till 2033-34 to maintain the required real growth rate.

**Table 6: Sub Sectoral Growth Strategies to Achieve the Target Growth (%)**

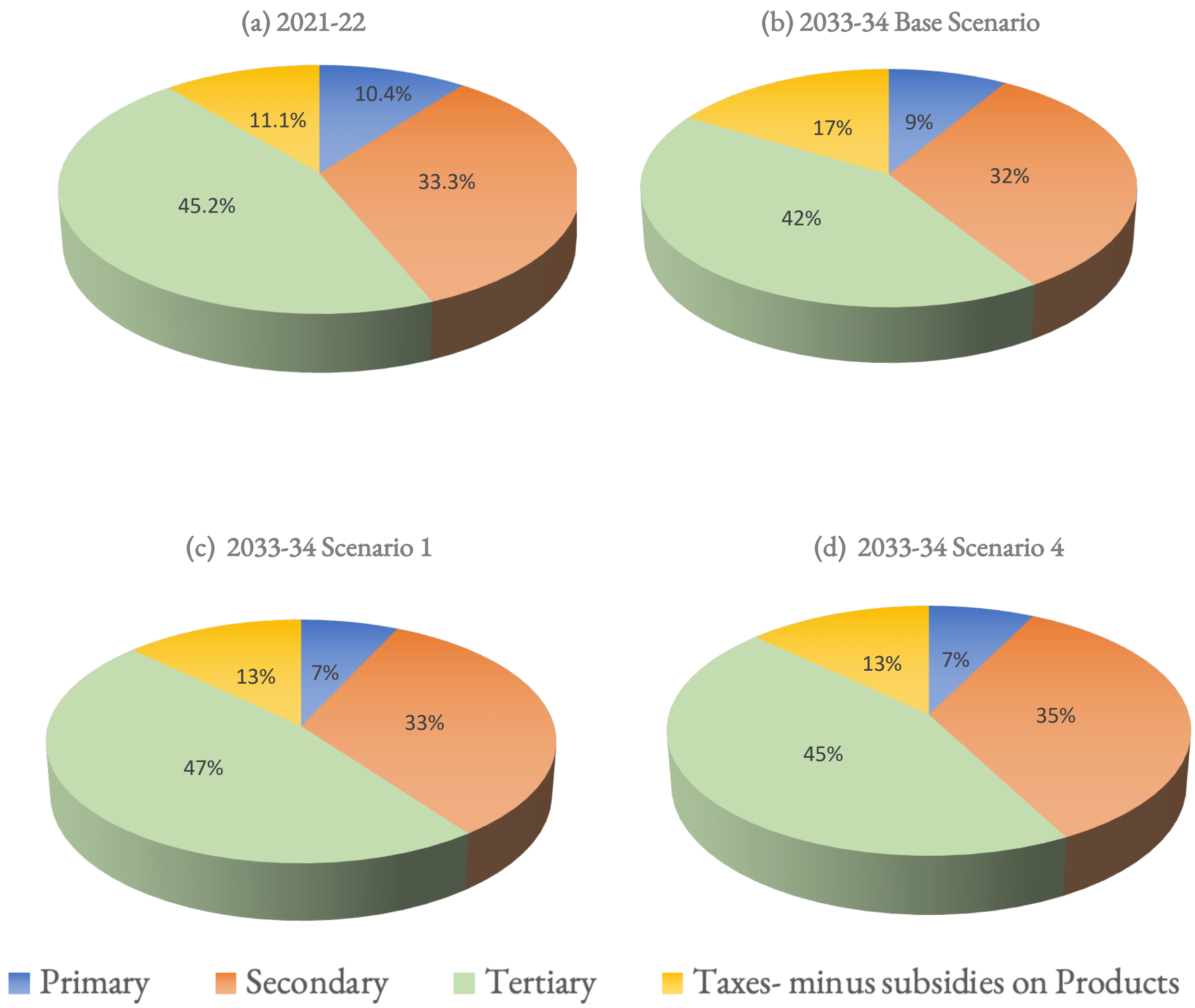
| Sub Sectors (Scenarios) | 10 Yrs. Avg. (base) | Sub-Sectors' Growth to Achieve the Target Growth (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|---|
| Primary | 5.05 | 5.50 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 5.00 |
| Secondary | 6.43 | 9.00 | 8.00 | 8.50 | 9.50 | 10.0 | 10.50 | 11.00 |
| Tertiary | 6.12 | 9.50 | 10.00 | 9.70 | 9.00 | 8.50 | 8.20 | 8.20 |
| Taxes- minus subsidies on Products | 10.28 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 |
| GSDP | 6.43 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 |

- As the government has taken initiatives to attract new industries (new industrial policy 2021 to achieve an annual growth of 15% in the manufacturing sector; new MSME policy), we consider above 9% (real) growth for secondary sector in four alternative scenarios, to achieve overall 9% growth of GSDP, and 9% growth of secondary sector in one alternative scenario to achieve the 9% target growth.
- For the first four scenarios for 9% growth of overall GSDP, we consider 9 and above 9% growth of tertiary sector.
- In the remaining three scenarios, we consider 8.2 – 8.5% growth of this sector.
- We consider 6% growth of primary sector in five alternative scenarios to obtain 9% overall growth
- In the remaining 2 scenarios, we consider 5 and 5.5% growth of primary sector.
- It is noted that in 2021-22, the share of primary sector in total GSDP was 10.42%, the share of secondary sector was 33.3%, and the share of tertiary sector was 45.02% (Figure 6a). If the sectors will grow at the average rate of last 10 years (base scenario in Table 6) till 2033-34, the share of primary, secondary, and tertiary sectors will become 8.66%, 32.39%, and 42.47% respectively (Figure 6b).

- If these sectors will grow at the respective rate given in Scenario-1 in Table 6, the share of primary, secondary and tertiary sectors will be 6.96%, 32.92% and 47.23% respectively in 2033-34 (Figure 6c).
- If they will grow at the respective rate in Scenario-4, the share of primary sector will become 7.39%, the share of secondary sector will become 34.87% and the share of tertiary sector will become 44.82% (Figure 6d).

Since we assume higher growth rates of secondary sector and tertiary sector in both scenario-1 and scenario-4, the share of primary sector will go down further in 2033-34.

**Figure 6: Sectoral Shares in Different Scenarios**




In the context of achieving the overall growth of 9%, the sector-specific key policy recommendations [given in the "Report of the High-Level Committee on Medium-Term Policy Response Related to COVID-19" (2020), under the chairmanship of Dr. C. Rangarajan] may be useful. These are given in Appendix 1.

## 3.4 Exports and Economic Growth

One of the strategies revealed by the government is that Tamil Nadu's export should be increased to $100 billion by 2030 from the current level of $ 26 billion to meet the target of US$ 1 trillion economy. The Export-Led Growth Hypothesis (ELGH) theory of economic growth states that the rapid growth in exports can lead to higher economic growth.

Many studies show the positive effect of exports on economic growth through enhanced economies of scale, adoption of advanced technology and greater capacity utilization (Feder, 1982; Lucas, 1988; Vohra, 2001). They show that export growth increased investments in those sectors in which a country/state has a comparative advantage, increasing overall GDP and raising the rate of economic growth. However, a few other studies show that exports have a negative impact on economic growth, noting that this effect is associated with primary goods comprising a large share of total exports (Lee and Huang 2002) (Kim and Lin 2009) (Kalaitzi and Cleeve 2018)

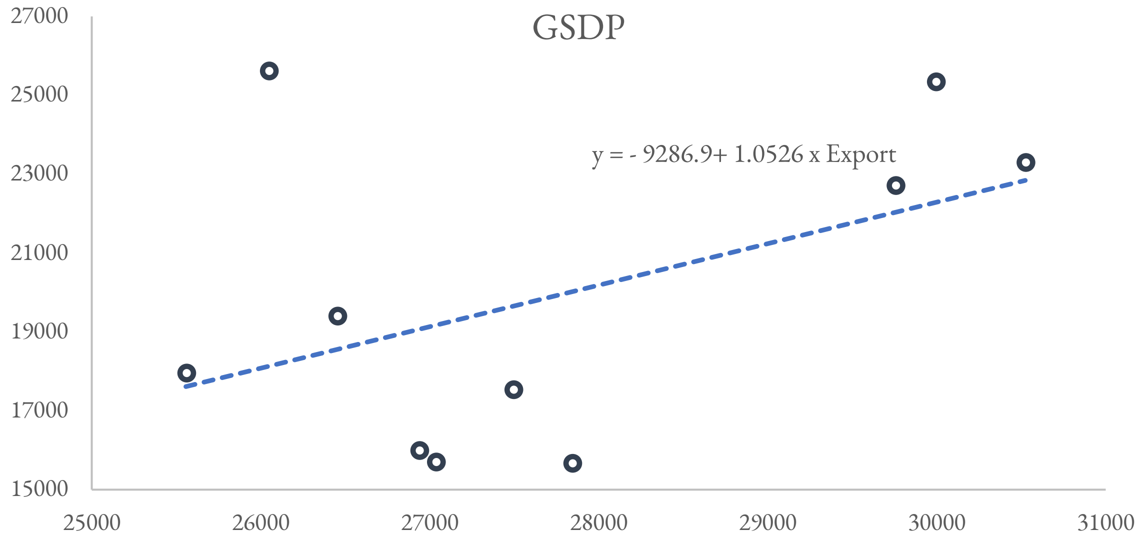
In 2006-07, Tamil Nadu's share in total export of the country was 10.36%; it declined marginally to 9.58% in 2019-20, and further to 8.98% in 2020-21 (Table 7). Regressing Tamil Nadu's nominal GSDP (in US $ million) on its export (in US$ million) during 2011-12 to 2020-21 provides a slope coefficient of 1.052 (Figure 7). However, this relation is not statistically significant even at 10%.[7] The inference that we can draw is that while exports do play a role on accelerating growth, they are not a major determinant of economic growth. [8]

Table 7: Exports (US $ Million)

| States | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|---|---|---|
| India | 126361 | 163132 | 185295 | 178751 | 251136 | 305964 | 300401 | 312610 |
| Tamil Nadu | 13097 | 14816 | 18538 | 16085 | 23378 | 27843 | 27036 | 26937 |
| TN share % | 10.36 | 9.08 | 10.00 | 9.00 | 9.31 | 9.10 | 9.00 | 8.62 |
| **States** | **2014-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2021-22** |
| India | 310352 | 262291 | 275852 | 303376 | 330070 | 313110 | 289898 | n.a |
| Tamil Nadu | 27493 | 25557 | 26453 | 29754 | 30524 | 29996 | 26047 | n.a |
| TN share % | 8.86 | 9.74 | 9.59 | 9.81 | 9.25 | 9.58 | 8.98 | |

Source: EPW Research Foundation, Monthly bulletin of Foreign Trade Statistics (2019) and Indiastat.

**Figure 7: Impact of Exports on GSDP**




Alternatively, we can consider a simple export-GSDP ratio procedure. In 2020-21, Tamil Nadu's exports as a percentage of GSDP was 8.87% (not shown). If the economy grows at the required 14% with varying exchange rate, the GSDP (nominal) will reach US$0.75 trillion in 2030-31.

Assuming the same export-GSDP ratio of 8.87% in 2020-21, the export will reach US$66.5 billion. When the economy reaches US$1 trillion in 2033-34, the export reaches US$88.704 billion only and not $100 billion in 2033-34. In fact, to achieve the target of $100 billion of exports, we need to launch a drive so that export-GSDP ratio moves from the current 8.87% to 10%.

### 3.5 Invested Capital of Industries and Economic Growth

Industry is an engine for economic growth. One of strategies for the government is to attract an investment of ₹23 trillion by 2030. Since the data on capital formation/investment or savings of different sectors and overall sectors are unavailable, Table 8 shows the data on invested capital industries (fixed capital + physical working capital) provided in RBI's Handbook of Statistics on Indian States for Tamil Nadu and All India from 2004-05 to 2018-19.

In 2004-05, the invested capital of industries of Tamil Nadu was US$ 17143 million, accounting for 10.14% of total industrial invested capital of the country. It increased to US$ 60399 million in 2018-19, but its share declined to 8.84%.

In fact, the growth is determined by the investment rate and the efficiency in the use of capital. According to the Harrod-Domar equation, the growth rate is equal to the investment rate divided by the incremental capital-output ratio (Rangarajan 2017). The incremental capital output ratio (ICOR) is the additional unit of capital required to produce an additional unit of output. The higher the ICOR, the less efficient we are in the use of capital. For India, the incremental capital output ratio is commonly assumed as 4.

**Table 8: Invested Capital of Industries (US $ Million)**

| Year | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 |
|---|---|---|---|---|---|---|---|---|
| India | 169017 | 203638 | 236799 | 317959 | 333783 | 407445 | 525339 | 592858 |
| Tamil Nadu | 17143 | 21179 | 25511 | 32171 | 31960 | 41633 | 51043 | 54187 |
| Share (%) | 10.14 | 10.40 | 10.77 | 10.12 | 9.57 | 10.22 | 9.72 | 9.14 |
| **Year** | **2012-13** | **2013-14** | **2014-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-20** |
| India | 577857 | 559413 | 574707 | 588543 | 640544 | 692103 | 683323 | n.a |
| Tamil Nadu | 53715 | 62896 | 53835 | 53464 | 60019 | 62754 | 60399 | n.a |
| Share (%) | 9.30 | 11.24 | 9.37 | 9.08 | 9.37 | 9.07 | 8.84 | n.a |

Source: RBI's Hand Book of Statistics on Indian States (various issues).

Our analysis above indicates that the Tamil Nadu economy needs to grow at a real growth rate of 9% per annum for 11 consecutive years (from 2023-24 to 2033-34). Using ICOR of 4, the investment rate in Tamil Nadu needs to be around 36% of GSDP from 2023-24. At the all-India level, the investment rate of 38% of GDP in 2007-08 and with an ICOR of 4, the growth rate in that year for the country was close to 9.4%.

Currently, the investment rate is less than 30% for the country. Our analysis indicates the required investment rate for Tamil Nadu is 36%. Since the state can attract investments from other Indian states and from other countries (in the form of FDI), it needs to work out the strategy to obtain 36% investment rate. Policies should be formulated to create an appropriate investment climate in Tamil Nadu.

## 3.6 Fiscal Issues

Public spending can boost economic growth; however, government finances of Tamil Nadu are under stress in recent years. In particular, the state suffers from an unsustainable level of outstanding liabilities or public debt.

- The outstanding liabilities of Tamil Nadu Government was ₹17,124 crore in 1996-97, and increased to ₹49,445 crore 2003-04.
- It further increased to ₹1,27,128 crore in 2011-12 and to ₹5,12,555 crore in 2020-21 (not shown).
- Debt relative to GSDP (2011-12 series) was 23.13% in 2003-04.
- Thereafter, it continuously declined to 16.92% in 2011-12, due to various fiscal measures including the implementation of FRBM Act.
- After that, however, it continuously increased to 26.94% in 2020-21 (Figure 8). It is noticed that after 2015-16, it exceeded 20%, the suggested sustainable debt level for all Indian states by the FRBM Review Committee.

The trends in revenue receipts, revenue expenditures, and total expenditures (primary expenditure+ interest payment) relative to GSDP as shown in Figure 9 explain the movement of debt-GSDP ratio. The gap between the revenue expenditure-GSDP ratio and the revenue receipts-GSDP ratio was larger till 2003-04. After that revenue receipts-GSDP ratio exceeded the revenue expenditure-GSDP ratio till 2008-09, and again in 2011-12 and 2012-13. At the time, the debt-GSDP ratio showed a declining trend.

**Figure 8: Outstanding Liabilities to GSDP and Interest to Revenue Receipts of Tamil Nadu. (1996-97 to 2020-21)**

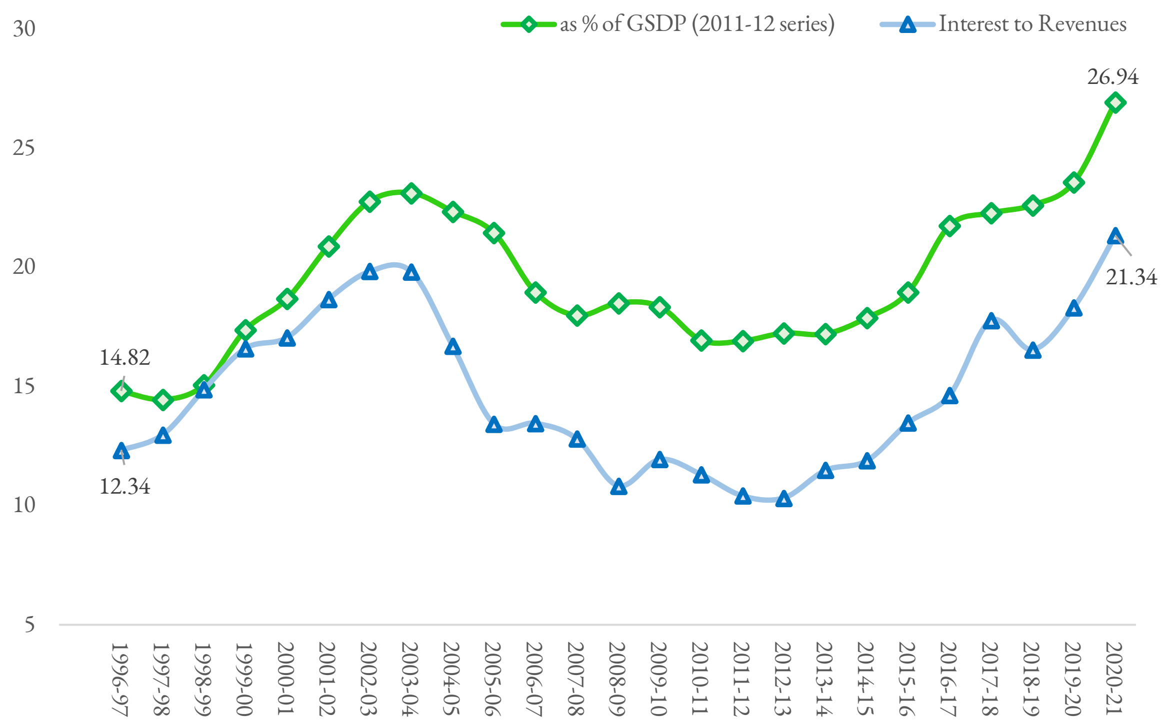
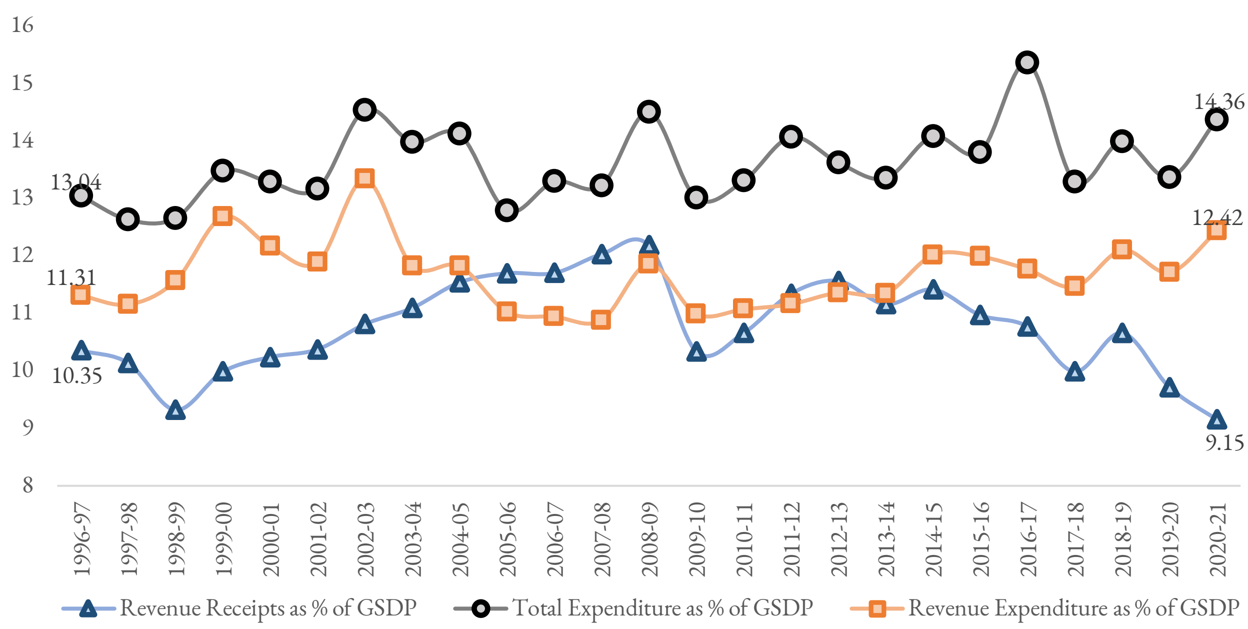



**Figure 9: Revenue Receipts, Revenue Expenditures and Total Expenditures Relative to GSDP of Tamil Nadu (1996-97 to 2020-21)**



Since 2013-14, the revenue expenditure relative to GSDP continuously exceeded the revenue receipts relative to GSDP and the gap between them widened. The gap between total expenditure and revenue receipts also widened. This was the period where the debt-GSDP ratio started increasing continuously.

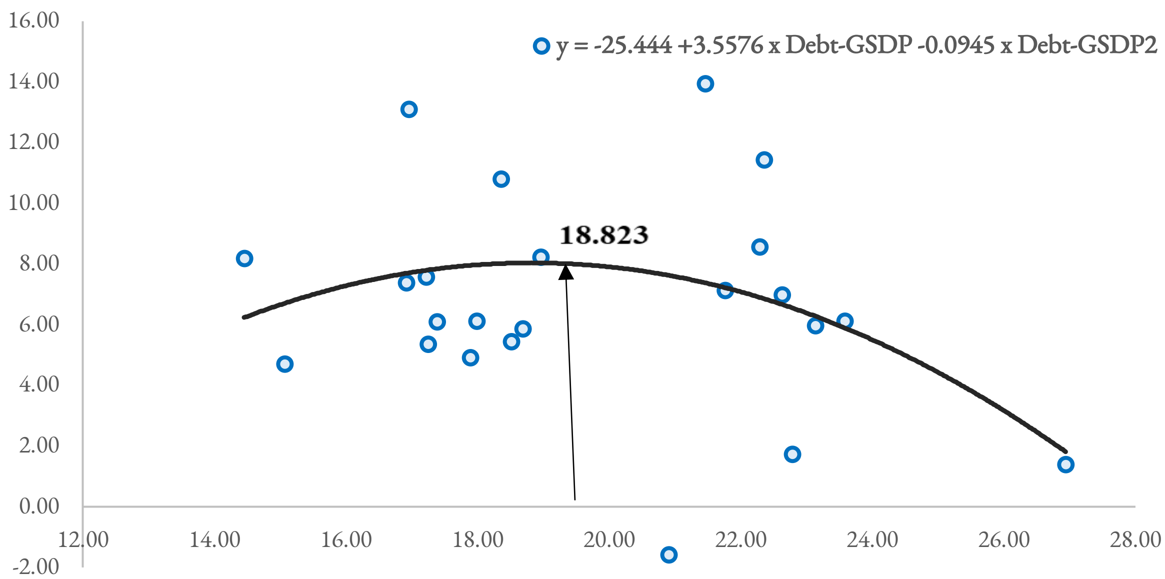
**Examining Debt-Growth Relationship:** We examine the impact of debt-GSDP ratio on (real) growth of economy by regressing the growth rate (in percentage terms) on debt-GSDP and its squared term. This non-linear form is also useful to find out the debt threshold -- the value up to which debt-GSDP ratio is growth-inducing, and beyond which it is growth-reducing.

