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REVIEWER'S REPORT

Manuscript No.: IJAR-59894

Title: Structural Change in Nominal State Domestic Product in India: A Segmented-Trend Analysis, 2012-13 to 2023-24.

Assessment and Rating

Criterion	Excellent	Good	Fair	Poor
Originality		✓		
Technical quality			✓	
Clarity		✓		
Significance		✓		

Recommendation: ACCEPT AFTER MAJOR REVISION

Reviewer ID: JPR - 196

Detailed Reviewer's Report

1. Overall Evaluation

The manuscript examines whether the nominal Gross State Domestic Product (GSDP) trend of Indian states and union territories experienced a structural break around 2020-21. It uses annual data for 2012-13 to 2023-24 and applies a log-linear segmented-trend specification, a fixed-date joint test, a sup-F break-date search, cross-state comparisons, and a robustness exercise using real GSDP and the implicit deflator. The distinction between an unchanged aggregate mean growth rate and a changed growth trajectory is potentially useful. The effort to separate nominal recovery into real-output and price components is also a relevant contribution.

However, the empirical conclusions depend on a very short time series (12 annual observations, including only four post-break observations), and several aspects of the data description, break-test inference, model specification, and cross-state reporting require clarification and strengthening. The manuscript is promising but should not be accepted in its present form.

2. Major Comments (Essential Revisions)

Small-sample inference and interpretation of significance. The aggregate regression estimates four parameters from only 12 annual observations, leaving eight residual degrees of freedom. The manuscript acknowledges that p-values are approximate, but nevertheless makes strong statements about a statistically established break. Please explain the finite-sample limitations more fully, report the exact test procedures and reference distributions, and qualify all inferential claims. In particular, provide the critical

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values or a defensible finite-sample/p-value procedure for the sup-F test. The manuscript itself notes that the relevant Andrews critical value is not tabulated; therefore, the sup-F result currently supports the selected break date descriptively, but does not by itself establish statistical significance.

Consistency of the sample and number of series. The manuscript variously refers to 30 states and union territories, 30 entities, and 31 series after adding the aggregate. It also states that 28 of 31 series reject the null and identifies Chhattisgarh, Jharkhand and Odisha as exceptions. Please provide a complete list of the included states/UTs, clarify the exact number of cross-sectional units, and distinguish the 30 individual units from the aggregate series consistently in the abstract, methodology, tables and conclusion. Explain any exclusions and the treatment of entities for which observations are unavailable.

Specification and interpretation of the segmented trend. The model uses t multiplied by the post-break dummy, rather than $(t - 9)$ multiplied by the dummy. This is mathematically workable, but it makes $\beta 2$ the intercept shift at $t = 0$ rather than the level change at the break date. Although the paper later calculates the break-year gap as $\beta 2 + 9\beta 3$, this parameterization may confuse readers. Consider re-estimating or presenting the model with a centred interaction, $(t - 9)D$, so that the level-shift coefficient directly represents the change at 2020-21. At minimum, explain the parameterization prominently and report the implied level gap with its standard error and confidence interval.

Robustness of the break-test procedure. Please clarify whether the reported Chow-type joint F-tests use conventional OLS covariance estimates or heteroskedasticity/autocorrelation-consistent covariance estimates. Newey-West standard errors are mentioned for individual t-tests, but the covariance estimator for the joint test is not clear. Report the joint test under a consistent robust covariance approach where appropriate, and explain the lag choice. Also discuss the implications of testing multiple candidate break dates and the trimming rule in the sup-F search.

Data source, vintage and reproducibility. The data are attributed to a MoSPI release dated 15 April 2026, with later-year figures potentially provisional. Please provide the exact dataset title, table/file identifier, access details and date of retrieval, preferably in a data appendix or supplementary material. Identify which observations are provisional or revised and whether all state/UT series use a consistent vintage. A machine-readable appendix containing the annual nominal and real GSDP observations would materially improve reproducibility.

Cross-state results and weighting. The paper contrasts the aggregate result with an unweighted mean across 30 units and attributes the difference to the aggregate being dominated by larger states. This is plausible, but it needs more transparent support