Figure 10 depicts the non-linear relation between growth ($y_t$) and debt-GSDP for Tamil Nadu from 1997-98 to 2020-21. The debt-GSDP coefficient is positive, while its squared term's coefficient is negative.

The threshold level is computed using the formula: threshold = Coefficient of Debt-GSDP / 2 x Coefficient of Debt-GSDP$^2$ = (3.5576/2*0.0945) = 18.82%.

Beyond the debt-GSDP ratio of 18.82%, the debt is growth-reducing. The current level of debt -GSDP ratio of Tamil Nadu government obviously hits its own economic growth. Therefore, the government needs to reduce its debt-GSDP to the threshold (sustainable) level.

**Figure 10: Debt Threshold for Tamil Nadu (1997-98 to 2020-21)**




**Simulation Exercise to Attain the Debt Threshold Target:** It is well known that the debt-GSDP ratio ($d_t$) at the end of a fiscal year depends on

i. fiscal deficit-GSDP ratio ($f_t$),

ii. previous year's debt-GSDP ratio ($d_{t-1}$) and

iii. nominal growth rate ($g_t$).

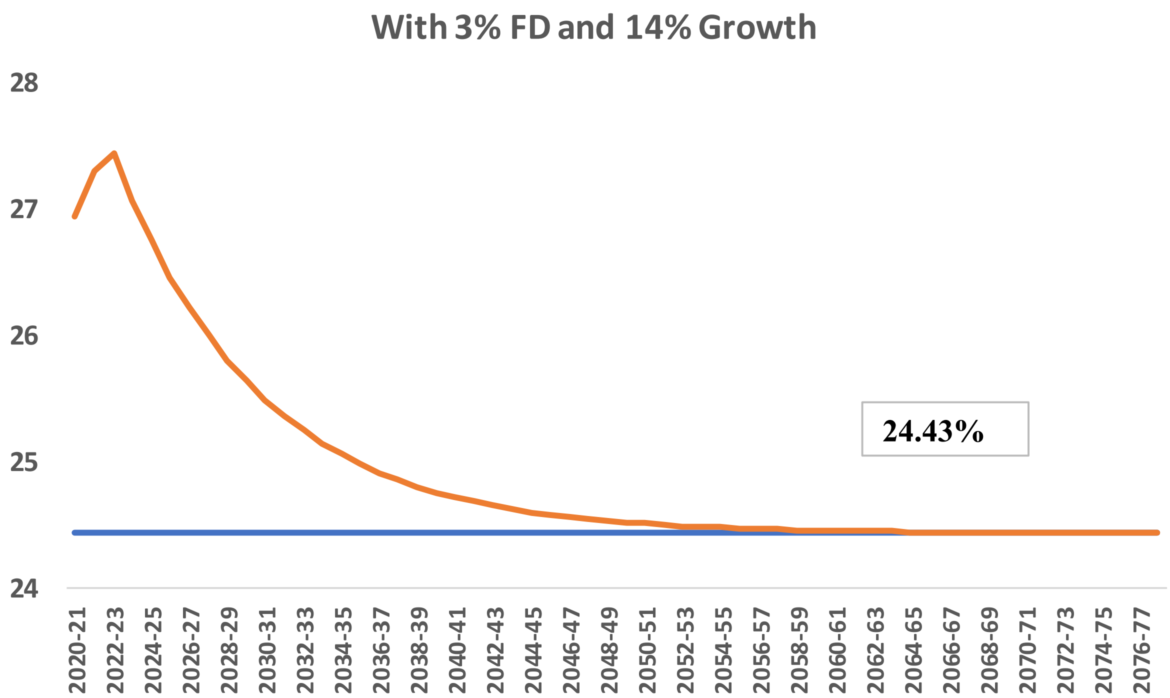
The change in debt-GSDP ratio between two successive years is given by: $(d_t - d_{t-1}) = f_t - d_{t-1} (g_t/(1+g_t))$.

Using this standard debt dynamic formula, we can project or simulate debt-GSDP level in future period, given assumptions on $f_t$ and $g_t$ and previous year debt ($d_{t-1}$). Initially, we have done an exercise with following values on debt-to-GSDP ratio, fiscal deficit, and nominal growth of Tamil Nadu economy:

i. debt-to-GSDP ratio for 2020-21: 26.94%;
ii. fiscal deficit for 2021-22: 3.79%
iii. Fiscal deficit for 2022-23: 3.49% (as announced in the budget)
iv. Fiscal deficit for 2023-24 onwards: 3% (FRBM norm);
v. nominal growth for 2021-22: 14.5%;
vi. Nominal growth for 2022-23 onwards: 14% (the target rate) throughout our simulation period.

Simulation results indicate that debt-GSDP ratio will rise to 27.4% in 2022-23; it starts declining continuously to 24.71% in 2040-41, and then will stabilise at 24.5% from 2047-48. That is, it will never reduce to 18.82% even after 100 years (Figure 11).

**Figure 11: Simulation Results of Debt-GSDP Ratio, given $f_t$, $g_t$ and $d_{t-1}$**




- With 15% growth assumption from 2022-23, other things remaining the same, the debt-GSDP ratio will stabilize at 23.01% from 2063-64.
- Even when we use a higher growth of 16% from 2022-23, the debt-GSDP ratio will continuously decline to reach 21.8% in 2049-50 and thereafter it will stabilise at that level.

- Above 14% growth is highly ambitious, given the historical growth path. Therefore, alternatively we assume 2% fiscal deficit target, along with 14% (target) growth and find that the debt-GSDP ratio will reach the threshold (sustainable) level in 2034-35 (Table 9).
- If we assume 15% growth and 2% fiscal deficit, the threshold level will be attained in 2031-32.
- Further, if we assume 13% growth and 2% fiscal deficit scenario, the threshold level will be reached only in 2039-40 (not shown).

Given the above results, and ensuring 14% nominal (i.e., 9% real) growth of economy, the state should target for a revenue surplus of 1% from 2023-24 onwards and fiscal deficit of only 2% level to obtain the sustainable threshold debt level of about 18% in 2034-35 (2034-35). This will enable the state to invest 3% of GSDP. Alternatively, the state can have revenue balance (i.e., zero revenue deficit), but contains its fiscal deficit to only 2%. In this case, the state can invest only 2% of GSDP.

If the state is able to ensure 15% nominal growth, it will achieve the debt target of 18% in 2031-32. The relevant policy strategy for the state to obtain threshold debt level is to increase its own revenue-GSDP ratio by 0.75% and contain its revenue expenditures by 0.75%, so that the state will reduce its fiscal deficit to 2% from 2023-24.

**Table 9: Simulation Results to achieve the Sustainable Debt-GSDP ratio**

| | with 15% growth & 2% ft | | | | | with 14% growth & 2 % ft | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | ft | dt | g | 1+g | dt-dt-1 | dt | g | 1+g | dt-dt-1 |
| 2020-21 | 4.6 | 26.9 | 0.059 | 1.059 | | 26.9 | 0.059 | 1.059 | |
| 2021-22 | 3.8 | 27.3 | 0.146 | 1.146 | 0.367 | 27.3 | 0.146 | 1.146 | 0.367 |
| 2022-23 | 3.5 | 27.2 | 0.15 | 1.15 | -0.072 | 27.4 | 0.14 | 1.14 | 0.137 |
| 2023-24 | 2 | 25.7 | 0.15 | 1.15 | -1.552 | 26.1 | 0.14 | 1.14 | -1.370 |
| 2024-25 | 2 | 24.3 | 0.15 | 1.15 | -1.35 | 24.9 | 0.14 | 1.14 | -1.202 |
| 2025-26 | 2 | 23.2 | 0.15 | 1.15 | -1.174 | 23.8 | 0.14 | 1.14 | -1.054 |
| 2026-27 | 2 | 22.1 | 0.15 | 1.15 | -1.021 | 22.9 | 0.14 | 1.14 | -0.925 |
| 2027-28 | 2 | 21.3 | 0.15 | 1.15 | -0.888 | 22.1 | 0.14 | 1.14 | -0.811 |
| 2028-29 | 2 | 20.5 | 0.15 | 1.15 | -0.772 | 21.4 | 0.14 | 1.14 | -0.712 |
| 2029-30 | 2 | 19.8 | 0.15 | 1.15 | -0.671 | 20.7 | 0.14 | 1.14 | -0.624 |
| 2030-31 | 2 | 19.2 | 0.15 | 1.15 | -0.584 | 20.2 | 0.14 | 1.14 | -0.548 |
| 2031-32 | 2 | 18.7 | 0.15 | 1.15 | -0.507 | 19.7 | 0.14 | 1.14 | -0.480 |
| 2032-33 | | | | | | 19.3 | 0.14 | 1.14 | -0.421 |
| 2033-34 | | | | | | 18.9 | 0.14 | 1.14 | -0.370 |
| 2034-35 | | | | | | 18.6 | 0.14 | 1.14 | -0.324 |

## 4. Concluding Remarks

Our analyses above indicate that 14% growth of nominal GSDP from 2022-23 onwards (with 2% depreciation of exchange rate) will enable the state to attain the US$1 trillion economy target by 2033-

34. Obtaining the 9% real growth rate every year till 2033-34 is not easy, given the current trend of economic growth. Efforts should be made to ensure that the primary sector would grow at 5-6% per annum, the secondary sector at 8-11% and the tertiary sector at 8-10% per annum till 2033-34.

The government's strategies of increasing Tamil Nadu's export to $100 billion and attracting an investment of ₹23 trillion by 2030 will also help, to some extent, to meet the target. Along with these strategies, the government needs to implement the sector-specific recommendations of the High-Level Committee on Medium-Term Policy Response Related to COVID-19, in order to achieve the sector-specific growth targets suggested in appendix 1.

In particular, the state needs to shift towards the cultivation of highly-remunerative and less water-intensive crops. The food processing industry needs to be given priority attention, to prevent excess production from going to waste. With respect to industry and services, we need to identify the emerging sectors (biotechnology, pharmaceuticals, logistics, advanced information technology etc.) and chalk out detailed plans. The infrastructure needs, particularly in power, will also expand.

As the current level of public debt is unsustainable and growth-reducing, the state should target for a revenue surplus of 1% from 2023-24 onwards, to obtain the sustainable threshold debt level of about 18% in 2034-35 at 14% nominal growth (or 2031-32 at 15% nominal growth).

What we have presented in this paper can be described as the arithmetic of achieving a Trillion Dollar economy by Tamil Nadu. We have shown what the required rate of growth would have to be under various assumptions. What can happen a decade from now depends upon a number of factors, and therefore any projection over such a long period has to be conditional. Our own conclusion is that the most likely scenario is a nominal growth of 14% per annum over the next ten years, which will take Tamil Nadu to become a trillion-dollar economy by 2033-34.

We have spelt out the implications of this scenario for the composition of output, growth rates of various sectors, export growth, and the fiscal balance. Fiscal stability is critical for sustained growth. A nominal growth rate of 14% can provide enough elbow room, not only to keep the fiscal deficit low, but also provide for adequate expenditure on capital account and social infrastructure.

As mentioned earlier, Tamil Nadu's economic performance also depends on India's growth and global scenario. The global environment for trade is becoming increasingly a matter of concern, with OECD and others forecasting a secular slowdown in growth in developed economies. Environmental considerations can also act as a damper on the growth path of even developing countries.

India is a large country. Despite global concerns, there may be enough space for India and Tamil Nadu to maintain high growth. A strong real growth of 9% will enable the government to provide various social safety nets. This paper spells out some implications of what this journey to achieve a high growth will demand.

# Appendix 1: Sector Specific Recommendations

## Primary Sector

i. Efforts should be taken to shift towards the cultivation of highly remunerative and less water intensive crops to increase the farmers' income;
ii. Procurement mechanism for crops other than paddy needs to be streamlined to make the minimum support price effective.
iii. Modern seed storage godowns, seed processing units and Government sale outlets at vantage points may be established.
iv. Support to purchasers and producers to enter into legal contract farming is needed;
v. Government should bring suitable amendments to the Tamil Nadu Land Reforms Act to include more crops within the purview of plantation crops;

## Secondary and Tertiary Sectors

i. TIIC can be restructured and strengthened to expand lending to industries by infusing capital of ₹ 1000 crores over three years;
ii. Developing integrated townships with social infrastructure facilities in the growth centres would provide a big advantage for the state in attracting investments. This could be integrated with Smart City Mission.
iii. There is a need to develop industrial parks of about 2000 to 2500 acres with a single window clearance system.
iv. A standard capital subsidy and location based subsidy can be provided to incentivize industries in backward districts by promoting private industrial parks with plug and pay facilities.
v. Constitute an Empowered Committee to review the investment proposals and take decision of granting in principle approval within 15 days for 7 basis clearances to set up a manufacturing unit on a trust and verify basis while other clearances could be provided through single window facility in parallel.
vi. Develop sectoral policies to reduce regulatory procedures for automobile, pharmaceutical, textiles, leather and electronics and mining industries to attract new investments.
vii. A state level credit guarantee scheme and an MSME fund could be established to take advantage of the Government of India's MSME fund of funds to increase credit flows for MSMEs.
viii. The concept of land banks should be implemented with clearly demarcated space for MSMEs and effective allocation of land must be made within SIPCOT estates in addition to SIDCO estates.
ix. Encourage tourism development programmes that include benefits for and utilizations by community residents;

Further the state should give priority to the emerging and innovative sectors like biotechnology sector, pharmaceutical sector, logistic sector and information technology. The following key recommendations of the High-Level Committee relating to these innovative sectors may be useful:

i. Tamil Nadu State Biotechnology Board needs to be constituted to promote accelerated growth of this sectors;
ii. Special focus is needed on the (a) biosimilar, (b) diagnostics and AI based diagnostic imaging; (c) bioprocess and (d) AI based start-ups.
iii. Promoting vaccine development manufacturing;
iv. Promote establishment of bio-incubators in various public and private universities by providing special funds for setting up;
v. Similar to iSTEM Bangalure, upgrade the Stem Cell Research Centre at Stanley Medical College;
vi. Promote Contract Analytical Services to support Biologics Analytics characterisation in Tamil Nadu;
vii. There is a need to develop a separate Pharma Policy
viii. The state should take advantage of the Bulk Pharma Park Scheme of the Central Government which provides a grant of ₹ 1000 crore for a pharma park of 1500 acre size;
ix. The state needs to develop at least three pharma parks of the spanning 250 acres range in the state and needs to encourage private industrial parks developers to set up pharma parks;
x. The Industrial Policy of the state must recognize pharma as a sector for providing incentives;
xi. Availability of chemicals and other raw materials is a pre-requisite to enable the growth of pharma industry. Steps to be taken to facilitate entry of chemical industry majors into API and other focused areas;
xii. The exists a need to immediate start to Medipark near Chengleput with focusing on diagnostic imaging and IV diagnostics and immediately develop additional Mediparks near Chennai, Coimbatore, Trichy and Tuticorin.
xiii. Medical devices industry must be given special treatment in terms of incentives in the industrial policy.
xiv. A comprehensive mapping of existing and projected freight flows across main Origin-Destination stretches in Tamil Nadu needs to be carried out to identify the scope for potential multinational logistics parks. Explore the possibilities of coastal shipping along with coast of Tamil Nadu
xv. Special focus on effective agri-logistics involving access to cold chain, packaging and other post-harvest management techniques. Focussed effort to be taken to ensure the turnaround time at ports be brought to less than 36 hours from the current rate of over 72 hours;
xvi. There are too many toll gates causing inordinate delay. There is a need to standardize the optimum distance between toll gates.

xvii. Effective technology solutions such as FASTag must be deployed on a widespread basis to reduce delays.

xviii. Establish the Tamil Nadu IT advisory council;

xix. Outline a strategy for facilitating the creation of Small Office Space across Tier 2&3 cities which can be used by the employees of the IT companies based in major towns to make use as their meeting points.

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## Notes

[1] From 2005-06 to 2011-12, Tamil Nadu was fifth fastest growing state amongst 29 Indian states. But it ranked 10th during 2012-13 to 2020-21.

[2] However, the 15th Finance Commission indicated the debt path wherein the debt to GSDP ratio can be up 29.3% in 2022-23 and 29.10% in 2023-24.

[3] **CPI and GDP Deflator Based Inflation: Tamil Nadu (TN) and India**

| Inflation (%) | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | Avg. |
|---|---|---|---|---|---|---|---|---|---|---|
| CPI | India | 5.97 | 4.91 | 4.52 | 3.53 | 3.48 | 4.66 | 6.24 | 5.38 | 4.84 |
| | TN | 6.19 | 5.69 | 3.92 | 4.87 | 3.67 | 5.64 | 6.68 | 6.17 | 5.35 |
| GDP Deflator | India | 3.33 | 2.28 | 3.24 | 3.97 | 3.88 | 2.39 | 5.60 | 9.97 | 4.33 |
| | TN | 5.56 | 1.33 | 3.33 | 3.57 | 3.99 | 3.87 | 4.39 | 6.22 | 4.03 |

Source (Basic Data): RBI website, EPW Research Foundation and NSO, MOSPI.

A similar study by EY India (July 2019) uses 4% inflation to examine whether the Indian economy becomes a US$5 trillion economy in 2025.

[4] The assumption of 2% depreciation of exchange rate every year may be questioned. One may also argue that in the last few months the Indian rupee depreciates at a faster rate. It is noted that, once the economy revives and capital flows increase, the rate may moderate. If we apply the rupee depreciation of ₹. 2.36 every year, the required growth rate will become 18.95%.

[5] With zero depreciation of exchange rate as in Table 1, the target is achieved in 2031-32 with 14 (or 15)% nominal growth rate (S3); it is achieved in 2032-33 with 13% (S2); reaching the size of US$1 trillion would be delayed even further to 2033-34 with growth rate of 11.5% (S1).

[6] The Hodrick-Prescott (HP) filter is a data smoothing technique. It removes short-term fluctuations associated with the business cycle. Removal of these short term fluctuations reveals long term trend. An estimate shows that between 2005-06 and 2011-12, Tamil Nadu's long-term average trend (potential) rate ranged between 8.24% and 8.79%.

[7] However, regressing TN's GSDP growth (nominal) on nominal growth of exports, we find the coefficient of 0.597 which is statistically significant at 1% level, indicating that 1% increase in nominal growth of exports leads to 0.6% increase in nominal GSDP growth in Tamil Nadu. The simulation using this result indicates that when the export is increased to US $ 100 billion and other things remaining the same, the GSDP (nominal) will increase to about US $700 billion (and not 1 trillion).

[8] However, one may argue that the exports are not the sole determinant of growth which may depend on various factors. Including other determinants may change the above results (i.e., exports may turn out be a significant factor).

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# Federal Dimensions of India's Response to the Covid Pandemic

## Challenging the Idea of the "Flailing State"

**Nirvikar Singh**[*#]

## Abstract

This paper examines India's responses to the Covid-19 pandemic, from the perspective of its federal structures. It first summarizes different institutional components of India's federal system. Next, it outlines the responses to the pandemic, both over time, and across different levels of government. The main contribution of the paper is a new evaluation of the federal dimensions of India's governmental responses at different levels. It is argued that, while the national government did well in some respects, and there was considerable coordination across levels of government, there were key failures, both in the manner of the initial abrupt and drastic national lockdown in March 2020, and in the lack of preparation and national response to the deadlier second wave of the pandemic in 2021. By contrast, subnational governments, both state and local, did better than might have been expected, especially in the face of limited resources and information. It is argued that India's pandemic experience contradicts the "flailing state" idea that was devised to explain the country's governmental performance in recent decades. The paper also questions the applicability of the concept of "cooperative federalism" to the Indian case. It argues that India's federal system proved quite resilient, but can be made more effective by strengthening capacity at the local level.

**Keywords:** Federalism, Covid-19, coronavirus, pandemic, India, centralization

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# I Introduction

The Covid-19 pandemic that emerged globally in 2020 was the world's greatest public health crisis in a century. Compared to previous crises of this nature, technological advances enabled a rapid analysis of events as they unfolded, including collection and analysis of large amounts of data, instantaneous dissemination of results, global comparisons of policy and public health responses, and of the impacts of those responses, as well as of the pandemic itself. Tens of thousands of research papers and books have been written in a relatively short period of time.

Aside from purely epidemiological studies, numerous analyses focused on the policy responses of governments to the pandemic, and their economic and social impacts. In particular, non-pharmaceutical interventions (NPI) such as lockdowns and other mobility restrictions, social distancing guidelines, and mask mandates all had consequences beyond their primary goals of arresting the spread of the virus, reducing mortality rates, and protecting healthcare systems from overload or collapse. Within this category of studies of policy responses, the specific impact of federal structures of governance in countries with such systems also received concentrated attention (e.g., Chattopadhyay, et al., (eds.), 2022; Greer, et al. (eds.), 2021; Steytler (ed.), 2022), including countries across a range of levels of income and economic development.

Broadly, federal systems have some constitutionally-protected spheres of autonomy for subnational governments, distinguishing them from other tiered systems of governance. Key dimensions along which federal systems can vary include:

- the assignment of powers to different levels of government, including revenue-raising and expenditure authorities;
- the organization of bureaucracies at each level;
- accountability mechanisms at each level, such as elections and referendums; and
- mechanisms for adjudication or bargaining between different levels, or across subnational units, including formal and informal political and administrative institutions, as well as the courts.[1]

The three compilations referenced above captured the experience of the first year or so of the pandemic.[2] Chattopadhyay, et al. (2022) emphasize the complexity of federal vs. unitary systems of governance, the resulting importance of intergovernmental cooperation in circumstances such as the pandemic, and the great variation in effectiveness of that cooperation across their 24 case studies. They classify the cases into three categories: national dominance, strong collaboration across levels, and weak collaboration across levels.

Across all the case studies, some of the common threads that they identify are a centralizing impulse initially, denser interaction among political leaders, an emergence of local governments as key actors, erosion of subnational fiscal capacity, and a certain degree of resilience of the existing structures of governance. Arguably, these common threads are broadly consistent with what might be viewed as a typical response to a sudden and pervasive crisis.

The cases in Steytler (ed.) (2022) provide a broadly similar set of lessons. With respect to intergovernmental relations (Saunders, 2022), there was variation in the degree of central dominance, structures that were too top-down ran into problems, formal consultation and coordination mechanisms did not always get used, and institutional and fiscal capacities – which mattered at all levels -- came under stress, as did transparency and accountability. In all of this variety, geography, size, and level of development all were important contextual factors.

Steytler (2022) further notes the importance of the details of political institutions, such as the nature of party systems, and how divisions associated with diversity were overcome or exacerbated, depending on the initial extent of inequality and polarization. On the whole, federal structures bent but did not break under the strain of dealing with the pandemic, despite some national government overreach, including pressures on democratic institutions such as legislatures. Other components of government, such as legal and judicial systems, also held up fairly well, despite the novelty of some of the challenges posed by pandemic-induced policy responses.

Greer et al. (ed.) (2021) look at a somewhat broader set of cases than the two just discussed, since they consider political systems and politics more generally, beyond cases involving formal federations. One might argue that highly centralized federations such as Russia are not much different from unitary states, so greater breadth of cases might not expand significantly the set of outcomes and lessons. Greer, et al. do go beyond issues of structures of levels of governance, to analyse the interaction of health policies and social policies.[3] At the same time, they note that this interaction became more challenging in federal systems "because of the different allocations of health and social policy authority to governments on different levels." (p. 617)

They also argue that authoritarian regimes did not do better than democratic ones in handling the pandemic response, which has some of the same tenor as findings that centralization was harmful beyond a point. Indeed, decentralization appeared to support experimentation and resilience, as some theories of governance and federalism would suggest.

The case of India is included in all three collections, but with varying assessments of how policy responses played out in that country. Therefore, one contribution of this paper will be to provide a fresh evaluation of the Indian experience in the context of its federal institutions and structures. To do so, we will draw on a variety of India-specific studies that include considerations of governance and the nature of policy responses. The next two sections lay the groundwork for this evaluation, with summary accounts of India's federal institutions, and of the response to the Covid pandemic over time, across different levels of government and different geographies.

The fourth section is the main contribution of this paper, considering the different federal dimensions of India's responses to the pandemic, and providing a fresh evaluation of those policies and their implementation. Our case is that India's federal institutions were relatively resilient, especially at the subnational level.

In particular, we argue that the responses to the pandemic at different levels of government lead one to challenge, or even reject, the concept of a "flailing state" introduced by Pritchett (2009).[4]

Pritchett argued "*that India is today a flailing state – a nation-state in which the head, that is the elite institutions at the national (and in some states) level remain sound and functional but that this head is no longer reliably connected via nerves and sinews to its own limbs.*" He described a situation in which "*the everyday actions of the field level agents of the state – policemen, engineers, teachers, health workers – are increasingly beyond the control of the administration at the national or state level.*" His prime example was of India's health system, where he argued that elaborate official accounts of the country's health system, including falling immunization coverage and slow reductions in infant mortality.

By contrast, India's response to a health crisis displayed a very different form of subnational response, one which was superior to that the of the centre in many respects, though not uniformly so. The final section offers a summary conclusion, including these perspectives on the so-called flailing state in the context of India's overall federal system and the challenges it faces.

## II India's Federal Institutions[5]

India has a constitutionally mandated federal system, as part of a democratic political system. There are direct first-past-the post elections to the "lower" or people's house (Lok Sabha) of the national parliament, and to the legislative assemblies ("lower" houses) of the states, which are the main subnational units of the federation. The national government is typically referred to as the Union or central government, and almost never as the federal government. The national parliament also has an indirectly elected "upper" or states' house (Rajya Sabha), for which the voters are the members of the state legislatures, rather than individual citizens. The Lok Sabha is dominant in terms of the conduct of parliamentary legislative business, with the prime minister, the head of government, typically being a member of that body.[6] State governments are led by chief ministers.

The nation also has a formal head of state, the president, who is indirectly elected by members of the national parliament and state legislatures. The presidency is mostly a ceremonial office, but it has some constitutional powers that can be, and have been, exercised in rare circumstances. Each state also has a corresponding titular head, with the title of governor. Governors are appointed by the central government, and often act as agents of the centre, in circumstances such as contests over legislative majorities at the state level, or when the state legislature is suspended. In such circumstances, there can be "governor's rule," or, more commonly "president's rule," but in both cases, the governor acts as the agent and ally of the national government in controlling the state administration. There are some centrally-administered subnational units, called union territories, which are headed by lieutenant governors. Finally, the national capital territory of Delhi is in a category of its own, and has a chief minister and an elected legislature.[7]

The population scale of India needs to be kept in mind when considering its federal structures. Its most populous state, Uttar Pradesh, is close to Brazil in terms of the number of people, though covering a much smaller area. Even a smaller state like Punjab has a population greater than that of Australia. India's four most populous states together have more people than the European Union.

Administrative units below the state level include districts, of which there are over 750, which may be further sub-divided into blocks, as well as villages, towns, cities. Since the early 1990s, local government forms a third tier of governance with its own constitutional status, in terms of definition of jurisdictions, expenditure and revenue authorities, and elected representatives. However, local governments remain under the constitutional authority of state governments, which constrains their autonomy in practice.

Overall, India is a relatively centralized federal system, from two perspectives.

- Purely politically, the constitutional arrangements endow the centre with considerable overarching powers. For example, it is relatively easy for the central government to reshape state boundaries, at least legislatively, if not always politically. States have been divided and merged at various times in India's seven decades as a constitutional republic. Most recently, Jammu & Kashmir was stripped of its status as a state, and reclassified as a union territory, with its northeast region of Ladakh being separated as a union territory on its own. At various times, the central government has also used president's rule quite liberally, for purely political reasons as well as concerns about internal security.
- The other dimension of centralization is in fiscal matters. The mismatch between expenditure and revenue authorities at the state level has meant that the states rely on transfers from the central government for as much as half their budgets. Some of these transfers are formulaic tax sharing, but others are more or less discretionary. The fiscal imbalance between the states and local governments is much more severe, making the latter functionally quite weak in many respects.

Various informal and institutional mechanisms for managing intergovernmental relations have been used in India at different times. Overlapping political authorities at the central and state levels have often been dealt with through intra-party bargaining. More recently, explicit bargaining and discussion have occurred through the Inter-State Council (ISC), which was created in 1990, as a forum where some political and economic issues of joint concern can be collectively discussed and possibly resolved.[8] In practice, the ISC also reflects some aspects of intra-party hierarchies, depending on the extent to which the ruling party at the centre and various states is the same.

India's relative political centralization is also reflected in bureaucratic and judicial institutions. The national Indian bureaucracy is provided constitutional recognition. There are also provisions for independent bureaucracies in each state. However, the key component of the bureaucracy is the Indian Administrative Service (IAS), whose members are chosen by a centralized process and trained together. They are initially assigned to particular states, and may serve varying proportions of their careers at the state and national levels.

There are various perspectives on the effectiveness of the bureaucracy, with increasing concerns about competence and corruption leading to active consideration of civil service reform. However, bureaucratic functioning in India is relatively transparent and rule-bound. The Indian Police Service (IPS) is another important component of the bureaucracy, with national and state level presence. Both the IAS and IPS can augment their ranks laterally by appointment from the state civil services – for the IAS, such appointments accounted for slightly more than a quarter of its total strength in 2021.

The judiciary is a constitutionally distinct branch of government at both national and state levels, though the legislative/executive branch exerts influence through appointments and budget allocations. At the local level, IAS members are vested with some judicial authority. The Supreme Court, at the top of the judicial hierarchy, has powers that include broad original and appellate jurisdiction, and the right to rule on the constitutionality of laws passed by the national parliament.

There have been disputes between the Supreme Court and the central government over the scope of these powers, but in specific issues of center-state relations concerning taxation and property rights, the basic centralizing features of the constitution have tended to tilt the Court's interpretations towards the centre.[9] Recently, the Court has also tended to engage in some forms of judicial activism in enforcing laws, even at the local level. At the state level, below the Supreme Court, the High Courts superintend the work of all courts within the state, including district and other subordinate courts, but they have relatively little say in matters involving federal relations.

## III Response to the Covid Pandemic[10]

India's first case of Covid-19 was recorded at the end of January, 2020, in Kerala. The initial response of the national government was one of warnings and monitoring of international arrivals, but the implementation has been characterized as inadequate (A.K. Singh, 2022). Very few cases were reported in the country throughout February, but in March, the pandemic's presence in India started to become more apparent. Meanwhile, Kerala and some other states had begun to declare social distancing rules and guidelines, but enforcement was spotty.

On March 14th, after the number of confirmed cases crossed 100, the central government declared a national health emergency. This was followed by a curfew on March 22, and then the well-known total lockdown, announced with just a few hours' warning, on March 24. This action halted almost all economic activity, and mobility of any kind, including domestic road, rail and air transport, in addition to finally halting international passenger flights.

Both the centre and the states were acting under legislative frameworks involving governmental response mechanisms for epidemics and for disasters of any kind. These emergency response mechanisms override some of India's constitutional assignments, in which health is a state subject; this means that once the central government asserted its authority, state governments were required to follow its lead.

At the time of the initial lockdown, there were still only about 500 cases, and cases and deaths both remained low for some time thereafter. The initial lockdown was for three weeks, but it was extended in stages, through the end of May, when a phased relaxation began. Whereas the initial lockdown had been uniformly severe, by this time, the states were initially given somewhat more autonomy, particularly in the pace and details of their "unlocking." It has also been argued the states had more say in the prolonging of the lockdown after the initial phase, through regular meetings of the prime minister and chief ministers.

As the restrictions began to be eased, beginning somewhat in late May, though more so in June, case counts and deaths began to rise. At first, these trends followed exponential curves, but they began to flatten in July and August, and cases and deaths peaked in September, declining thereafter, and reaching relatively low levels by the beginning of 2021. By this time, multiple Covid vaccines had been created, and began to be administered in India as well as many other countries.

India's ability to create and produce vaccines domestically gave it an advantage over many other developing countries, and the national government even began promising to send vaccine doses to other nations. Complacency, and even triumphalism on the part of the central government at this time, marked by allowing numerous large religious and political gatherings, was destroyed by a new variant that led to a much more rapid rise in cases and deaths, beginning in March 2021 and peaking in May.

These peaks were more than four times as high as the 2020 peak, and it is likely that the overwhelming of the healthcare system at this time led to an increasingly severe undercounting of cases and deaths.[11] Despite the far greater severity of India's second wave, there was no national lockdown, and there was much greater reliance on state and local containment through curfews, mobility restrictions, and other social distancing measures.

The reason for not repeating the approach taken in the first lockdown was, of course, the severe negative economic consequences that it had. In addition to the reduction in overall economic activity (among the largest declines among all countries), the first national lockdown was particularly harsh for vulnerable populations, especially migrant workers. They were initially trapped without access to social services, since transport systems were abruptly shut down, and then, even when they could return to their places of origin, remained in economically precarious situations, since conditions in those places had led to their migration for work in the first place. There has been ample criticism of the initial lockdown on the dimension of impacts on migrants and other vulnerable population segments.[12]

Another reason for not repeating the style and substance of the initial lockdown in response to the second coronavirus wave was that many state and local governments had proved themselves in the face of the first shock. While the central government forced Kerala to reverse some of its relaxation of restrictions in April 2020, it soon became apparent that the pandemic was spreading unevenly across the country, and that some kinds of restrictions had to be tailored to local or regional situations. In particular, as restrictions began to be relaxed, it was somehow easier for the central government to allow states and localities to be stricter than a national minimum, rather than seeming to flout a strict national mandate, which is what seemed to matter to the centre initially.

Throughout the pandemic, there were examples of state and local governments, along with nongovernmental organizations, dealing with specific conditions in their jurisdictions. In a large metropolitan city such as Mumbai, the interventions were at an even more local level, such as the much-discussed case of Dharavi, the city's large slum area. While infrastructure, specifically sanitation conditions, in such slums made control of the pandemic more difficult (Tandel et al., 2021), there was enough local organizational focus to prevent explosive spread of the virus in these vulnerable areas.

The variation in the pandemic across different parts of India, and over time, was substantial. To some extent, what this variation also illustrated was the difficulty of controlling its spread, despite competent administration. For example, Kerala, which was early on viewed as a model of how to use various kinds of restrictions, education, and social protection measures, suffered significantly more in the second wave.

In general, it was difficult throughout the pandemic to sort out the extent to which outcomes were determined by random or exogenous factors, versus intentional measures taken by governments. In the case of India, internal movements also made it difficult to ascribe responsibility. If migrants from multiple cities in various states were all transported together to rural areas in their home state, it would be difficult to determine how and from where a subsequent spike or outbreak might have arisen.[13] Testing was difficult early in the pandemic, even in developed countries, and contact tracing was much more challenging than public health experts might have imagined – the scale of India and the complexity of social life meant that resources for contact tracing were typically inadequate.

Other aspects of the Indian response to the pandemic include the performance of the healthcare system, and the nature of government support measures. India's public sector spends relatively little on health, even allowing for its per capita income level, and there were legitimate concerns that the pandemic would overwhelm the healthcare system. There were many examples of this fear being borne out during the second wave, but on the whole the system held up reasonably well.

As in many other countries, extraordinary efforts by healthcare professionals, as well as support from volunteers, played a significant role in this outcome, though often at severe cost to those on the frontlines. Also, as was the case in many countries without strong publicly-provided healthcare (including rich countries such as the United States), the poor bore the brunt of the pandemic, in direct treatment of the disease, other healthcare forgone, and economic and personal costs.

India's social protection efforts were somewhat mixed. Some of the general support, such as loan relief for small businesses, was not always well targeted or adequate, reflecting already existing inequalities in access to finance. On the other hand, existing welfare programs such as subsidized or free wheat and rice through a public distribution system, and the national employment guarantee scheme, could be mobilized and adapted to deal with the crisis. The national government also created a range of emergency programs, that provided some support, though likely not enough for those at the bottom of the pyramid.[14]

## IV Evaluating the Federal Dimensions of Response

With the broad contours of India's pandemic responses having been outlined, we turn to evaluation of the manner in which the country's federal structures shaped those responses. There has been some variation in emphasis, and perhaps even some implicit disagreement, among previous assessments of the interaction between India's federalism and the way in which the pandemic was handled. Therefore, one goal of this section is to provide a new analysis and an integrated perspective.

The three collections of country studies discussed in the introduction all offer views on the Indian experience, along with their cross-country analyses. Chattopadhyay et al. (eds.) (2022) include India among those countries that exhibited strong collaboration and coordination among levels of government, as opposed to national dominance or weak coordination. They explain that this is not to be equated with complete agreement on all matters, but with continual engagement, including disagreements that had to be resolved by the courts. They emphasize increased intergovernmental interactions during the crisis, and the fact that there was no suspension or destruction of federal institutions during this process: executive actions were used within the framework of the constitution and other legislative frameworks and found support from the courts.

Steytler (2022), in the concluding chapter of his edited collection, offers a different perspective, one which emphasizes India's centralizing trends before the pandemic, and the dominance of the national government throughout the crisis, including support from the courts when serious disagreements arose. Saunders (2022), in a companion concluding assessment in this collection, especially emphasizes the central government's initial lack of consultation with the states, and its tendency for unilateral actions throughout the crisis. Furthermore, Steytler notes that some of the laws used for executive action date back well over a century, to the colonial era. He also discusses broader political considerations, which we return to later in this section.

Greer, et al. (2021) emphasize the size of India, which can pose significant challenges to the effectiveness of a unitary state. They tend to unfavourably contrast the initial disconnect between national policies for containment and social protection, which had severe negative consequences for many citizens, with the resilience of later decentralized responses. They also note the majoritarian bias of India's democratic structures, which permit a relatively strong executive.

The different India-focused narratives of pandemic responses, including the studies that provide the foundations for the assessments offered in the three collections discussed above, tend to be supportive of critical views of the national government's actions. The drastic initial lockdown is a major reason for this critical view.

Choutagunta, et al. (2021) compare infection rates and mobility for different states through the end of June 2020, and find that both varied widely across the states, with no apparent correlation between them. In other words, the national lockdown was a blunt instrument, which had impacts based on subnational administrative capacity and interpretation,[15] rather than achieving effective targeting of methods for controlling the spread of the virus. For example, after comparing the experiences of several smaller north-eastern states, the authors conclude (p. 1293), "*In all these states an adaptive approach with slowly phased out border controls and other measures like contact tracing would have been better suited than a sweeping lockdown.*" Specific subnational factors that were neglected by national policy were existing infection rates, healthcare and social protection infrastructure,[16] and population vulnerabilities, and in many cases, intra-state mobility restrictions could have been left up to the states to phase in and out.

When the lockdown began to be relaxed in June 2020, the problems of the manner in which it had been implemented led to greater flexibility and autonomy for the states, but mostly in the direction of retaining restrictions for longer than the national minimum. One example of flexibility was in the manner in which subnational areas were classified. An initial categorization of districts into "red," "orange," and "green" had proved to be of relatively limited utility in managing subnational variation in pandemic conditions, and this was replaced by the more elastic concept of containment zones, which could be much smaller, down to the size of neighbourhoods. This is a more natural approach from a public health point of view, but it is difficult to determine how this local flexibility affected the spread of the virus, which continued accelerating until the first wave peaked in September 2020.

The variations in policies, implementation, and impacts across and within India's states, and over the course of the pandemic, makes it difficult to extract general patterns, but political factors often played a role.

- Despite Kerala's relatively effective initial handling of the pandemic, political wrangling between the state and the centre, and between the ruling and opposition parties within the state, created complications (Chathukulam and Tharamangalam, 2021).
- West Bengal's initial struggles with its pandemic response were similar to many other states, due to inadequate health infrastructure and access to PPEs. Subsequently, however, state assembly elections in March-April 2021 became a major factor, not only in campaigning, but also earlier, with relaxation of social distancing in the festival season to appeal to voters (Mahmood and Chakraborty, 2022).
- In Uttar Pradesh, on the other hand, it is argued (Roy, 2022) that ideological factors led to suboptimal policy measures and data suppression, rather than objective measures of state capacity being the binding constraint.
- Odisha, despite social indicators far behind those of Kerala, was initially projected as a success story, based on cooperation between the state government and local governments (Patnaik, et al., 2020), but once the nationwide lockdown was relaxed, the return of migrant workers from Gujarat quickly led to an explosion of cases, overwhelming the state (Sahoo and Kar, 2021).

The lack of definitive knowledge about prevalence in the absence of universal or large-scale random testing, uniform reporting and treatment of cases, and the actual adoption of mask-wearing and social distancing, or enforcement of mobility restrictions, all combined, also makes it difficult to offer a general evaluation of the balance between centralization and decentralization in the latter part of 2020.

Some sense of how this balance evolved can be derived from the case of Punjab, where the author had access to the detailed daily approach of the state government. Punjab had begun a process of governance reform prior to the pandemic, meant to improve the transparency and efficiency of government functioning. The impetus for this came from the chief minister and senior bureaucrats, with inputs from academia and non-profit organizations. A cadre of governance fellows had been created for this purpose, and this group was largely redirected toward helping to map the pandemic in the state, and track and guide government responses.

Partially as a legacy of its recent political history, Punjab has relatively weak local governments, and operates in a manner where the IAS and IPS are particularly significant in governance, even more so than is generally the case in India. In a sense, these elite bureaucracies were designed for the kinds of situations that managing a crisis or emergency would entail. These are command-and-control, top-down decisions. In a smaller, geographically compact, and economically relatively homogeneous state like Punjab, this model is quite effective for a crisis, if not necessarily for enhancing long-run growth. Given the chaos created by the national lockdown, the state bureaucracy responded fairly well.[17]

In the state government, the governance fellows helped to produce detailed daily status reports, tracking cases, disease outcomes, and testing levels across the states of India (allowing a continual benchmarking of Punjab with its peers). Within the state, cases were tracked by age and gender, and by district. Helpline calls were counted, along with counts of migrants[18] and disbursements of state disaster response funds.

Of course, it is difficult to be sure how this data was used, and whether it was useful at the local level, but the district-level bureaucrats seemed to be part of an effective hierarchical network for tackling the crisis, producing a uniform but adaptive response, all within the constraints imposed by the national government. For example, the initial lockdown included exemptions for agriculture, but it was up to state-level bureaucrats to find ways to adapt markets for harvesting machines after the sudden removal of migrant workers from the labour pool (Vatta, et al., 2020).

The Punjab experience illustrates an important component of the centralization-decentralization debate with respect to federalism in India. State and local bureaucracies are an important implementation arm of the subnational level, and details of policy making can also often be left to these subnational levels. States like Kerala have greater decentralization to the local level, so there are elected representatives and local officials in cities, towns and rural jurisdictions who have appropriate expertise and authority, but it is the collaboration between state and local bureaucrats and politicians that matters in such cases, whatever the details of local governance structures.[19]

Especially at the scale of India, state and local factors are difficult for those in the national government to evaluate and incorporate into policy design – the latter arguably more so than the former.[20] What is striking about the response to the pandemic in India is how poorly the flailing state concept fit what happened. If anything, what took place was the reverse. Many state, city, and even rural local governments made heroic efforts to manage the pandemic, instituting whatever measures they could manage in terms of contact tracing, local lockdowns, testing and so on.[21]

While early studies focused on mobility data to measure how central and state policies affected social distancing and economic activity, the ultimate test of the effectiveness of subnational pandemic response policies might be differences in excess mortality across states. A broad measure of excess mortality would also capture the effect of pandemic control measures on other causes of death, although it would not capture other health impacts such as on nutrition or severe but non-fatal illness.

Given the implausibility of India's official Covid death statistics, numerous attempts have been made to estimate excess mortality (or sometimes Covid deaths specifically), and all arrive at figures which are several times the official data – in the range of 2 to 4 million deaths, as against an official number of around 0.5 million (e.g., Banaji and Gupta, 2022; Jha et al., 2022; Leffler, et al., 2022). These studies use data from individual states and aggregate, but their estimates and relative mortality rankings for different states vary widely, and do not seem to be reliable enough to judge state-level performance, even if one can control for relevant initial conditions.

One might also examine the variation across states in terms of the other human costs of measures meant to save lives. The loss of livelihoods as the economy shut down had differential impacts, hurting the poor disproportionately more (e.g., Kesar, et al., 2021), as also women (e.g., Abraham, et al., 2021). Districts with pre-existing capabilities and experience under the national workfare scheme (MG-NREGA) were able to cushion the economic shocks better than others, though the distribution of benefits was again not uniform (Afridi et al., 2021).

Most empirical analyses that use national data do not call out variations across states, but an exception is the study by Azim Premji University (2021). This study finds that, for the period September-December 2020, employment losses varied directly with caseload (Figure 3.3., p. 58), but there were significant outliers, with Delhi, Haryana, Uttar Pradesh, and Kerala having job losses well above the regression line, and Karnataka, Odisha, and West Bengal doing better than expected. However, this period does not include the severe 2021 wave, nor does it capture policy changes over time, and differences in undercounting of cases. All these factors imply that tracing a chain of causality from policy design and implementation to outcomes remains problematic.

One important area where the federal dimension came into play was education. India halted in-person education at every level for longer than almost any other country in the world. The resulting learning losses were significant, and highly unequalizing (Schmall and Yasir, 2022).[22] Since primary and secondary education are the constitutional responsibility of the states, there were varied responses, but overall, states were quick to shut things down (e.g., DNA Web Team, 2022; India Today Web Desk, 2022), and slow to reopen (contrasting with their approach to festivals and political campaigning.

It is difficult – and somewhat early – to map variations in length of school closures to learning losses and other negative impacts, but one can argue that the centre could have done more to guide states on optimal policies, and to provide support to them for keeping schools open. As an example, the central government prevented Delhi's own government from reopening schools in early 2022

(Mogul and Sud, 2022), and states may still be overreacting to new subvariants of the coronavirus (Zaman, 2022).

Returning to the role of institutional structures in the pandemic response, we have argued for the importance of cooperation between bureaucrats and politicians, and between officials (elected and appointed) at different subnational levels. The traditional use of the term cooperative federalism is reserved for national governments and the level below them (typically, states or provinces). The concept itself tends to be somewhat elastic,[23] and that seems to apply in the Indian pandemic response case as well.

Saxena (2022) is quite positive about the term and its applicability to interactions between the centre and the states during the pandemic response. This is in keeping with the national government's own rhetorical promotion of the term in different contexts. By contrast, Datta and Grover (2021) argue that the response to the pandemic involved an erosion of cooperative federalism. One of their proposed corrective mechanisms is greater use of the Inter-State Council, but the problems with Indian federal structures are possibly deeper than how and when the ISC is used, as we discuss below.

Interestingly Sahoo and Ghosh (2021, p. 19), after detailing the many challenges of intergovernmental relations during the pandemic, still conclude that "*Notwithstanding a series of blanket measures and many centralized decisions from the Centre, the management of COVID-19 has largely moved in the spirit of cooperative federalism.*"

At some level, the applicability of the term "cooperative" to Indian federalism, during the pandemic or otherwise, may be just a semantic preference. What ultimately matters are the myriad details of action and coordination among different levels of government. Several of the India studies note that the central government did much of what it was supposed to in the first phase of the pandemic, seeking policies that would be beneficial at the national level, and acting where it had authority and comparative advantage, including managing emergency healthcare responses, production and procurement of personal protective equipment (PPEs) and medical supplies, and incentivizing development and production of vaccines. However, it tended to fail in aspects of detailed follow-up, especially when the states were involved.

This happened particularly after the national government seemed to prematurely declare victory over the pandemic, and allow a disorganized relaxation of restrictions, so that when the devastating second wave hit in March 2021, it was neither prepared itself, nor had given the states adequate foundations and resources for a proper response. There were shortages of medical equipment and supplies, and of healthcare infrastructure, and the vaccine rollout was also plagued by disagreements and lack of focus.

One way of understanding what happened is that the governance problem is a combination of centralization, defined as greater decision-making power at the centre versus subnational level, and a concentration of decision-making within the centre itself. The latter has been reflected in the manner in which decisions such as the 2016 demonetization have been made, involving a very few people at the centre. Contributing to concentration, the national parliament has eroded over time as an effective legislative body, with the same process also happening at the level of state legislatures, though apparently with less significant impacts, because of the underlying centralization.[24]

In addition, at the time of the pandemic, the central government was already engaged in a project of reshaping the concept of Indian citizenship, and it used the pandemic to push through controversial new laws that sought to reform agricultural marketing. This latter process involved diminishing the role of parliament, and encroaching on the states' constitutional assignments.

Whereas a national health emergency provided justification for centralization, no such case existed for agricultural reform. In fact, a massive protest by some sections of India's large population of farmers led to the farm bills being repealed. although this decision was arguably driven by political calculations as important state elections loomed. It was those state elections that contributed to the central government's laxity in dealing with the second wave. Arguably, hubris – which has a greater chance of coming into play if there is concentration – was a compounding factor in that failure to deal with the deadly resurgence of the pandemic.

In sum, India is undergoing a complex set of challenges to its democratic system (Ganguly, 2020; Mukherji, 2020; Purushottaman and Moolakkattu, 2021; Greer, et al, 2022), and the structure of its federal system is only one aspect of these ongoing dynamics.[25] The pandemic exposed more general issues of political economy in all countries (e.g., Boettke and Powell, 2021, and Kaplan, et al., 2021, for the U.S.), but India has its own specific process at work.

## V Conclusion

The government response to the Covid pandemic in federal systems presented a range of case studies in intergovernmental relations, both coordination and conflict. The case for federal structures is based on trade-offs between factors such as economies of scale and internalization of externalities, which favour higher-level governments, and better information and accountability with respect to constituent preferences, which favour lower-level governments.

The pandemic required multiple types of responses with varying characteristics, some favouring centralized action, such as vaccine development, and others favouring decentralized action, such as local containment measures for hotspots. Matters were compounded by lack of initial lack of understanding of the virus and its transmission, subsequent mutations, and the economic and psychological costs of NPIs such as activity restrictions, masks, and social distancing, which made stable policy decisions and assignments across levels of government more difficult.

In many federal systems, there was pressure for greater centralization, and the Indian case seems to have been marked by relatively high centralization of responses, but this also reflected pre-existing trends toward centralization. However, at times, the Indian response relied more heavily on decentralized responses. This was initially because the national government realized that it did not have the capacity to monitor and enforce stringent national restrictions, but also that restrictions needed to adapt to local situations. Later in the pandemic, the national government seemed to focus more on its strategic and tactical political objectives, leaving pandemic responses to subnational governments somewhat by default. At the same time, it did not always provide enough support in ways that were best accomplished or coordinated at the national level, including information gathering and sharing, enabling protective measures such as vaccination, and access to medical supplies or PPEs.

A characterization of the Indian response to the pandemic as one of inconsistent centralization seems more appropriate than an alternative view that it was a successful example of cooperative federalism. However, there were instances of joint decision-making or action that could be taken to warrant description as cooperative federalism.

Within the constraints of a centralized federal system, India also exhibited examples of a bureaucracy that functioned quite well in crisis mode, especially at the subnational level, and when acting in concert with politicians that saw themselves as accountable to their constituents. In several cases, such cooperation was enabled by the existence of a layer of numerous local-level elected officials, which did not exist three decades ago, prior to constitutional amendments for strengthening local governments. This newer subnational level of governance supplemented or filled in for the more traditional roles of bureaucrats from the elite administrative and police services.

One can argue that subnational governments did better than might have been expected, given their resource and other capacity constraints. At the national level, the situation was somewhat different, not because of lack of capacity or expertise, but because of over-concentration of decision-making and a tendency to focus on political objectives. All of this was the reverse of Pritchett's model of India's "flailing state."

In the Indian case, the federal system proved relatively resilient, in the face of a centralizing bias in the system, as well as recent trends toward a more executive style concentration of power. The central government might have achieved better outcomes through greater consultation, structures for more inclusive decision-making, and greater willingness to transfer resources to subnational governments for final allocation to those in need.

While these conclusions emerge from a crisis period, they may also apply to more normal circumstances in Indian federal governance. The lesson may be that lower level government organizations need to be given more responsibility, and the funds to carry out those tasks, so they can learn by doing in situations where citizens can hold them more directly accountable than is possible for a distant national government. Learning by doing builds the needed human and organizational capital at the local level, where it has not been allowed or enabled to develop in an adequate manner.

In any case, Pritchett's head and limbs metaphor can lead to thinking that forecloses the ability to imagine a real solution to the "flailing state" – more effective decentralization, especially to local governments, where implementation ultimately has to take place, for many everyday public services, and not just during crises. India has over a billion heads, each with a brain, and not just one.

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## Notes

[1] While there is an extensive literature on the characteristics of federal systems, for the present context, Spaulding (2022) and Steytler (2022) provide sufficient conceptual frameworks.
[2] Chattopadhyay, et al. (eds.) do provide a brief epilogue, covering 2021, a period including new waves of infection and vaccine rollouts.
[3] They also consider a range of political, social and institutional issues such as populism, competition for taking credit or assigning blame,
[4] These arguments were first presented in N. Singh (2021).
[5] Additional detail on various aspects of India's federal system can be found in Rao and Singh (2005) and Rao (2022). The latter also includes a discussion of the public finance impacts of India's response to the pandemic.
[6] Manmohan Singh served as Prime Minister while a Rajya Sabha member, but this reflected a unique and unusual set of political circumstances.
[7] The union territories of Jammu & Kashmir and Puducherry both have elected legislatures. Until recently, Jammu & Kashmir was a state, with a special status that was supposed to grant it additional autonomy.
[8] The ISC includes the Prime Minister, state Chief Ministers, and several central cabinet ministers as members. While the ISC is merely advisory, it has formalized collective discussion and approval of several important matters impinging on India's federal arrangements, including tax sharing and inter-state water disputes. When India had a national planning commission, a National Development Council served as a more specialized discussion and bargaining forum for resource transfers. When India moved to a unified VAT-style Goods and Services Tax (GST) it created a GST Council to bargain over and recommend on GST coverage and rates. It comprises the national and state finance ministers.
[9] In the 1990s, the Court did make decisions checking the centre's ability in matters such as overriding subnational political authority by means such as dismissing state legislatures, but more recently, it has been more favourable toward central authority in various rulings.

[10] This paper provides a summary narrative, aiming to highlight the general features of India's response to the pandemic. More detail can be found in Raj (2021), Sahoo and Ghosh (2022, Table 1), Saxena (2022), A.K. Singh (2022), and Yang, et al. (2022, Table 2).
[11] The accuracy of Indian pandemic data has been much debated, because of the weaknesses in mechanisms for recording deaths and causes of death. In general, various arguments have been made about proper attribution of cause of death, since Covid-19 sometimes stressed the body's systems in ways that led to cardiac events or other proximate triggers of mortality. Another issue is the impact of the lockdowns and shifting of healthcare resources on a wide range of other health conditions and mortality due to other causes. This is a technical discussion beyond the scope of this paper, and most of the arguments here do not depend on precise numerical counts, though the mortality issue is taken up later in the paper. Several of the references cited for detailed accounts of the pandemic's progress in India do not cover this second wave in 2021, but Sahoo and Ghosh (2022) and Yang, et al. both cover the second wave in 2021. Health economist Rijo John used seroprevalence survey data to estimate actual cases, and this exercise found enormous variation in undercounting across states, ranging from an undercounting factor of 6 in Kerala to 134 in Bihar, with a national average factor of 33 (Ghosh, 2021).
[12] In addition to this issue being discussed in the general narratives cited earlier, Ray and Subramanian (2020), Ganguly (2020), and Dreze and Somanchi (2021) provide some discussion of the national lockdown and its initial impacts.
[13] Mishra et al. (2020) establish some early facts about the spread from urban to rural India, while B.B. Singh, et al. (2021) offer some conclusions on the extent to which public health interventions slowed the spread of the virus. Kumar, et al. (2022) and Choutanga, et al. (2022) measure the impacts of central and state lockdown measures on actual mobility, with implications for assessing how effective those restrictions were in practice.
[14] Greer, et al. (2021) compare social policy in Brazil, Germany, India and the United States. Rao et al. (2020) document variation across Indian states in governmental support for migrant workers in the initial lockdown.
[15] Kumar, et al. (2021) estimate indices of state restrictiveness that preceded the national lockdown, and show that these were correlated with the mobility impacts after the national lockdown, which implicitly captures differences in post-lockdown implementation quality and administrative capacity.
[16] Rao, et al. (2021) establish the significant differences in the social policies accessible to migrants from Bihar across four different host states: Gujarat, Kerala, Maharashtra and Uttar Pradesh. Initial consultation with the states at the beginning of the pandemic might have made the centre aware of the issues associated with social protection of migrant worker populations in different parts of the country.
[17] The often-mentioned case of Bhilwara district in Rajasthan, where strict pandemic control measures were implemented by the bureaucracy, had similar features (Pareek and Sole, 2021).
[18] In many parts of India, migrants work in cities as domestic labour or construction workers, but Punjab's migrant laborers are mostly employed in agriculture: see Gill (2020) for an overview of their economic role, and some commentary on the impacts of the pandemic on them and on the rural economy of Punjab.
[19] Again, for issues that matter in a sustained long-run manner such as education and local sanitation, a more decentralized governance structure may be better, since local officials and bureaucrats have more direct accountability than do those at the state-level (N. Singh, 2007), but in crisis situations this may be less of a factor.
[20] Several of the India studies make this point in various ways, including Raj (2021), Sahoo and Ghosh (2021), Saxena (2022) and A.K. Singh (2022).

[21] For example, Dutta and Fischer (2021) use cases from Kerala, Odisha and Rajasthan to illustrate how responses to Covid-19 were "coordinated through a combination of low-level administrative authorities, elected village governments, and other state and civil society groups" (p. 10).
[22] I am especially grateful to E. Somanathan for raising this issue, which deserves further analysis. Singh, et al. (2022) provide the results of an experimental program to reverse learning losses in the state of Andhra Pradesh. Programs like this can be important for the speed and character of India's overall economic recovery.
[23] From a technical perspective, cooperative situations in strategic situations refer to ones where binding agreements can be signed. This would be akin to signing treaties between nations, and it is not clear what the corresponding legal mechanism is for the centre and states. Constitutional assignments typically do not provide enough specificity for individual situations. In formal strategic analysis, repeated interactions may support cooperative outcomes without binding agreements – the underlying game is noncooperative in that case. Thomas (2021) argues for more specificity in the constitution, but it is not clear if this can ever be achieved at an adequate level. Many situations involve unforeseen circumstances and ambiguity. This is analogous to the difficulty of writing complete contingent contracts in market settings.
[24] Greer, et al. (2022) analyse the consequences of this exercise of executive power in comparing Brazil, India and the United States.
[25] One centralizing aspect of Indian federalism that has always been important, but became more so during the pandemic, is the mismatch between revenue and expenditure authorities at different levels of government. During the pandemic, the central government, which collects the new joint Goods and Services Tax (GST) delayed giving states their shares, increasing fiscal pressures on them: see A.K. Singh (2022), for example.

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IPPR

# GST and Debt Sustainability: The Indian Experience

**P.S. Renjith**[*#]

## Abstract

In the context of a perceptible rise in the share of sub-national debt in India's total public debt, and the predominant role of GST as a revenue source for the state, this study attempts to analyse the sustainability of debt policies adopted by sub-national governments in the context of GST. It looks at the 20 major Indian states, using the fiscal policy response function, two alternative specifications, and panel data methodology to analyse the issue at aggregate and disaggregate levels during GST regime. The results indicate that the debt policy is sustainable at the aggregate level, but only in 9 states at the disaggregate level during the GST regime. However, when GST compensation is excluded from the model, the test results do not indicate that Indian states pursued sustainable debt policies. The observed results are then amplified and corroborated using an indicator-based approach, and it is concluded that the GST remains an undermining factor of debt sustainability. Overall, the study draws attention to the states' poor revenue performance after GST, and the challenges to the sustainability of their debt position. Policy intervention should be sought to improve the debt situation through an effective GST mechanism in states where the debt is unsustainable.

**Keywords:** Public debt; primary balance; GST; debt sustainability; fiscal reaction function; Indian states, panel data

**JEL Codes:** E62, H71, H72, H74

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# 1. Introduction

Inadequate revenue generation and high borrowing persistence are the two major policy concerns often confronted by national and subnational governments globally. These governments heavily depend on borrowed resources to meet their expenditure commitments. With the growing tendency towards decentralization, borrowing has become an increasingly important source of finance in countries with federal governments. In turn, this leads to enormous debt accrual in sub-national budgets.

It is often perceived that the lower the ratio of debt to state domestic product, the more sound the State economy. There is a high chance that the state experiences fiscal stress or falls into a debt trap when this ratio is high (Paras, 2017). The issue of debt sustainability – the ability of a government to sustain its debt policies in the long-run, while remaining solvent – arises as there exists a chain of action between various budgetary variables in the higher debt accumulation process (Ianachovichna et al., 2006). An unsustainable debt position is shown to be instrumental in determining insolvency, no-Ponzi condition (i.e., issuance of new debt to pay off existing loans), re-orientation of priority spending, and growth slowdowns (Renjith and Shanmugam, 2019).

India provides an ideal setting to analyse sub-national fiscal policies, as one-third of its total government debt is owned by state governments, accompanied by persistent growth in their budget deficits and borrowing requirements (RBI, 2021). Remarkably, India's sub-national debt-deficit position has significantly improved during the initial phase of fiscal consolidation (Kaur et al., 2017). However, the signs of fiscal stress have re-emerged in the latter phase of fiscal consolidation, on the back of poor performance of state public sector enterprises, additional debt liabilities as part of the financial and operational restructuring of state power distribution companies, high cost of borrowings, 7th Pay Commission implementation, and rolling subsidy bills etc. As a result, the debt ratio frequently crossed the prescribed limit in most states.

While sub-national debt has shown a gradual rise, India's adoption of Goods and Service Tax (GST), considered to be the most decisive indirect tax reform since independence, has created intense policy discussion on the revenue generation capacity of the states (as they had to surrender their taxing powers)[1]. It was expected that the GST implementation would benefit the states in terms of higher revenue collection, enhanced tax compliance, improved export competitiveness, minimized cascading effect, higher interstate trade, and increased economic activities – thereby reducing the horizontal fiscal imbalance across states.

It was further anticipated that state governments' revenue would increase under the GST regime, and be inversely proportional to the debt-to-GSDP (Gross State Domestic Product) ratio, ensuring a sustainable debt position.[2] However, GST collection has not been as expected, due to its design, compliance, and administrative issues. Researchers have argued that revenue shock in GST collection may lead to a fiscal shock to state finances (Rao, 2022; Mukharjee, 2020; Dash and Kakarlapudi, 2021).

Nonetheless, GST has become the largest source of the state's own tax revenue. States had to rely on the GST compensation grants (stipulated under the GST Compensation Act, 2017) in the initial years after implementation, since the proposed 14 percent growth was far from the reality for many state governments.[3] However, GST compensation assured to the states was delayed due to the revenue shortage faced by the Centre. This has further contributed to the adverse debt position of the states.

In addition, as long as constitutional demarcation on expenditure commitment and revenue generation remains a disproportionate burden on state governments, there is little room for reducing their expenditure. As a result, revenue collection becomes vital to state finances. Since GST is the major source of state finance, this increases the susceptibility towards all changes on states' revenue productivity (assuming minimal possibility to mitigate expenditure). This implies that any changes in the primary deficit/surplus, and thereby debt accumulation of the state, is a reflection of GST performance (with or without the GST compensation).

The aggregate debt of all the states rose from ₹22103 billion (≈ US $285 billion) in 2011-12 to ₹ 53430 billion (≈ US $689 billion) in 2019-20, and the debt to GSDP ratio reached about 27% in 2019-20. Notably, all states remained in a primary deficit position during the period (RBI, 2021). Though the State GST (including the Integrated GST settlement on State GST account)[4] revenue progressed over the years in most states, the growth rate of SGST for the period from 2017-18 to 2019-20 remained lower than the average annual growth rate of taxes subsumed in GST for the period 2014-15 to 2016-17 while their dependence on GST compensation had also gone up during the period (Mukharjee, 2021).

In light of the mounding debt burden, the persistence of primary deficit, and poor growth in the state GST collection, it is imperative to study the public debt situation of the state governments during the GST period in a comprehensive manner. More specifically, it is important to examine the following questions:

i. Has the regime shift from VAT to GST aggravated the debt position?

ii. Do state governments in India hold a sustainable debt position under the GST regime?

iii. Does GST undermine the sustainable debt position for Indian states?

iv. Is there any significant change in sustainability indicators after GST?

To address these questions, the study first assesses the sustainable debt policies of the states during the GST regime through the fiscal policy response function (FPRF) proposed by Henning Bohn in 1998. It empirically tests whether the primary surplus-GDP ratio is positive and, at least, a linearly rising function of the debt-GDP ratio. If so, the initial stock of debt equals the sum of the present discounted values of the primary surpluses. Thus, the intertemporal budget constraint (IBC) is satisfied, ensuring debt sustainability (Bohn, 1998).[5]

This study utilizes the panel data version of the FPRF to test the sustainability of public debt of 20 Indian states during the GST regime. The study further extends the fiscal policy response function by adjusting the GST components in the primary balance, to check whether the regime shift from

VAT to GST weakened the sustainable debt position. Accordingly, some changes are made in the baseline equation. The estimated results are then supplemented using the indicator approach to capture the spillover effects. The empirical analysis is first done at the aggregate level and then at the disaggregated level.

The remainder of the paper proceeds as follows: Section 2 presents a short review of the literature. Then, while the methodology is discussed in section 3, the empirical results are presented and discussed in section 4. Finally, section 5 concludes the study.

## 2. Review of literature

Public debt sustainability has always been a paramount area of research in public finance, both through cross-country comparisons, and within a country (looking at sub-national units). However, the broad interpretation of sustainability does not reveal a comprehensive and true picture of the actual fiscal stance of federal systems. While the level of debt reflects the cumulative effect of government borrowings due to the expenditure-revenue mismatch, a set of other fiscal indicators are involved in its size and composition. There is a chain of action between various policy variables, whose end result is debt sustainability (Renjith and Shanmugam, 2020).

According to Bohn (2007), a fiscal policy satisfies *ad hoc* sustainability if it is on a trajectory such that the expected present value of future primary surpluses equals the initial debt. The hypothesis of fiscal policy sustainability is related to the condition that the trajectory of the main macroeconomic variables is not affected by the choice between debt issuance and an increase in taxation (Afonso, 2005). Comprehensively, sub-national fiscal sustainability is the ability of the sub-national government to sustain its fiscal policies in the long-run, while remaining solvent (able to service its debts).

However, sub-national governments have less incentive than national governments in the sustainability and macroeconomic impact of fiscal policies. A few earlier studies held the view that fiscal decentralization can enhance the overall fiscal sustainability, as sub-national spending also boosts infrastructure development and productive environment (Fukasaku & De Mello, 1998). Moreover, borrowing has become an important source of financing of sub-national governments in the wake of an increase in decentralization practices.

The proponents of sub-national borrowing have cited the following potential benefits (Freire & Petersen, 2004):

i. increased fiscal space for infrastructure funding locally
ii. competent and beneficial outcomes for future generations, due to deficit spending on infrastructure,
iii. transparency and good governance, and
iv. expansion of financial markets.

On the other hand, Mikesell (2007) argues that sub-national borrowing could contrast with national policy. Sub-national borrowing may lead to a crisis and an unstable fiscal and macroeconomic environment if taken up without an effective regulatory framework. Further, borrowings for operating deficit may lead to long-term fiscal sustainability problems, unmanageable debt burden, and growth of the public sector beyond its optimal size (Dafflon, 2002).

Some argue that carefully synchronized sub-national borrowing is the key factor in ensuring the decentralized system's fiscal sustainability (Ter-Minassian, 2015). Therefore, a coordinated sub-national borrowing is a prerequisite for maintaining a sound fiscal policy of the sub-national governments. Many studies have quoted a lack of coordination between fiscal variables, especially in the context of huge public debt accumulation, as the root cause for insolvency and fiscal stress of many sub-national governments (Ianchovichina et al., 2006; Ghosh et al., 2013; Liu and Weiber, 2008).

The coordination issue of public debt with other fiscal indicators is often cited as a cause for many federal debt crises, like the Brazilian crisis in 1991, the Argentina crisis in 2001, and the Eurozone crisis of 2011 (Potrafke and Reischmann, 2015). Experience from these events points out the weakness of addressing sustainability issues in a uniform manner, as this may lead to misleading conclusions – especially in countries with a federal system, due to their institutional settings, domestic demands, and differences in resource mobilization capabilities. Therefore, realizing the need to extend the understanding of sustainability issues from a sub-national level perspective, a few studies have attempted to study this issue in greater detail, in the context of some developed economies (Claeys et al. (2008) for US, and Fincke and Greiner (2011a) for Germany).

Potrafke and Reischmann (2015) extended the examination of sustainability issues at the sub-national level (US states and German länder) with fiscal coordination. It explicitly takes into account fiscal transfers when assessing fiscal sustainability. It draws attention to the fact that some sub-national governments are sustainable only because of fiscal transfers from the central government, and not because of their adopted fiscal measures. Mahdavi and Westerlund (2011) investigated fiscal policies of US state and local governments and concluded that without federal grants, state and local governments are unable to fund their current operational expenditures.

The empirical framework used by Potrafke and Reischmann (2015) is an extension of the fiscal policy response function (FPRF) developed by Bohn (1998). The approach received popularity among economists when Inter-temporal Budget Constraint (IBC) was added to the sustainability analysis.[6] It implies that the outstanding debt today must be equal to the present value of future primary surpluses of the government. In other words, as long as a government generates the debt-stabilizing primary balance to cover its debt in future, its current debt level is sustainable. The conventional sustainability equation is thus linked to the IBC through a dynamic debt equation.

The conventional debt accumulation equation can be written in a compact form as:

$$\frac{D_t}{Y_t} = \frac{\mathrm{P_t}}{Y_t} + \frac{1+i_t}{1+g_t} . \frac{D_{t-1}}{Y_t} \qquad (1)$$

Where

- $D_t$ is the stock of debt at the t[th] period,
- $P_t$ is the primary deficit at the t[th] period,
- $i$ is the real interest rate on debt, and
- $g$ is the real rate of growth of GDP (or $Y$).

The equation (1) can be written more compactly as:

$$d_t = p_t + d_{t-1}[(1 + i_t)/(1 + g_t)] \quad (2)$$

- $d_t = D_t/Y_t$ is the debt to GDP ratio in period t; and
- $p_t$ is the primary deficit relative to GDP in period t.

Further, equation (2) can be re-written as:

$$d_t = (1 + r_t)\, d_{t-1} - s_t \quad (3)$$

Where

- $r_t = (1 + i_t)/(1 + g_t)$,
- $s_t = -(P_t/Y_t)$ primary surplus to GDP ratio.
- Also note that $r_t = (1 + i_t)/(1 + g_t) - 1 \cong i_t - g_t$ is the gross return on public debt.

The present value of borrowing constraint derived from equation (3) is:

$$d_t^* = \sum_{j=1}^{\infty} \frac{1}{(1+r)^j} E_t\left[s_{t+j}\right] + \lim_{n\to\infty} \frac{1}{(1+r)^n} E_t\left[d_{t+n}\right] \quad (4)$$

Where

- $d_t^* = (1 + r_t)$.
- $d_{t-1}$ is the stock of debt-output ratio at the beginning of period t, and
- $E_t[.]$ denotes the expectation operator conditional on the information available at time t.

The debt policy is sustainable if the outstanding debt of the initial period is equal to the present value of the future primary surpluses (i.e., in line with IBC).

The IBC, $d_t^* = \sum_{j=1}^{\infty} \frac{1}{(1+r)^j} E_t\left[s_{t+j}\right]$, is satisfied if and only if the sum of end-period debt converges to zero, i.e., $\lim_{n\to\infty} \frac{1}{(1+r)^n} E_t\left[d_{t+n}\right] = 0$.

Further, it satisfies two supplementary conditions too:

i. the no-Ponzi game condition (NPC) and
ii. the transversality condition (TC).

- The required condition in the NPC is that the debt growth rate has to be lower than the real interest rate.
- TC $[\lim_{n\to\infty} \frac{1}{(1+r)^n} E_t\left[d_{t+n}\right] = 0]$ requires that the real public debt growth rate must be lower than the real GDP growth (Azizi et al., 2012).

Bohn (1995) viewed that the convergence (TC and IBC) portrayed in the above two empirical or time-series approaches is not a necessary condition for sustainability. Therefore, he constructs a general equilibrium framework with a stochastic version of TC and IBC (assuming infinitely lived agents, complete financial markets, and optimizing behaviour of lenders under uncertainty). Following this stochastic framework, he proposed a model-based approach in 1998 to test empirically whether the primary surplus-GDP ratio ($s_t$) is positive and, at least, a linearly rising function of the debt-GDP ratio ($d_t$):

$$s_t = \alpha + \psi\, d_t + \varepsilon_t \qquad (5)$$

where

- ε is the random error, and
- $\alpha$ and $\psi$ are the parameters to be estimated.
- If $\psi > 0$ and statistically significant, the debt is sustainable, which means that the initial stock of debt is equal to the sum of the present discounted values of the primary surpluses.
- The IBC is satisfied if the discounted sum of the end period debt converges to zero. Thus, the positive reaction coefficient $\psi$ ensures this convergence.

In fact, Bohn (1998) utilizes Barro's (1979) tax-smoothening hypothesis, according to which the public deficit should be used in order to keep tax rates constant, which in turn minimizes the excess burden of taxation. Hence, the normal expenditure can be financed by regular revenues and unexpected spending could be financed by deficits.

Based on this, Bohn (1998) derived the following fiscal policy response reaction function[7] from equation 5 for testing fiscal sustainability:

$$s_t = \alpha + \psi\, d_{t-1} + \phi_1 yvar_t + \phi_2 gvar_t + \varepsilon_t \qquad (6)$$

where

- the debt to GDP ratio is substituted with $d_{t-1}$, a lagged debt ratio (since budget plans are usually made one fiscal year ahead and also to take account of the endogeneity problem of the public debt to GDP ratio.)
- $yvar$ and $gvar$ are business cycle indicators.
    - $yvar$ accounts for fluctuations in revenues and reflects the deviation of real GDP from its trend, computed using the Hodrick-Prescott (HP) filter. Positive values for $yvar$ indicate booms and negative values indicate recessions.
    - $gvar$ reflects the deviation of real primary spending from its normal value (computed again using the HP Filter), with positive values indicating the expenditures above the normal level and vice versa (Greiner and Fincke, 2015).

This approach has received great attention in the literature because of its intuitiveness (*i.e.,* if governments run into debt today, they would have to take corrective actions in the future by increasing the primary surplus) and robust statistical properties (the positive response of primary surplus to the government debt implies a mean-reverting process).[8] Accordingly, it has later been extended by many researchers (Abiad and Ostry, 2005; Haber and Neck, 2006; Greiner and Kaurmann, 2008; Fincke and Greiner, 2011; Mahdavi, 2014) by

i. adding other determinants of primary balance,

ii. incorporating unobserved heterogeneity factors using the panel data structures, and

iii. using other estimation techniques (p-spline), specifying non-linearity and time-varying coefficients in the model etc.

The latest extension in this regard is the exclusion of various components in the left-hand side variable i.e., primary balance. This will map which component is the driving force of fiscal unsustainability. Potrafke and Reischmann (2015) exclude the federal transfers to the states from the revenue side in calculating new primary balance, to evaluate the government's discretionary fiscal policy. This study concludes that the central transfers implicitly subsidize the state government's debt in Germany and the US.

It was further extended by analysing the primary deficit gap and the tax gap (Uryszek, 2016). However, no studies exclusively attempted to capture the effects that conceal the debt sustainability, despite of few observation of its relevance (Nguyan, 2013; Bhatt and Scorromossino, 2016). Therefore, it is imperative to account the undermining factors of debt sustainability analysis of Indian states.

## 3. Methodology

In order to test the debt sustainability of the Indian states during GST regime, the study first specifies the following panel form of fiscal policy response function from equation (6):

$$S_{it} = \phi_0 + \psi\, d_{it-1} + \phi_1 yvar_{it} + \phi_2 gvar_{it} + \lambda_i + \mu_t + \epsilon_{it} \qquad (7)$$

where,

- $S_{it}$ is the primary surplus-GSDP ratio for i^th^ state in the t^th^ time period,
- $d_{it-1}$ is the debt-GSDP ratio for $i^{th}$ state in t-$1^{th}$ period,
- $yvar_{it}$ and $gvar_{it}$ are business cycle variables to account for fluctuations in GSDP and primary public spending respectively.
- $\lambda_i$ and $\mu_t$ are individual (states) effects and time effects (year), respectively.
- It is noticed that the lagged debt ratio is used to take into account the endogeneity issue.
- If $\psi > 0$ and statistically significant, debt policy is sustainable.

Equation (7) can be estimated using the standard panel data techniques: fixed effects (FEs) and random effects (REs). The former posits that the unobserved heterogeneity factors, $\lambda_I$, and time effects, $\mu_t$, is correlated with other X variables included in the equation ($yvar$ and $gvar$), while the latter assumes that they are not correlated.

The choice of a relevant model depends on the Hausman statistics. If it supports the FEs model, then OLS (i.e., LSDV) can be used to estimate the equation (7) i.e., incorporating $\lambda_i$ and $\mu_t$ in the form of state and year dummies. If the Hausman statistics support the REs model, the GLS estimation procedure can be used.

Further, to examine whether GST is a weakening factor for debt sustainability, an adjustment is made in the primary balance calculation (assuming only changes in the revenue of a state as already mentioned) of each state, i.e., exclusion of GST compensation in the primary balance equation.

This newly adjusted variable is called the "Adjusted Primary Balance" or "GST Compensation Adjusted Primary Balance". The link between the adjusted dependent variable and the baseline dependent variable is expressed below.

Primary Balance (baseline model) = [state's own tax+ states' own non-tax + state's share in union taxes and duties + grants in aid from government of India, including protected GST compensation + non-debt capital receipts] – [(revenue expenditure-interest payment) + capital expenditure + disbursement of loans and advances][9]

Adjusted primary balance = [state's own tax+ states' own non-tax + state's share in union taxes and duties + grants in aid excluding GST compensation grants+ non-debt capital receipts + Central Transfers]- [Primary Expenditure]

The rationale behind these adjustments is

i. many states have realized the 14% revenue, and the gap is mainly dealt with by compensation. So it is essential to see a sustainable debt position in the absence of GST compensation, which will be the reality after June 2022; and

ii. since the GST compensation starts after 2017, the model adjustments can capture the regime shift effect.

The State, as per the Goods and Services (Compensation to States) Act, 2017, will get compensation for the loss on account of the introduction of GST for five years from the date of implementation, i.e., July 2017 to July 2022. For the purpose of compensation, net collection of taxes subsumed under GST in the year 2015-16 has been taken as the base year and 14percent is assumed as the annual growth rate to determine the protected revenue in a year after the introduction of GST. The growth rate is applied to the base year collection to calculate the protected revenue. The actual collection is deducted from the protected revenue (projected revenue) and the balance is given as compensation on a bi-monthly basis. The union government created a GST compensation fund which is financed through the GST Compensation Cess (GSTCC) on select commodities.

Compensation Amount= Protected Revenue-Actual Revenue of the State

Protected Revenue in year n = Revenue from the subsumed taxes in 2015-16 * [ 1+ 0.14]

For the purpose of analysis, the revenue shortfall is calculated without considering the collection of arrear taxes in respect of various Acts, which are subsumed under GST as the data of all the States are not available. The revenue shortfall (which is protected revenue minus actual collection) for major States and Union Territories are reported in Table 1.

**Table 1: The Shortfall in GST Revenue (Rs. Crore)**

| States | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
|---|---|---|---|---|---|
| Andhra Pradesh | -3227 | 1994 | 3651 | 8865 | 7218 |
| Assam | -1111 | 1440 | 1588 | 3486 | 2986 |
| Bihar | -336 | 5458 | 6015 | 9329 | 9312 |
| Chhattisgarh | 896 | 3877 | 4801 | 6803 | 7217 |
| Gujarat | 2151 | 10722 | 14016 | 24897 | 17570 |
| Haryana | 1019 | 5998 | 6869 | 11256 | 9619 |
| Himachal Pradesh | 1273 | 1835 | 2655 | 3695 | 3579 |
| Jharkhand | 130 | 2339 | 2674 | 4959 | 4925 |
| Karnataka | 4310 | 16533 | 18871 | 31388 | 28241 |
| Kerala | 471 | 6536 | 9021 | 14719 | 14344 |
| Madhya Pradesh | 171 | 5746 | 7123 | 12214 | 12131 |
| Maharashtra | -4549 | 13636 | 19224 | 45627 | 32331 |
| Odisha | 1721 | 5782 | 5654 | 8507 | 7962 |
| Punjab | 5298 | 10222 | 11744 | 16623 | 16223 |
| Rajasthan | -1464 | 4869 | 7361 | 13027 | 10546 |
| Tamil Nadu | -3271 | 2453 | 3796 | 8716 | 6128 |
| Telangana | -427 | 7205 | 10166 | 22319 | 19052 |
| Uttar Pradesh | -5410 | 8282 | 9984 | 22994 | 19643 |
| Uttarakhand | 1488 | 3277 | 3584 | 5308 | 5178 |
| West Bengal | -2047 | 5671 | 7060 | 14438 | 13627 |

Source: Budget Documents of States, various years

Since there is a growing gap between compensation due to the states and compensation cess collected, one question is to what extent the compensation cess as it exists today has been adequate to meet the required revenue. Any analysis in this direction is almost impossible, because the required disaggregated data regarding GST cess collection by the centre is yet to be published. The analysis of the compensation released shows that Central Government has partially paid the compensation from 2017-18 to 2021-22 (see Table 2)

**Table 2: GST Compensation Payments to Major States (Rs. Crore)**

| States | Compensation released in 2017-18 | Compensation released in 2018-19 | Compensation released in 2019-20 | Compensation released in 2020-21 | Compensation released in 2021-22 |
|---|---|---|---|---|---|
| Andhra Pradesh | 619 | 0 | 3028 | 5220 | 2536 |
| Assam | 980 | 454 | 1306 | 1875 | 40 |
| Bihar | 3140 | 2798 | 5464 | 4039 | 0 |
| Chhattisgarh | 1262 | 2608 | 4538 | 2846 | 657 |
| Gujarat | 4882 | 8788 | 15558 | 13719 | 2181 |
| Haryana | 1461 | 3916 | 6617 | 5453 | 949 |
| Himachal Pradesh | 1059 | 2084 | 2619 | 1623 | 452 |
| Jharkhand | 1368 | 1098 | 2219 | 2625 | 933 |
| Karnataka | 7670 | 12465 | 18628 | 15500 | 5707 |
| Kerala | 2102 | 3532 | 8111 | 7063 | 4121 |
| Madhya Pradesh | 2668 | 3302 | 6538 | 5788 | 1946 |
| Maharashtra | 3077 | 9363 | 19233 | 28421 | 13626 |
| Odisha | 2348 | 4241 | 5332 | 4243 | 0 |
| Punjab | 5109 | 8985 | 12187 | 7826 | 3481 |
| Rajasthan | 2899 | 2280 | 6710 | 6704 | 741 |
| Tamil Nadu | 1018 | 5363 | 11423 | 12739 | 8169 |
| Telangana | 0 | 0 | 3054 | 4487.45 | 296 |
| Uttar Pradesh | 2432 | 0 | 9123 | 13680 | 8028 |
| Uttarakhand | 1432 | 2442 | 3375 | 2519 | 1030 |
| West Bengal | 1608 | 2615 | 6200 | 7828 | 5383 |

Source: Ministry of Finance, Government of India (as reported on the answers to a question in Rajya Sabha – 19 July 2022)

Thus, in the baseline model (equation 7), the actual primary balance is replaced with Adjusted Primary Balances by subtracting the protected GST compensation from the model as:

$$S1_{it} = \phi_0 + \psi\, d_{\text{it-1}} + \phi_1 yvar_{\text{it}} + \phi_2 gvar_{\text{it}} + \lambda_{\text{i}} + \mu_{\text{t}} + \epsilon_{\text{it}} \qquad (8)$$

This maps the reaction of adjusted primary balances to the changes in debt. It indirectly discloses whether or not GST is a strong factor in sustainable debt position of a state.[10]

Further, to test whether the debt is sustainable in each of the major Indian states, the debt-GSDP variable is allowed to interact with the state-specific dummies.

The equation (8) can be modified as:

$$S_{it}/S1_{it} = \phi_0 + \phi_1 yvar_{\text{it}} + \phi_2 gvar_{\text{it}} + \lambda_{\text{i}} + \mu_{\text{t}} + \sum_i \psi_i K_{\text{i}} * d_{\text{it-1}} + \epsilon_{\text{it}} \qquad (9)$$

Where

- $K_i$'s are state-specific dummies, $K_i = 1$ if $i^{\text{th}}$ state and $0$ otherwise.

- When $\psi_i$ (which is interacted with $K_i * d_{\text{it-1}}) > 0$ and statistically significant, the debt is sustainable in state $i$.

It is noticed that the regular fixed effects model assumes that intercept varies across states and time while the slope parameter is constant. With a dummy interaction term, the slope parameter associated with debt varies across states but is constant for a state.[11]

**Data:** The study uses secondary data, covering 20 major Indian states (which account for more than 90 percent of India's population) during 2016-17 to 2021-22. The Gross State Domestic product (GSDP) data (real and nominal) are compiled from the Central Statistical Organization (CSO), while other fiscal variables from Comptroller and Auditor General (CAG) of India Audit Reports and Finance Accounts of the respective states.[12]

GST collection data is taken from GST portal (https://www.gst.gov.in/download/gststatistics). More importantly, while we use SGST and IGST settlement data for our analysis, we ignore CGST, as it does not include the tax revenue of states.

As stated above, the *yvar* is calculated by subtracting the long-term trend of GSDP, which is computed using the HP filter to the real GSDP series, from its actual values. Similarly, *gvar* is computed as realized value minus the trend value of primary expenditure.[14]

**Table 3: Descriptive statistics of the study variables (2017-18 to 2021-22)**

| Definition | Variables | Mean | Standard Deviation |
|---|---|---|---|
| Primary balance-GSDP ratio (%) | $s_{it}$ | -0.986 | 1.503 |
| Adjusted Primary balance 1 (%) | $s1_{it}$ | -2.924 | 1.776 |
| Real GSDP gap (₹ billion) | $yvar_{it}$ | 0.0001 | 247.210 |
| Real Primary Expenditure Gap (₹ billion) | $gvar_{it}$ | 0.00002 | 78.830 |
| Debt-GSDP ratio (%) | $d_{it}$ | 28.827 | 7.388 |
| Lagged debt-GSDP ratio (%) | $d_{it-1}$ | 27.947 | 7.367 |

The disaggregated picture of major variables of interest are given in Figures 1 and 2. Notably, an important indicator of debt sustainability is that the primary deficit declines over time and then turns into a surplus; however, no states are in a position to meet the condition (See Figure 1) The ratio of total outstanding debt-to-GSDP was higher than 30% in Andhra Pradesh, Bihar, Kerala, Punjab, Rajasthan, Uttar Pradesh and West Bengal while it was above 25% in Haryana, Jharkhand and Madhya Pradesh. The average for all states stood at 27.53%.

Figure 1: Primary Deficit to GSDP Ratio: (Annual Average: 2017-18 to 2021-22)

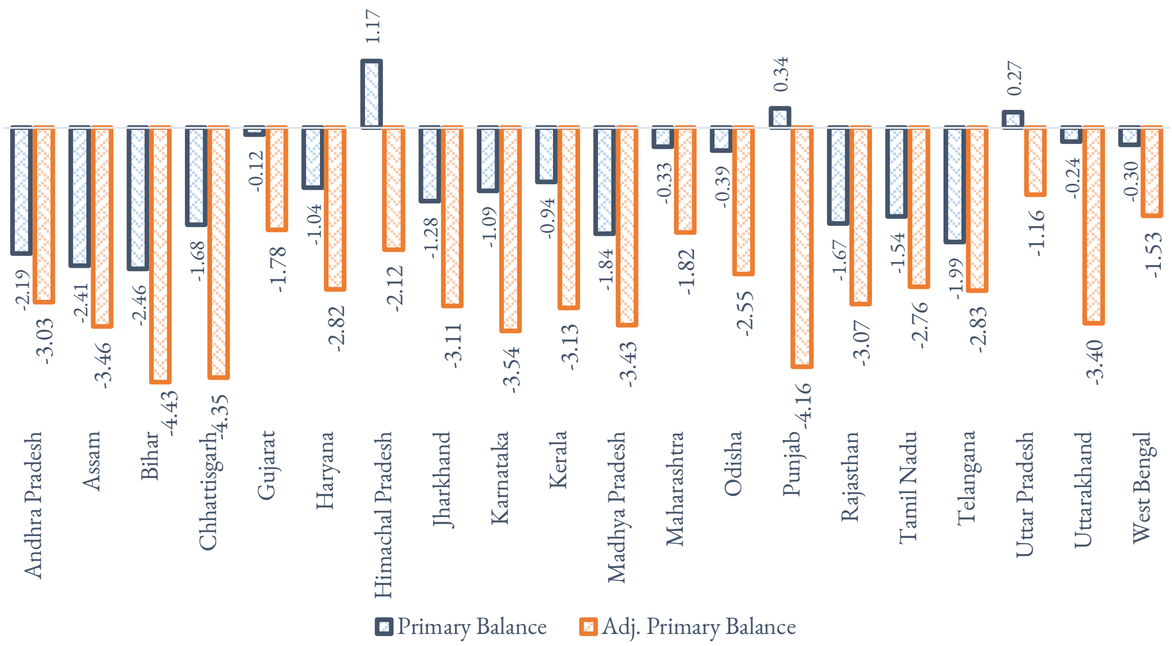
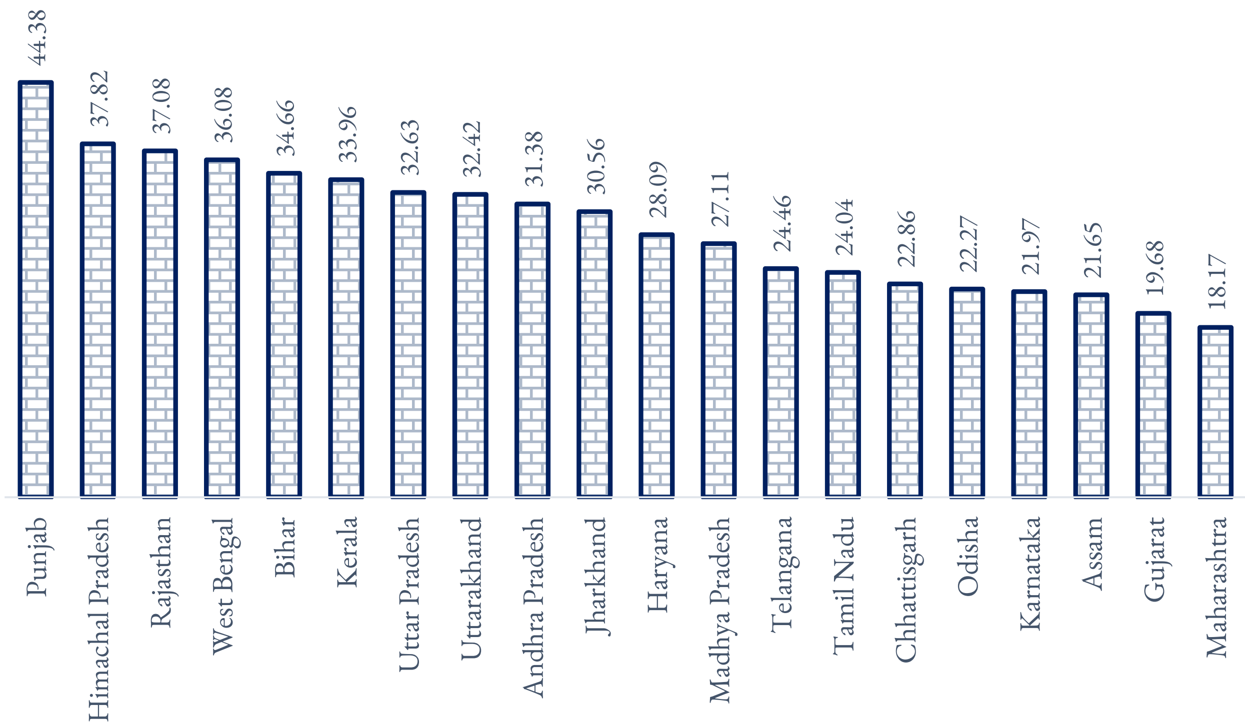



Figure 2: States' Debt-GSDP ratio (Annual Average: 2017-18 to 2021-22)




# 4. Empirical results

***Estimation Results (aggregate):*** Columns 2 of Table 4 present the estimation results of equation 7. In the initial analysis the study found that the Hausman and Breusch Pagan test support the random effects model. Therefore, the RE model results are projected, even though FEs model results are more or less similar to REs.

- The business cycle variable $yvar$ is positive and statistically significant at the 10% level.
- As expected, the primary expenditure gap variable $gvar$ has a negative coefficient and is statistically significant at 1 per cent level, implying that the primary spending above its normal value has reduced the primary surplus ratio.

The variable of interest is the debt-GSDP ratio, $d_{it-1}$. As predicted, its coefficient is positive, but statistically significant only at the 5% level, indicating a debt sustainability in Indian states as a whole. It is noticed that when, on average, the debt-GSDP ratio increases by 1 unit, the primary balance-GDP ratio increases by 0.0391 units.

Column 3 of Table 4 shows the estimation results of GST compensation adjusted primary balance model ($S1_{it}$). However, the coefficient of the lagged debt-to-GS1DP is negative and statistically significant, implying any increase in previous debt worsens adjusted primary balance, indicating unsound fiscal position, which is not surprising. The estimated coefficients of yvar and gvar variables in Model 2 are as expected but larger than the baseline model (Model 1).

**Table 4: Panel model estimation results**

| (1) | Primary Balance (RE) (2) | GST Compensation Adjusted Primary Balance (RE) (3) |
|---|---|---|
| | **Model 1 Coefficient (t-value)** | **Model 2 Coefficient (t-value)** |
| $d_{it-1}$ | 0.0391 (1.98) | -0.1903 (-3.29) |
| $yvar_{it}$ | 0.00001 (2.92) | 0.00002 (3.55) |
| $gvar_{it}$ | -0.0001 (-2.81) | -0.00001(-0.66) |
| *Constant* | -2.0786 (-2.71) | 2.3926 (1.48) |
| *f-stat/ wald chi2* | 22.64 [0.00] | 8.28 [0.01] |
| *R-squared* | | 0.3781 |
| *Hausman* | 0.09 [0.75] | 6.29 [0.04] |
| *Sample(N)* | 100 (20×5) | 100 (20×5) |

Source: Author's estimation; t statistics in parentheses (); p value in parentheses []

***Estimation Results (disaggregate)***: In order to check whether or not the fiscal policy is sustainable during GST regime in each of the states, Equation (9) is estimated by allowing $d_{it-1}$ variable to interact with the state-specific dummies. The estimated results of the baseline model (primary balance without any adjustment) are shown in Model 1 (Column 2 of Table 5).

Among the control variables, *yvar* is not statistically significant, and *gvar* has a negative coefficient that is statistically significant at the 1% level. The debt interaction term is positive and statistically significant in the cases of Andhra Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Odisha, Uttar Pradesh, and West Bengal. For these six states, debt policy is sustainable. In the other states (Assam, Bihar, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana and Uttarakhand), the debt interaction coefficient is not statistically significant even at the 10% level.

When the GST compensation-adjusted primary balance is replaced with the primary balance, the results significantly varied in Model 2 (column 3 of Table 5). Notably, the response parameters of all states turn insignificant or significantly negative, implying that they failed to meet the sustainability condition. The results of the control variables are as expected in both models.

**Table 5: Panel model estimation results for Indian states**

| **Variables** | **Primary Balance** | **GST Compensation Adjusted Primary Balance (RE)** |
|---|---|---|
| **(1)** | **(2)** Coefficient (t-value) | **(3)** Coefficient (t-value) |
| $d_{it-1}$ × *Andhra Pradesh* ($K_1$) | 0.1691 (9.48) | -0.1535 (-2.49) |
| $d_{it-1}$ × *Assam* ($K_2$) | -0.5643 (-4.00) | -0.2671 (-2.87) |
| $d_{it-1}$ × *Bihar* ($K_3$) | -1.3663 (-5.32) | -0.1867 (-3.28) |
| $d_{it-1}$ × *Chhattisgarh* ($K_4$) | 0.0645 (11.32) | -0.2890 (-3.24) |
| $d_{it-1}$ × *Gujarat* ($K_6$) | 0.1226 (1.92) | -0.1734 (-1.82) |
| $d_{it-1}$ × *Haryana* ($K_6$) | 0.1772 (10.12) | -0.1652 (-2.37) |
| $d_{it-1}$ × *Himachal Pradesh* $K_7$) | 0.0204 (2.22) | -0.1028 (-2.01) |
| $d_{it-1}$ × *Jharkhand* ($K_9$) | 0.1839 (10.51) | -0.1621 (-2.53) |
| $d_{it-1}$ × *Karnataka* ($K_{10}$) | 0.1896 (4.65) | -0.2566 (-2.77) |
| $d_{it-1}$ × *Kerala* ($K_{11}$) | 0.0543 (3.99) | -0.1484 (-2.56) |
| $d_{it-1}$ × *Madhya Pradesh* ($K_{12}$) | -0.0052 (-0.09) | -0.2020 (-2.74) |
| $d_{it-1}$ × *Maharashtra* ($K_{13}$) | -0.0492 (-0.98) | -0.1939 (-1.85) |
| $d_{it-1}$ × *Odisha* ($K_{14}$) | 0.3442 (5.04) | -0.1978 (-2.24) |
| $d_{it-1}$ × *Punjab* ($K_{15}$) | -0.0616 (-8.55) | -0.1371 (-3.10) |
| $d_{it-1}$ × *Rajasthan* ($K_{16}$) | -0.0779 (-3.28) | -0.1341 (-2.54) |
| $d_{it-1}$ × *Tamil Nadu* ($K_{17}$) | -0.0118 (-1.98) | -0.1924 (-2.37) |
| $d_{it-1}$ × *Telangana* ($K_{16}$) | -0.0505 (-0.54) | -0.1936 (-2.41) |
| $d_{it-1}$ × *Uttar Pradesh* ($K_{18}$) | 0.4209 (2.43) | -0.0881 (-1.49) |
| $d_{it-1}$ × *Uttarakhand* ($K_{19}$) | 0.3622 (0.65) | -0.1928 (-2.66) |
| $d_{it-1}$ × *West Bengal* ($K_{20}$) | 0.0067 (1.70) | -0.0877 (-1.70) |
| $yvar_{it}$ | -0.00001 (1.64) | -0.00002 (3.09) |
| $gvar_{it}$ | -0.00002 (-8.30) | -0.00001 (-0.74) |

| | | |
|---|---|---|
| $(intercept)$ | -0.5480 (-2.34) | 1.7225 (0.97) |
| f-stat/wald Chi2 | 3.73 [0.00] | 50.32 [0.00] |
| Adj R-squared | 0.5308 | |
| *Sample(N)* | 100 (20×5) | 100 (20×5) |

Source: Author's estimation; t statistics in parentheses (); p-value in parentheses []

**Has GST increased the debt burden of Indian states?**

The fiscal responses of the states alone do not provide a conclusive picture of the debt sustainability condition of a state. Therefore, an indicator approach is used as a supplementary tool. Here, one should keep in mind that if a given state's GST revenue is sufficient to service the state's liabilities, other receipts could be utilized for primary spending. Also, in case the GST revenue (particularly the SGST revenue) is adequate, there is no need to borrow again to service its existing debt. This will ensure a smooth functioning of the fiscal chain and suggest a successful GST model.

In addition to the fiscal response, sustainable debt position requires another condition to be satisfied i.e., the rate of growth of debt ($\boldsymbol{d}$ ) should be lower than the rate of growth of SGST ($\boldsymbol{\tau}$). In other words, a higher growth in SGST collection and lower debt growth are sufficient conditions for sustainable debt position.

If a state meets the condition, along with positive responses in the FPRF, its debt is considered strongly sustainable. On the other hand, if it satisfies at least one condition, its debt is considered weakly sustainable.

***Strongly sustainable***: Both FPRFs are positive & significant; $\boldsymbol{\Delta\tau - \Delta d > 0}$

**Weakly Sustainable:**

i. Only baseline FPRF is positive & significant; $\boldsymbol{\Delta\tau - \Delta d > 0}$

ii. Baseline FPRF is positive & significant; $\boldsymbol{\Delta\tau - \Delta d < 0}$

iii. Baseline FPRF is positive but not significant; $\boldsymbol{\Delta\tau - \Delta d > 0}$

**Unsustainable:** All other conditions.

Table 6 concludes the level of debt sustainability for each state using the above conditions. It is observed that none of the states are fully solvent to avoid the Ponzi scheme as all three sustainability conditions are not satisfied.

In the case of Gujarat, Haryana, Himachal Pradesh, Jharkhand, Kerala, Maharashtra, Odisha, Uttarakhand and West Bengal at least one condition is met. In all these states the growth rate of debt is higher than the growth rate of SGST.

States like Andhra Pradesh, Assam, Bihar, Chhattisgarh, Karnataka, Madhya Pradesh, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh do not meet any sustainability conditions. Overall, the debt policy is not sustainable in 11 states, and they deserve policy attention.

Table 6: Sustainable debt position of Indian states

| States | Fiscal Response | GST Compensation Adjusted Fiscal Response | $\Delta r - \Delta d > 0$ | Sustainability? |
|---|---|---|---|---|
| Andhra Pradesh | +* | -** | -0.97 | Not sustainable |
| Assam | -*** | -** | -7.78 | Not sustainable |
| Bihar | -*** | -*** | 0.24 | Not sustainable |
| Chhattisgarh | +** | -*** | -4.67 | Not sustainable |
| Gujarat | +* | - | 4.35 | Weakly Sustainable |
| Haryana | +** | -* | 0.81 | Weakly Sustainable |
| Himachal Pradesh | +* | -** | 5.91 | Weakly Sustainable |
| Jharkhand | +** | -** | 2.31 | Weakly Sustainable |
| Karnataka | +** | -*** | -2.88 | Not sustainable |
| Kerala | +* | -** | 2.29 | Weakly Sustainable |
| Madhya Pradesh | - | -** | -3.25 | Not sustainable |
| Maharashtra | - | - | 6.63 | Weakly Sustainable |
| Odisha | +*** | -* | 3.88 | Weakly Sustainable |
| Punjab | -*** | -*** | 4.17 | Not sustainable |
| Rajasthan | -*** | -** | 0.10 | Not sustainable |
| Tamil Nadu | -* | -** | -0.80 | Not sustainable |
| Telangana | - | -** | -0.59 | Not sustainable |
| Uttar Pradesh | +** | - | 6.95 | Not sustainable |
| Uttarakhand | + | -** | 2.94 | Weakly Sustainable |
| West Bengal | +* | - | 3.98 | Weakly Sustainable |

Source: Author's estimation

## 5. Concluding remarks

This study attempted to estimate the fiscal policy responses (with two adjustments in the model), both at the aggregate and the disaggregate level during the GST Period. The estimated responses are then supplemented with a sustainability indicator. The results indicate that the primary balance of the state governments in India reacts positively to high public debt, which implies that fiscal policies are successful in sustaining the debt path of states as a whole.

However, at the state level, debt is sustainable only in 11 out of the 20 states. The test results do not indicate that Indian state governments pursued sustainable debt policies when the GST compensation is not included in the model, which implies that the observed sustainable path in the baseline model is not because of the sound fiscal policies of most states. In other words, GST compensation grants implicitly subsidized the state governments' debt.

At the disaggregated level, no other states meet the sustainability condition with GST compensation adjusted primary balance., which suggests that the debt position of many Indian states got aggravated during the GST period. When the study supplements the results with the indicator approach, it is concluded that 11 Indian states face long-run sustainability issues and deserve urgent policy attention.

This finding can be contextualized in the broad argument of poor GST revenue performance of the states, wherein very few states are in a position to register the protected growth rate. Given that the GST compensation period will end in June 2022, the realized poor GST revenue growth in many states is likely to pose severe challenges to their debt sustainability.

This study suggests three plausible ways of addressing this issue. First, realizing the severity of the problem in major states, the 48$^{th}$ GST council meeting can revisit the possibility of extending GST compensation period with a new formula, Second, the Centre should consider the extension of GST compensation, with a revised formula for GST rates that takes into account greater expenditure commitment of states. Third, some relaxations in FRBM targets may be given to states deviating from potential GST revenue growth, provided that debt servicing should be strictly based on own revenues and not using borrowed money.

# Appendix – I

## Appendix Table 1: Actual GST Revenue (Rs. Crore)

| States | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
|---|---|---|---|---|---|
| Andhra Pradesh | 21,257 | 18,559 | 19,780 | 17,847 | 23,234 |
| Assam | 8,890 | 7,428 | 8,521 | 8,038 | 10,152 |
| Bihar | 16,738 | 13,240 | 15,301 | 14,970 | 18,389 |
| Chhattisgarh | 8,665 | 7,023 | 7,625 | 7,362 | 8,931 |
| Gujarat | 35,351 | 32,030 | 34,721 | 30,664 | 45,769 |
| Haryana | 18,775 | 16,567 | 18,855 | 18,069 | 23,812 |
| Jharkhand | 8,201 | 7,159 | 8,153 | 7,383 | 9,146 |
| Karnataka | 42,663 | 37,017 | 42,175 | 38,205 | 51,094 |
| Kerala | 21,390 | 18,385 | 19,390 | 17,669 | 22,578 |
| Madhya Pradesh | 19,751 | 16,965 | 18,768 | 17,301 | 21,516 |
| Maharashtra | 83,181 | 76,004 | 82,966 | 70,870 | 1,00,475 |
| Odisha | 12,639 | 10,588 | 13,008 | 12,768 | 16,291 |
| Punjab | 13,510 | 11,218 | 12,699 | 11,241 | 15,542 |
| Rajasthan | 23,763 | 20,552 | 21,619 | 20,010 | 27,117 |
| Tamil Nadu | 24,206 | 21,412 | 23,411 | 22,300 | 29,230 |
| Telangana | 39,137 | 36,925 | 40,142 | 35,032 | 46,329 |
| Uttar Pradesh | 48,801 | 41,183 | 46,407 | 41,291 | 53,642 |
| West Bengal | 28,166 | 24,104 | 26,884 | 24,258 | 30,487 |

## Appendix Table 2: Protected Revenue (Rs. Crore)

| States | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 |
|---|---|---|---|---|---|
| Andhra Pradesh | 18030 | 20554 | 23431 | 26712 | 30452 |
| Assam | 7779 | 8868 | 10109 | 11525 | 13138 |
| Bihar | 16402 | 18698 | 21316 | 24300 | 27702 |
| Chhattisgarh | 9561 | 10900 | 12426 | 14165 | 16148 |
| Gujarat | 37502 | 42752 | 48737 | 55561 | 63339 |
| Haryana | 19794 | 22565 | 25724 | 29325 | 33431 |
| Jharkhand | 8331 | 9497 | 10827 | 12343 | 14071 |
| Karnataka | 46973 | 53549 | 61046 | 69592 | 79335 |
| Kerala | 21861 | 24922 | 28411 | 32388 | 36922 |
| Madhya Pradesh | 19922 | 22711 | 25890 | 29515 | 33647 |
| Maharashtra | 78632 | 89640 | 102190 | 116496 | 132806 |
| Odisha | 14360 | 16370 | 18662 | 21275 | 24253 |
| Punjab | 18808 | 21441 | 24442 | 27864 | 31765 |
| Rajasthan | 22299 | 25421 | 28980 | 33037 | 37663 |
| Tamil Nadu | 20935 | 23866 | 27207 | 31016 | 35358 |
| Telangana | 38710 | 44130 | 50308 | 57351 | 65380 |
| Uttar Pradesh | 43391 | 49466 | 56391 | 64285 | 73285 |
| West Bengal | 26119 | 29776 | 33944 | 38696 | 44114 |

Source: Calculated based on data collected from GST Portal

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## Notes

1. See Rao (2019) for structure, progress, performance, and prospects of GST.
2. The rationale behind this is, when the income of an individual increase, his borrowing is set to reduce until and unless he revises his expenditure to increase further. If so, it guarantees your financial sustainability.
3. The states have been enticed to compromise with a constitutional guarantee of 14% growth in their tax revenue under GST. Hence, had there been no GST Compensation through the GST compensation cess levied by the Centre, GST would not have been adopted (Joseph and Ramalingam, 2020)
4. Hereafter SGST means state GST plus IGST settlement.
5. Since this test maps the response of the primary balance to change in public debt, conditional on the control variables, this is often referred as the fiscal reaction function or the fiscal policy response function in most of the literature (D'Erasmo et al. (2016).
6. See Renjith & Shanmugam (2018) and Afonso (2005) for a brief survey of traditional empirical approaches and its criticisms.
7. Bohn model is often referred as Fiscal Reaction Function or fiscal policy response function or feedback rule, as it captures the reaction coefficient of the policy (fiscal) variable with respect to the variations in public debt.
8. Because higher debt ratios lead to an increase in the primary surplus relative to GDP, making the debt ratio decline and return to its mean.
9. Primary Expenditure = Revenue expenditure - interest payment + capital expenditure + disbursement of loans and advances

10. The incorporation of lagged debt variable is to address the endogeneity issue arising out of the correlation between adjusted primary balances and debt ratio, taken from the conventional approaches (Greiner and Fincke, 2015; Potrafke and Reischmann, 2015)
11. Spatial (state) dummies are in general useful to get state specific coefficients. This procedure is widely accepted in the econometric literature to achieve state specific coefficients.
12. The total outstanding liabilities of the undivided state at time of bifurcation stood at ₹1796.37 billion; which was to be distributed among the two new States (i.e., Andhra Pradesh and Telangana) in the proportion of population (being 58:42). As result, the new State of Andhra Pradesh had inherited an amount of ₹1041.89 billion, with the remaining allocated to Telangana. A similar approach is adopted for calculating the bifurcated data for 2012-13 and 2013-14.
13. Available at https://www.gst.gov.in/downloads/gststatistics. The methodology used by Mukharjee (2020) is adopted to fill the gaps in the GST data.
14. The real values of the fiscal variables are computed using the GSDP deflator of the respective states.

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IPPR

# Compensatory Discrimination: Is a Theory of Social Construction of Target Population in Public Policy Possible in India?

**Anubhav Bishen***

## Abstract

Schneider and Ingram (1997) have theorised that policy design in U.S. democracy is dependent on the social construction of the target population. The paper tries to analyse how the social construction of the target population happens in India, and how it is different from the Western context. The case study of compensatory discrimination policy in India has been used to demonstrate the factors affecting policy design in India. It demonstrates that as we go into the narrow details of any policy, in a democracy, the space for political entrepreneurship increases, despite all institutional constraints. One of the important factors highlighted is the politics of social construction of knowledge in India. A theorisation of the social construction of the target population might be helpful as an analytical concept in public policy, but it is incomplete without an understanding of the political economy of any given policy in India.

**Keywords**: Social Construction; Target Population; Knowledge, Compensatory Discrimination; Policy Design; Caste; Scheduled Castes; Other Backward Classes; Democracy

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# 1. Introduction

Some theories that have been prominent in the public policy area are pluralist democracy, policy sciences, public choice, and critical theories. In the'90s, Schneider and Ingram (1997: 10-11) were dissatisfied with the failure of these theories to establish a conceptual and causal link of where public policies go wrong in the United States (U.S.). Schneider and Ingram attributed this to treating all contexts alike, giving too much importance to one single value or single role of policy, and lack of focus on the substance of the design of the public policy.

In order to fill this conceptual gap in public policy design and provide a conceptual-analytical framework to study public policy, Schneider and Ingram (1997: 10) emphasised the importance of policy design. In particular, they identified the social construction of the target population as the guiding factor in understanding the flaws in policy design, and the relation between policy design and democracy.

It is the social construction of the target population that decides how benefits and burdens would be distributed in society. Schneider and Ingram divide the target population into 'advantaged', 'contenders', 'dependents', and 'deviants' depending on their political power and social construction. The theorisation is based on the context of U.S. democracy, and is largely able to answer how policies are designed in the U.S.

There have been questions raised on the theory, with Lieberman (1995) emphasising the need to take a historical-institutional view to understand policy design for a target group. There have also been studies conducted on the application of the theory of social construction and policy design (Pierce et al., 2014), and the theory is still being developed.

The purpose of the paper is to discuss whether the theory of social construction of the target population can be applied to the context of India. The entire purpose of Schneider and Ingram's work was to come up with a theory of policy design in a democracy; however, the theory still has to be tested in non-U.S. contexts, such as the Indian democratic process. Schneider and Ingram themselves emphasised that their theorisation is for a conceptual understanding of U.S. democracy. Hence, social construction and policy design work in Indian democracy cannot be assumed to be the same as in the U.S.

There are reasons to doubt how a conceptualisation for the U.S. would fit in the Indian setup. The Indian democratic setup is part of a wave of new constitutions in the Global South, that are transformative in character. They provide more space for policy-specific actions, compared to more liberal-based constitutions[1] of the global north (Mathew et al., 2019). But there are plenty of examples in the Global South, where democracy has not worked to the desired ends of socio-economic transformation as envisioned in their constitutions. The Indian constitution, despite its transformative character, has failed to deliver on many accounts.

**First**, the institutions have not worked the same way they work in the U.S. and other Western countries. These are imperfect institutions still looking to find their autonomy. Internally also, they have not been able to leave the colonial legacy that they have borrowed and continue despite all attempts (Gooptu, 2012). For example, the institution of the Governor in the Indian democracy is much more political than it was originally conceived. This inability of institutions to perform at par with their Western counterpart despite of same procedures and constraints demonstrates that their role in social construction cannot be taken the same as the U.S.

Second, the social cleavages in Indian society have both similarities and dissimilarities with the Global North. The politics of class, caste, regionalism, nationalism, and majority-minority conflict in India is different – and arguably more significant –than in the West. Especially, since we are going to talk about the process of social construction in this discussion, understanding these cleavages, and how they intersect on various levels, becomes important to make sense of the policy design process in India.

Thirdly, the political process in India also works differently from how it does in the West. The political culture, the relation between the executive and the citizens, and the means of political mobilisation and leadership, all work differently in India. Often, the political process produces results that are highly unequal and tilted towards the powerful, but at the same time product of a robust democratic process (Mehta, 2001). At all critical moments in the Indian democracy, the strengths and the weaknesses of democracy both come up, making it difficult for an analyst to make sense of whether a given policy is reformatory or regressive.

Fourth, the ideological contestations that take place in Indian politics do not have a parallel in the West. Normative ideas shape social construction. It is thus the ideologies that decide the main framework of the policy action, with the evidence for policy action coming later in the debate. India has its own take on nationalism, representation, secularism, and social justice. These ideas have been contested, transformed, and evolved over the years (Chibber and Verma, 2008). It is these ideas that have shaped the core of social construction, that eventually leads to policy action.

Fifth, policy design and social construction are not always the product of a top-down process, they can also be a product of bottom-up mobilisation. Social movements and civil society play an important role in shaping policy architecture. It depends on the ability of the groups to mobilise, lobby, put pressure, and gain support from political quarters, which allow for a change of policy in their favour. It is very different from how lobbying takes place in the West; both, the groups agitating and their demands, are different. The way mobilisation and lobbying are done are also different, making policy designers act innovatively to assuage the demands of the mobilised group.

In order to study such a diversity of features of Indian politics and democracy, and fit it into the framework of social construction and policy design, we have to study a policy that is at the heart of many of these features. Obviously, not every aspect of Indian democracy can be analysed by selecting a single policy; a policy that can analyse the theory of social construction should be selected carefully, in order to go through all the features of this theory, and critically analyse it for the context of Indian democracy.

This article attempts to do so by looking at the policy for compensatory discrimination in India. The compensatory discrimination policy, also known as the reservation policy, is a strong form of affirmative action. It. It provides reservation in government services, educational institutes, and legislatures to groups that are socially and economically backward. There are multiple reasons for choosing the policy as a case study.

First, keeping in mind the transformative character of compensatory discrimination policy in India, which has found a place in the Fundamental Rights of the Constitution. While for Scheduled Castes (SCs) and Scheduled Tribes (STs), clear instructions were provided in the Constitution, the same was left to interpretation in when it came to any other 'backward classes'. Who were the backward classes? The answer was left open the interpretation (Kannabiran, 2012). The politics of social construction has been allowed immense opportunity to interpret who deserves the benefits of compensatory discrimination, and policy designs have been undertaken to fulfil these interpretations.

Second, caste is in itself of a unique character to India. In other countries, social cleavages are typically on the basis of class, ethnicity, or other easily distinguishable criteria. Caste in India, on the other hand, has both a secular and a religious character. The problem with caste is that its terminology (Beteille, 1996), its basic character (Berreman, 1971), its colonial legacy (Dirks, 2002), all are debated, and still there is no consensus in the disciplines of sociology and social anthropology over the exact character of caste. The lack of consensus provides ample space for the social construction in policy design to take place, with each designer choosing their own idea of caste.

Third, there is no doubt that caste despite, being an age-old custom, has adapted to the new-age custom of democratic politics. Rajni Kothari (1970) has emphasised the integrational, secular, and consciousness-generating aspects of caste. It is contested within the realm of political science whether the importance of caste in politics, and the politicisation of caste, is good or bad for Indian democracy. The state policy of compensatory discrimination, in the form of quotas, has led to further politicisation of caste (Sheth 2014). Caste-based reservation has become such an integral aspect of Indian politics, whose importance in social construction and policy design cannot be ignored.

Fourth, it is the Indian idea of social justice, that aims to tackle discrimination and historical injustice instead of deprivation- as in other affirmative action policies- is at the heart of the compensatory discrimination policy. The normative idea of social justice has dominated the policy of compensatory discrimination, which is eventually accompanied by ideas of merit and efficiency. Indian legislatures, judiciary, and commissions have debated these ideas at length (Bajpai, 2009), but to no definite conclusion. Since caste is more foundational in Indian society and is accepted as a socio-religious norm by even those it discriminates against, it makes conventional ideas of justice, equality of opportunity, and egalitarianism redundant. It allows new ideas of social construction and policy design to be demonstrated.

Fifth, India has witnessed mobilisations and counter-mobilisations with respect to the compensatory discrimination policy, at both the State and the Central level. The effect of these mobilisations on the working of the compensatory discrimination policy is often disputed. The ability of these mobilisation to affect policy designs, change the perception about target populations, or start a counter-movement, all put the theory to test.

Sixth, no Indian citizen is untouched by the policy of compensatory discrimination. The basis of the policy is identifying those who are backward in India. There is no single criterion for identifying backwardness in India. With a plethora of criteria available, namely, educational, social, cumulative, under-representation, economic, geographical, etc. (Galanter, 1984: 222-279), there is a high chance that any Indian citizen can fall (or claim to fall) within these criteria. The anti-reservation protests and case laws at different points in Indian history demonstrate that those not included in the benefits of reservation have a problem with the policy itself (Balagopal, 1990).

As the paper goes through the important details of the theory in question, it would come out that most of the important propositions made by the theory can be examined through the compensatory discrimination policy in India. The purpose is not to neatly fit the case study in the theory; rather, this paper aims to raise critical points in the theory, thereby enabling further discussions on the theory.

## 2. Testing Theory Through the Case of Compensatory Discrimination Policy

The central proposition of the theory given by Schneider and Ingram (1993: 102) is that political power and social constructions combine to fit groups into 'deserving' and 'undeserving' target populations. The theory describes the process of policymaking as degenerative in character. A degenerative policy process increases inequalities, disregards democratic values, leads to citizenship getting distorted, and places little constraint on ethical, factual, empirical, or scientific evidence (Schneider and Ingram, 1997: 104-105).

The theory proposes that, rather than focusing on the issues that conventional policy theories emphasise, we as policy analysts should concentrate our attention on understanding the political opportunities and risks that a political leader faces while designing the policies. The underlying assumptions and social constructions in studying policy designs would be the best guide to understanding policies in a democracy (Schneider and Ingram, 1997: 104).

Many political scientists have already alluded to the political power of the target group (Stone, 1988). It is the focus on the social construction of such target groups that is the unique aspect of Schneider and Ingram's theory. When it comes to the policy of compensatory discrimination, the question to be asked is: does the policy design divides the population into deserving and undeserving of such discrimination?

### Key Questions Raised by the Compensatory Discrimination Policy

The compensatory discrimination policy presents multiple contradictions, the first of which shows up in the division of the target population into deserving and undeserving. On one level, it can be argued that all policies that are not universal in conceptualisation divide the target population into deserving and undeserving groups. There is nothing inherently wrong with the conception, particularly when we are talking about a policy that is based on correcting historical injustices or bridging the gap between the privileged and the marginalised. It is inevitable that the policy would divide the target population in order to provide redistributive justice to those who have been deprived of equitable distribution of opportunities right from the beginning of their lives (Chandhoke, 2009).

The question that follows in such circumstances (and which supposedly Schneider and Ingram are also asking) is whether there has been manipulation in the social construction of who is deserving and who is undeserving. The deserving and underserving, for India's compensatory discrimination policy, have been divided on the basis of caste. Caste was considered the basic criterion on which backwardness had to be determined. Though this assumption can and has been questioned on multiple counts, it cannot be questioned that caste can be set up as at least the initial basis of finding who is deserving. Within the backward castes, who should be left out based on other kinds of non-inclusion criteria can be left for later questioning.

The debate in India has rarely revolved around the lines that caste is not an essential feature on which backwardness can be determined. The dissenting introduction by Kaka Kalekar in the First Backward Commission report in 1955 illustrates the point well. Kalekar was opposed to the idea of caste-based reservation because he was worried about the perpetuation of caste-based differences in India (First Backward Commission, 1955), which would keep India divided.

The basis for the rejection to the recognition of caste-based backwardness by the Central Government at that time was due to a lack of objective criteria adopted by the First Backward Commission, and the extension of benefits to too large a population (Yadav, 2002). While rejection of the very idea that backwardness should be determined with caste as its basic unit was put up by the judiciary in the 1960s, it soon came to be accepted as a determining criterion for backwardness in the 1970s (Jaffrelot, 2003:246).

There were reasons for not being able to deny the policy step of caste-based reservation. Caste is a social reality in India. It was so deeply seated, that there is hardly any way to deny it. Even common-sense understanding accepts the deprivations that accrue from the disability of the caste system. It does not require thorough research by experts to establish the point.

The transformative constitution recognised this social reality. Transformative judgments made use of the transformative features of the Constitution. State Of Kerala vs N. M. Thomas (1975) played an essential role in changing the idea of 'equality of opportunity' from a procedural notion to a substantive one (Bhatia, 2019). The social reality of caste had to have effects on the political reality of democracy as well (Kothari, 1970).

It is at this moment, that we need to go back to theory to re-engage with it. The theory of social construction of the target population through policy design will find it harder to explain the epochal changes in social construction of target population. Especially, in the case of the Global South, where historical injustices have a long history, it was the democratic change that brought about a reversal in ages-old historic injustice. It was not limited to individual rights as was the case in liberal constitutions, but transformative constitutions recognised group inequality and strived for its remedy. It also needs to be taken into account that there are some social realities that cannot be manipulated. The theory would need to have space for positive changes in society, against the backdrop of undoubtable social realities.

## The Space for Political Manipulation in Social Construction

The theory also needs to recognise that those constructed as deserving are actually deserving of the basic policy conception, and there is no way that the advantaged are benefiting from it. There are a few reasons for this claim.

1. The highest form of affirmative action was imagined for the SCs and STs. A weaker form of affirmative action could have also been provided, but the adoption of the radical quota system points to the willingness to take a step towards substantive equality and not dilute it by just procedural methods, which could eventually benefit the advantaged or contenders.
2. It is important to note that caste is considered an essential part of the Hindu social system. In Hindu society, the SCs and STs are not considered blameless for their plight. On the contrary, they are considered to be born in their caste because of their karma (Shah, 1991). There is a religious belief also in the mix, where a democratic republic is being imposed on a divided society with its own set of beliefs. Third, the power of the dependent advocacy group can be debated. Schneider and Ingram (1997: 109) have stated that the advocacy groups of dependent groups are not as strong, as compared to those constructed as advantaged or contenders. But Ambedkar won concessions for SCs through the Poona pact, was the main architect of the Constitution that had a transformative character, and that too without strong consistent pressure group tactics. Here we had the strong leader of a group that was neither politically empowered, considered politically deserving but religiously undeserving, who did not have many frontbenchers in Parliament, yet were able to gain strong policy concessions –more than what would be provided by a liberal constitutional order.

The discussion points out that the role of politicians to manipulate the policy design to suit political gains is also limited; they cannot discard social reality, and have to work within its constraints. How binding are these constraints for politicians? While some features of policy design can have large restrictions, in others there can be relatively a free hand to mould the policy according to political convenience.

This paper proposes that the space for political manipulation is not as simple a concept as theorised by Schneider and Ingram. In making these moves, the politicians have to work within the constraints discussed above, but also manoeuvre as much as possible in order to accrue political benefits out of the situation. Hence, this space left for political manipulation can help us understand how a policy devised for social justice can succumb to the charges of being a degenerative public policy.

## Social Construction in the Case of OBCs

How might the original idea of the policy design be stretched to suit political comfort? The best way to understand would be to move beyond compensatory discrimination policies for SCs and STs and look toward the Other Backward Classes (OBCs).

Before focusing entirely on OBCs, the argument for the same kind of strong affirmative action policy for the OBCs as the SCs and STs is much more disputed, making the role of social construction in such cases subject to a higher degree of manipulation. The fact that in the present date, reservation is the only policy argued for any group that is marginalised, points to the larger political process where reservation has come to be seen as the panacea for the group that is categorised as marginalised. It is a depiction of how the process of reservation has been politicised, as anything below reservation is hardly part of the policy debate.

To start with, reservation for the OBCs was not as guaranteed as it was for the SCs and STs. One of the reasons for such an understanding was that OBCs as a section were not at the bottom of the Hindu social hierarchy. The SCs suffered from the social disability of untouchability, making the need for reservation for them undisputable. The case was not similar for OBCs, who suffered from slightly less-crippling social restrictions. The group fell above the SCs in the social hierarchy, and was more advantaged than them. It made their categorisation as dependents not as easy as it was for SC (Galanter, 1984: 154-158). The Constitutional moment also left the debate on OBCs open-ended and ambiguous, thus not granting them as much protection as the SCs.

At the national level, the consensus on OBC reservation did not come to fruition because of the fear of exacerbating caste base differences in a democratic country (First Backward Commission Report, 1955). Austin (cited in Jaffrelot, 2003) claimed that it was due to the absence of a political leader like Ambedkar that OBCs' demand for concessions was not able to be mobilised.

It was left up to the state governments to decide their criteria of backwardness, but with a guideline that they should not take caste as the basis for reservation (Yadav, 2002). While pragmatic, this judgment of the central government runs into difficulty with the Constitutional mandate that provisions can be made for socially and educationally backward sections of the society, per Articles 15(4) and 16(4) (Sitapati, 2016). It is this ambiguous constitutional mandate that came to the aid of state governments when they decided to provide reservations for OBCs in their respective states, in the period before the Mandal Commission report was submitted and then implemented.

In the period 1960-1980, the state governments and the courts played a determining role in guiding the social construction of the target population with regard to the compensatory discrimination policy. It was this exchange between state governments and the courts that would determine how the social construction would actually take shape. Going through this phase would help us understand how social construction comes about.

The phase can be called the battle of normative ideas over how backwardness should be conceptualised. The backward commissions appointed by the states stuck to the principle of caste in deciding backwardness. While the Supreme Court in 1963, in M R Balaji vs State of Mysore, refused to recognise caste as the only criteria for reservation, it did state that caste was one of the relevant factors for determining the class of backward citizens.

This debate also put to rest the idea that special provisions were devised for a class of citizens rather than individuals. Since it was a provision that was also found in the Constitution, the levers to manipulate the interpretation were minimal. This shows how policy steps taken by politicians are somewhat restricted by the Constitutional provisions.

It is only the narrower question of how this backwardness of classes should be determined that had any scope left for interpretation. It is in this place that the scope of political entrepreneurs to make their moves for political gain increased. Would the politicians get a free hand in deciding what criteria to put in place to decide which communities are constructed as backward in the State? The politicians, despite knowing the electoral advantages that can accrue to them if they are seen as providing benefits to a section of marginalised who form a relatively large share or majority of the population, cannot arbitrarily select the communities to which preferences need to be given. This points to the need to turn the question of "how should backwardness be determined" and "who should be classified as backward" into a knowledge question.

## 'Scientific Evidence': The Social Construction of Knowledge in Determining Target Groups

Even in post-independence India, politicians needed to show themselves as neutral when trying to implement a social justice policy of reservation (Smith and Larimer, 2009). The Central government, and then a slew of state governments, appointed backward commissions with the mandate to come up with an objective, neutral, and scientific framework for determining backwardness, the backward communities, and the quantum of reservation for them. The use of such criteria would make it harder for questions to be raised on the decision of granting reservations to the communities selected by the backward commissions.

Table 1 (below) shows the chronological order in which the discourse on the need for evidence for bringing about a policy on compensatory discrimination for OBCs has evolved.

**Table 1: Evolution of discourse on evidence requirement for compensatory discrimination**

| Reports | Why focus on objective and scientific criteria? |
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| First Backward Commission Report (Kaka Kalekar) Report 1955 | The central government did not accept the recommendations of the commission on the ground that it had not applied any *objective tests* for identifying backward classes (Yadav 2002).<br><br>"… Kaka Kalekar report suffers from *great flaws of methodology and serious internal contradicti*ons." (Second Backward Commission Report 1980) |
| Kumar Pillai Commission Kerala (Commission for Reservation of Seats in Educational Institutions) 1965 Terms of Reference (ToR) | The ToR clearly states that the Commission was set up in light of the Jacob Matthew vs State of Kerala judgment.<br><br>R. Jacob Mathew vs The State of Kerala 1963: "nevertheless there is an obligation on the part of the State Government, to *make an elaborate investigation, collect the necessary data, and examine the said data in a rational and scientific way, and then make an objective approach*, before taking a final decision." The need for *scientific evidence* to have the policy is repeatedly discussed in the judgment. |
| M R Balaji vs State of Mysore 1964 | "The problem of determining who are socially backward classes is undoubtedly very complex. Sociological, social and economic considerations come into play in solving the problem and evolving proper criteria for determining which classes are socially backward is obviously a very difficult task; it will need an *elaborate investigation and collection of data and examining the said data in a rational and scientific way.*" |
| Lokur Committee (Advisory Committee on the Revision of the Lists of Scheduled Castes and Scheduled Tribe) Report ToR (1965) | "The Resolution observed that the present lists of Scheduled Castes and Scheduled Tribes did not show a uniform pattern and several anomalies had been brought to the notice of Government and that it was therefore very necessary that the lists of Scheduled Castes and Scheduled Tribes should be revised "*in a rational and scientific manner*" (emphasised by the report itself). |
| Nettur P Damodaran (The Backward Classes Reservation) Commission Report 1970 | Set up on the order of judgment in V. Hariharan Pillai vs State Of Kerala, *cited the Balaji judgment on need of scientific evidence and directed the State to conduct a detailed survey.* |

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| State Of Andhra Pradesh vs U.S.V. Balram 1972 | "If the Commission has only to go on doing the work of collecting particulars and materials, it will be a never-ending matter. In spite of best efforts that any commission may make in collecting materials and datas, its *conclusions cannot be always scientifically accurate* in such matters. Therefore, the proper approach, in our opinion, should be to *see whether the relevant data and materials referred to in the report of the Commission justify its conclusions*." |
| Havanur (Karnataka Backward Classes) Commission Karnataka 1972 ToR | "In order to effectively implement the Constitutional intendment and make available the benefits of the special provisions that may be made to the really backward classes of citizens so that their social and economic interests are promoted, it is considered necessary that the determination of the backward classes should be done on a scientific basis, adopting relevant and appropriate criteria. This involves collection of statistical data and a detailed enquiry into the matter." (Government of Mysore Order 1972)<br><br>Somashekhar Veerappa B. Murgod vs The State Of Karnataka 1979: The Court was satisfied that multiple tests had been applied to identify the Backward Classes based on *data obtained on scientific basis by Havanur Commission*. (cited in the next backward commission report of Karnataka) |
| Chhotey Lal Pandey And Ors. vs State Of Uttar Pradesh 1978 | cited the same lines from Balaji in 1978 |
| Akhil Bharatiya Soshit Karamchari Sangh vs Union of India 1980 | "But the judicial process while considering constitutional questions, must keep politics and administrative alternatives as out of bounds *except to the extent economics, sociology and other disciplines bear scientifically* upon the proposition demanding court pronouncement." |
| Mandal (Second Backward Classes) Commission 1980 | Mandal reports cite both the Government and the Supreme Court which have "emphasised *the need for evolving such criteria on the basis of field investigations and other independent evidence*."<br><br>Mandal report specifies that its report was designed with help of top scientists and specialists in their fields. Consulted with Research Planning Team of sociologists and Panel of Experts led by M N Srinivas. |
| K.C. Vasanth Kumar vs State of Karnataka 1985 | "It is of paramount importance to say that this question of determining backwardness of classes requires *scientific investigation*.' "The state of backwardness of any class of citizens", says Sen, J.' in Vasantha Kumar's case, "is a factual situation which needs investigation and determination by |

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| | a *fact-finding body which has the expertise and machinery for collection of relevant data*" (cited from second backward commission report of Karnataka) |
| Karnataka Second Backward Commission 1986 | "The Karnataka Second Backward Classes Commission takes this opportunity to express its grateful thanks to the Government of Karnataka for entrusting this onerous task of reviewing the existing list of Backward Classes in order to identify afresh the Backward Classes on the basis of a scientific survey and to recommend to the Government the list of Backward Classes under Art. 15(4) and 16(4) of the Constitution of India."<br><br>ToR: "The Commission shall make a scientific and factual investigation of the conditions of the Backward Classes in the State and recommend specific measures for their advancement."<br>The Third Karnataka Backward Commission also had the same condition of scientific and factual evidence. |
| J A Ambashankar Commission (Second Backward Commission of Tamil Nadu) 1985 ToR | "The Commission shall make a *scientific and factual investigation* of the conditions of the BCs in the State and recommend specific measures for their advancement." |
| Indira Sawhney judgment 1992 | Contestation whether the Mandal report was scientific or not. Petitioner claimed that it was scientific, while respondents talked about its scientific validity.<br><br>"It is crystal clear that the Commission only on the basis of the *galaxy of facts unearthed and massive statistics* collected [by] it, has made its recommendations on a very scientific basis of course taking 'caste' as the primary criterion in identifying the backward class in Hindu society and the occupation as the basis for identifying all those in whose societies, the caste system is not prevalent." |
| T. Murlidhar Rao v. State of Andhra Pradesh 2004 | "The report, in our considered opinion, is vitiated for the reason of not taking relevant factors into consideration. It is also vitiated for the reason of non-application of mind. We cannot help but observe that the Commissionerate acted in undue haste in submitting the report. The Commissionerate failed to realise the *complex nature of investigation and enquiry that was required to be made. No scientific or reasoned* |

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| | *investigation or enquiry has been made*. In the absence of laying down the criteria for ascertaining the backwardness, the entire report is to be treated as an exercise in futility. The approach adopted by the authority is improper and invalid."<br><br>"The Backward Classes can be identified on the basis of. a caste which is a social class in India provided it is identified to be socially and educationally backward for the purposes of Article 15(4) and backward for the purposes of Article 16(4). There are no legal or constitutional impediments for identification of the Backward Classes with reference to caste. However, the requirement is that a *rational and scientific* criteria must be evolved for determining backwardness and that criteria must be applied to find out whether any caste, occupational groups, classes or sections of people qualify for classifying them as Backward Classes. If the criteria evolved and applied for identification of the Backward Classes is found to be improper and invalid, then the classification of socially Backward Classes based on that criteria will have to be held to be inconsistent with the requirements of Articles 15(4) and 16(4)" |
| Major Sinho Commission (Commission for the Economically Backward Classes) Report 2010 | The government had argued that EWS reservation had been granted on the basis *of scientific criteria* |
| K. Krishna Murthy & Ors vs Union of India 2010 | "We are not in a position to examine the claims about overbreadth in the quantum of reservations provided for OBCs under the impugned State Legislations since there is *no contemporaneous empirical data*. The onus is on the executive to conduct a *rigorous investigation* into the patterns of backwardness that act as barriers to political participation which are indeed quite different from the patterns of disadvantages in the matter of access to education and employment." |
| Jarnail Singh v Lacchmi Narain Gupta 2018 | The Court also reiterated that the states must provide 'quantifiable data' in order to prove inadequate representation of SC/STs. However, the ambiguity in the meaning of *'quantifiable data'* has caused difficulty for states to satisfy the conditions laid down in Jarnail Singh. |

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| Jaishri Laxmanrao Patil v Chief Minister, Maharashtra 2021 | "The interpretive exercise carried out in Indra Sawhney saw this court enjoining the Central and State governments to set up some permanent mechanisms in the form of commissions, to identify SEBCs through a *systematic and scientific manner* and carry on regular periodic reviews."<br><br>"The existence of a permanent body, which would objectively, without being pressurised by the dust and din of electoral politics, consider the claims for inclusion, not based on ad-hoc criteria, but upon uniformly evolved criteria, with the aid of experts, in a scientific manner, be in consonance with the constitutional objectives…" |

This brings us to the discussion of how the social construction of knowledge is done. The social construction of knowledge has also been a point that has been given attention by Schneider and Ingram (1997). According to them, the social construction of knowledge is heavily dependent on the social construction of the target population. If the decision-makers feel that the knowledge would not benefit them politically, they tend to ignore the evidence. But if they feel that the evidence is in favour of the already established social construction, the evidence is readily accepted (Schneider and Ingram, 1997: 12).

The problem with this theory is that it is too simplistic, and does not uncover how evidence is produced, how it turns into policy, and how natural science evidence is starkly different from evidence in social science. The example the paper uses here takes us into the world of social science, where evidence is not that readily accepted and value choices have to be much more than in natural sciences. Scholars, in order to show that natural science evidence can also be manipulated (Douglas, 2009), have often ignored the role of social scientific evidence in policy design.

As caste eventually came to be accepted as the principle on which reservation could be granted, the uncertainty over the tests to be done in order to find the backwardness of the community (in this case, caste) became the next narrower set of policy design principles that came to be debated.

The difficulty of determining backwardness can be ascertained from the fact that no standard tests for determining backward castes have evolved. It is usually up to the backward commissions to decide which parameters they want to consider relevant to decide the social, economic and educational backwardness of a caste, that separates it from the forward castes.

There has been relatively less interference by the Courts in these issues, like selecting the specific criteria for determining backwardness. On one level, it could be perceived as the Courts' reluctance to totally control how the process of determining backwardness would take place, thus intruding into the authority of the executive. On looking deeper, from the social constructivist lens, it must be known that the specific parameters of testing would only be limited to the academic circles, and would not become a point of debate among general public. Hence, the study which has adopted a few tests can be taken as an acceptable study and the challenge to it refuted by the Courts.

A more critical issue for the Courts is the presence (or lack thereof) of reliable data to accept the claim of backwardness as claimed by the backward commissions. Before the L.G. Havanur report of 1975 for the state of Karnataka, there was no socio-economic survey conducted in order to determine the backwardness (Hebsur, 1981). Even before the conduct of the socio-economic survey, the reports continued to be accepted by the State Governments, as they suited their political goals; for their part, the Courts which remained unsure of what 'objective and scientific data' actually meant. Despite the continued use of the term, the lack of data and an inconsistent attitude of the Courts continued.

## Evidence and Interpretation: Backward Commissions and Courts as Sources of Legitimisation

It is important to note that scientific and objective data is subject to interpretation. On one end of the spectrum lies surveying the Government departments and educational institutes and showing that the seats have not been filled in proportion to the population of the community. The population of the community is determined from the 1931 census. In some cases, this much evidence is enough to convince the Courts of backwardness.

On the other end of the spectrum is the conduct of a socio-economic survey with varying sample sizes. The backwardness of the communities is claimed on the social, economic and educational backwardness of the whole population. The difference between the rigour of the two approaches is clear.

The stance adopted by the backward commissions can fall anywhere between the two positions. The Courts have been inconsistent in demanding rigour and that has opened the chances of manipulating the results more and more (Shourie, 2012). Rather than an effort to become an objective and scientific report on the backward classes in the State, the setting of backward commissions has become a means to legitimise the extension of reservation to a particular section, to which the political class wants to distribute the benefits. Disagreeing with Sunstein (1998), incomplete theorisation by the Courts can be termed as the reason for the policy process degenerating, but within the institutional limits.

Finally, the Courts also do not refrain from setting arbitrary red lines over how the backward commissions should proceed in process of knowledge production (Kumar 2008). The 50% weightage to be given to marks, ostensibly in order to maintain the efficiency and keep the fairness of competition, or the guideline that divergence between communities' backwardness and state average be 50%, given by Balaji have become touchstones on which each policy is tested (Second Backward Commission Report, 1980).

Preventing reservations to cross the 50% mark has come to be accepted as an important factor that could result in acceptance or rejection of the report. It is also important because it affects the people who are not included under the compensatory discrimination policy, as it increases or decreases opportunities for them. The internal discussion on the approach the backward commission should take is a concern of a smaller section. All these judgments rest on personal judgments, rather than any objective or scientific criteria.

While the backward commissions were playing the role of determining how knowledge was socially constructed, under the watchful but inconsistent eyes of the Supreme Court, they were also making sure that the policy with the potential of degeneration, does not completely succumb to vote bank politics. The submission of the Mandal Report in 1980, and its acceptance ten years later, shows some truth in the theory that politicians would only accept knowledge generated when they feel it is advantageous for them.

The consequent Supreme Court judgment in the *Indira Sawhney vs Union of India* case on the Mandal report changed the ways in which compensatory discrimination was being socially constructed in India, becoming the touchstone of legitimacy. The study of the judgment and consequent politics allows us the chance to discuss more aspects of the theory of social construction of target populations, especially how the change in the social construction of the target population takes place.

First, the OBCs can be termed as a dependent population, but placed higher in the social hierarchy, with a higher social and political standing. In fact, many political scientists would hesitate in accepting that many OBC groups should be categorised as dependent (Hasan, 2011). According to them, due to land redistribution and the green revolution, it was the peasant castes (here the OBCs) who gained the most from the changes, and they no longer remain dependent (Frankel, 2005: 388-433). Also, seeing the political power they have gained in the second democratic upsurge (Yadav, 2000), their classification as dependent is further contested.

It can be concluded here that the extension of reservation to the OBCs is largely a political calculation, done in order to win over their votes, given that they comprise the majority in the country, and in most of the states as well.

Second, in order to divide the deserving from the undeserving, the Supreme Court came up with an ingenious solution. It accepted that the backward classes can be determined on the basis of caste. But it also added a means test only for those particular castes classified as OBCs. The process of dividing social construction is working in this case (Wagner and Morris, 2018).

While, the caste as a whole was categorised as deserving, because of their social, economic and educational backwardness, the rich individuals and families among them were excluded from the class, thus dividing deserving and undeserving sections within the same caste. This was done as a recognition that OBCs are not as dependent as the SCs and STs, and they need to be further divided based on class.

Third, the acceptance of the Mandal commission report with a few tweaks represents a tradition the social construction of knowledge had arrived at in India. The study done by the Mandal report came to be accepted without much questioning of its methods. The Supreme Court refused the requirement of a perfect report, despite the Mandal report itself accepting that their study did not have the rigour of proper research. It set the benchmark for what social construction of knowledge is acceptable. Further liberty was taken in setting the criteria for the creamy layer, which if given close scrutiny did not have an objective basis behind it.

Fourth, after the Indira Sawhney judgment, a string of Constitutional amendments were made in order to override some of the orders of the Court (on the aspect of the backlog of vacancies that were not able to be filled, and the aspect of seniority of candidates appointed to reserved posts). The state was determined to be seen as being favourable to the most dependent of the society, and they felt that even a slight doubt in the minds of the target electorate (i.e., that these governments have not been favourable to them) might be electorally disadvantageous.

Finally, the inclusion and exclusion of communities in the OBC list are usually uncontroversial. It is done by the permanent Central and State Backward Commissions, which were formed on the order of the Supreme Court. Usually, these are small caste groups, where the process of social construction is neither as politically fraught nor as methodologically contentious, and their placement in the OBC list is not opposed. Instead of large-scale state-wise surveys, sample surveys of a particular community are typically used to justify the inclusion of the group by the backward commissions.

Though it must be noted that the permanent commissions have never looked into who should be excluded from the lists of OBCs, thus signifying the politicisation of the process. In 1965, the setting of Lokur Committee was a signal that the State had a political will to exclude the undeserving. Later, no legislature or executive took any step for exclusion, thus making the Supreme Court step in and dictate a criterion for excluding the undeserving, given the objectives of compensatory discrimination. It was a way for the Supreme Court to establish that it would only cater to the deserving, and to establish itself as more rational and objective than the politicians.

## Reservations for Dominant Groups and 'Economically Weaker Sections'

The inclusion of every community has not been as easy as that of smaller (politically irrelevant) groups. The reservation to politically dominant groups, such as Jats in Haryana, Patels in Gujarat, Marathas in Maharashtra, and Kapus in Andhra Pradesh, has led to the communities identified as contenders asking for the benefits associated with the dependent section (Deshpande and Palshikar, 2017).

Though the political mobilisation of the dominant communities has led to reservations being offered to them without disturbing the quota for OBC, it has failed to pass the test of the courts. This in turn is because the backward commissions, which are mandated to build the knowledge framework to justify reservations for the community in question, have not been able to provide such justification.

The extension of reservation based on caste beyond 50% was crossing the established institutional red line. The very idea of extending reservation to groups outside the OBC fold is a recognition that the middle castes are more well-off than those categorised as OBCs.

In order to escape the institutional red line, dominant castes have demanded reservation with the OBC quota. In turn, State governments have hesitated to provide the dominant castes quota within the OBC section, as it might alienate the castes already listed in the OBC list. Despite these unfavourable constructions, governments continue to extend reservations within the OBC category also, only for it to be held unconstitutional by the courts, as in the case of Jat reservation. Jat inclusion in the Central list of OBCs in nine states was quashed by the Supreme Court in *Ram Singh vs Union of India* (2015). Jat inclusion in the State list of OBCs in Haryana was quashed in *Murari Lal Gupta vs State of Haryana* (2015). Jat of Dholpur and Bharatpur in State list of OBCs in Rajasthan was quashed in *Ratan Lal Bagri vs State of Rajasthan* (2017).

As the dependent categories of SC and OBC have now been firmly established, there remains little space for political manipulation. The process of subdivision of target populations has also started in many states in India. The demand for subdivision of SCs reservation between Malas and Madigas (Sambaiah, 2009), the demand of subdivision of OBCs reservation in Uttar Pradesh (Rashid, 2021), demand for quota specifically for Vanniyar caste within the Most Backward Classes in Tamil Nadu – these are all examples where subdivisions of the target population are attempted for electoral gains. When the ability to extract benefits out of the current arrangement is lost, political entrepreneurs and pressure groups find new ways (like subdivisions) in order to gain benefits from one or the other section of the population.

The coming of reservation for the Economic Weaker Sections has been often seen as an inflection point in the policy of compensatory discrimination. Deshpande and Ramchandran (2019) have argued that it completely overturns the original logic of reservation. The coming of the EWS reservation, providing quota to upper castes, is a form of social policy learning by the executive; despite a long-term demand from the upper caste, the goal of the policy would change only now (May, 1992).

Some scholars fear that this might change the social construction where economic basis might become the basis for reservation, in the process delegitimising caste-based backwardness (Kumar, 2019). In fact, the change would still be catering to the dependents, but in a different form and with a completely different normative basis.

The issue of reservation is not limited to public employment and education. While SCs and STs have always had political reservations, the same is not the case for OBCs. It shows that the same kind of construction is not necessary for all fields. States and Centre maintain a different list of OBCs, which means dependents are different for the States and the Centre.

Reservation for OBCs was first limited to public employment, then was extended to education, but has not been extended to political reservations. While some states have argued for political reservation at the local governance level, the same saga of reliable data has prevented the call for political reservation from crossing the judicial hurdle (Zagade, 2022). It is interesting to note that the issue of women's reservation in Parliament is stuck, because OBC parties and groups want the women's reservation to be subdivided, where reservation for OBCs is also there within the women's quota. It shows the varying ways in which social construction works.

## 3. Theoretical Restructuring in Order?

The exercise conducted in the paper through the case study can throw light on two features related to the social construction of the target population. First, the need for serious reconsideration of whether the theory of social construction of the target population can be as simplistic as devised by Schneider and Ingram. It is useful as an analytical concept, but the more we enter into the different layers of the policy, the more the social construction of the target population becomes questionable and contested.

Second, in the democratic setup of the U.S., social construction might be a helpful device to explain how policies degenerate in a democracy. Many similarities were found in the conception that would hold true for any democracy. The clear division between deserving and underserving, the role of institutions, and the entrepreneurial spirit of the politicians as observed in India are distinct from the patterns observed in the U.S. The historical, political, social, and economic system underlying how India works make it impossible to divide the target population into neat categories, as was conceptualised by Schneider and Ingram in the case of the U.S.

Third, caution should be practiced while establishing a direct correlation between how the social construction of knowledge impacts the social construction of the target population. In India, as depicted, the social construction of knowledge could be a state-sponsored project. These state-sponsored projects do not always work as desired, and might lead to some undesired consequences for the states. Similarly, any social construction of knowledge needs to be studied independently to understand if and how it has an impact on policy. Without understanding the process of the social construction of knowledge, predicting its impact on policy is not possible.

The paper was an attempt to bring out many features of how the social construction of the target population takes place, which tends to get hidden in broad conceptualisations. It is necessary to go into the depth of each and every narrow detail of a policy design in order to understand the complexities of social construction. It will not only help integrate other factors into the policy design, but also help policy theorists to come up with better policy theories.

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## NOTES

[1] While liberal-based constitutions emphasised on negative rights, the new constitutions in the Global South gave space for positive action. The historical development and contextual considerations have also led to differences in the design of the Constitutions. The most important of them is that U.S. is a federation of existing units, and India is a union with federal characteristics.

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IPPR

# Complex Warfare, Adaptive Enemies & Unrestricted Tools

## A book review of *The Dragons and the Snakes: How the Rest Learned to Fight the West* by David Kilcullen

**Praveer Purohit***

It is said that although the nature of war does not change, the character of warfare undergoes many changes. Technology, economic prowess, and the quest for power or even survival makes state and non-state actors adopt methods of warfare to suit their ends. Events such as the end of the Cold War, the hi-tech wars in Iraq and Kosovo unquestionably placed the US-led West as the numero-uno and unchallenged military power. This veneer of invincibility and the long-drawn US-led 'war on terror' in Iraq and Afghanistan resulted in hubris. This distraction of the US was effectively exploited by both nation-states, such as China, Russia, Iran, and North Korea, and non-state actors, such as Daesh, Hezbollah and the many variants of Al-Qaeda. How did this happen and what did the opponents of the US learn over the past 25 years to eventually challenge the US-led world order and degrade its power and influence?

In 'The Dragon and the Snakes', soldier-scholar David Kilcullen explores the means, methods, and manner in which the strategic landscape changed after the Cold War and how adversaries of America/the West adapted to pose serious challenges to them. The title of the book is inspired from the testimony of James Woolsey (later CIA Director) before the Senate Select Committee on Intelligence in February 1993 where he said, "In many ways, today's threats are harder to observe and understand than the one that was once presented by the USSR. Yes, we have slain a large dragon (USSR), but we live now in a jungle filled with a bewildering variety of poisonous snakes. And in many ways the dragon was easier to keep track of". Woolsey defined 'dragons' as state adversaries like China, Russia, Iran, and North-Korea, while the 'snakes' were non-state actors like transnational terrorist groups.

In the opening chapter, the author writes that the basic flaw in US strategy was that it conceptualized the geopolitical environment as a binary construct of conflict between 'civilization' and 'terrorism'. In his analysis of the US national security strategy starting with the 2002 strategy document, Kilcullen infers that the flaw lay in its inability to comprehend the more diffused, agile, adaptable morphing of threats from snakes while simultaneously failing to appreciate that the dragons had adopted a suite of 'offset strategies' to sidestep western conventional power.

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Chapter 2, titled 'Adaptive Enemies' delves into 'how' enemies, non-state actors, or 'snakes', adapt to pose a potent threat. Kilcullen emphasizes the importance of understanding the process by which adversaries evolve so that the 'good guys' can shape the environment in such a manner that it forces the enemy to adapt along a different pathway, thereby reducing the threat. To understand the mechanism of evolution in irregular warfare that snakes resort to, the author discusses four key dynamics namely, social learning, natural selection, artificial selection, and institutional adaptation. The author explains each of them lucidly with examples. The key take-away from this chapter is that states must be conscious of the fact that the 'snakes' will continuously try to evolve and adapt.

Moving from the how' of the previous chapter, Kilcullen examines the 'what' in Chapter 3 titled 'Woolsey's Snakes'. The author chooses the example of US air superiority as an example of 'what' the snakes learnt. He argues that while American air power shocked and awed its opponents, the non-state actors who could combine dispersion, mobility, modularity, and autonomy in their operations, tended to manage to survive when faced with air attacks. The author rightly identifies thinly spreading air power and restrictive legal and political constraints as the key reasons for the reduced effectiveness of western kinetic air power between 1991 and 2017. Both lessons, especially the former, are very relevant in the Indian context where the demand for theaterisation will surely reduce the effectiveness and potency of Indian air power. The author then details the weaknesses and rudimentary capabilities that the snakes exploited, such as the lack of analysts in the West despite its omnipresent surveillance network, consumer products such as i-Pads and smartphones for precision targeting, drone technology and social media. In identifying the adaptation trends, this chapter studies the methods of Al Qaeda, Daesh and Hezbollah.

Beginning Chapter 4, the book tends to pick up pace. Titled 'Liminal Warfare', the chapter cogently brings out the masterful manner in which Russia has successfully used liminal warfare against the West. 'Liminal' comes from the Latin word for a threshold. Defined as a style of warfare that rides the edge of observability and surfs the threshold of detectability, liminal warfare involves threshold manipulation. The author opines that the Russians in particular have perfected this so a lot of their activity is literally sub-liminal ("below the threshold" of perception of the West). Chapter 5 titled 'Conceptual Envelopment' focuses on the other dragon, i.e., China. Quite akin to Russia but with a much broader form of warfare, the author posits that the Chinese approach of horizontal escalation (expanding the geography, categories, and scope of actions with or without increasing intensity in any one location) poses a bandwidth challenge for a rival by expanding the spectrum of competition beyond the rival's capacity to cope by hampering the rival's ability to respond effectively to any one action or even conceptualize the overall situation. The author studies the PLA including the use of unrestricted warfare as practiced by China. A combination of facts and logic leaves the reader in no doubt about the threat the two dragons (Russia and China) pose to the liberal, democratic, rules-based order.

'Ebb Tide of West', the last chapter, analyses the courses of action for the West in countering the dragons and snakes. Outlining these as 'Doubling Down', 'Embracing the Suck', 'Going Byzantine' and 'A New Model', Kilcullen effectively presents/details the benefits and challenges of each approach. Making the case for better societal resilience and societal adaptation, the author convincingly elucidates why excessive focus on only military modernization is likely to yield sub-optimal results. Cautioning against a military victory becoming an end in itself, he argues that the West has repeatedly failed to convert military victories into strategic success or into a better peace. Criticizing the existing military model as ineffective, maladaptive, and ill-suited for an environment with dragons and snakes, Kilcullen argues for suitable course-correction, as not doing so would harm preserving the interests of the West.

Running into 255 pages, the book unfolds the challenges facing the West through the prism of evolutionary theory and field observations by the author. The author generously credits James Woolsey for his insights and far-sightedness in identifying and forecasting the strategic landscape. The book is a well-researched analysis of how the dragons learned from the snakes, how the snakes copied the dragons, how the rest learned to fight the West, and importantly what the West must learn to succeed in the new environment. Kilcullen has woven his experience as a former soldier, diplomat, and academician with solid research in producing a book that is a treasure trove of knowledge. The book forces the reader to rethink national security. It logically argues for military and non-military institutions to adjust and adapt to the new realities. The book is contemporary, relevant and has many lessons for India, which too is confronted by both snakes and dragons. From an Indian perspective, natural convergences with the West on principles such as liberty, equality, fraternity, pluralism and civilisational values lend clear direction to what its choices should be. The book is helpful in discarding a myopic perspective on strategic threats and issues. It is thus highly recommended for military professionals, diplomats, strategic affairs experts, and the academic community.

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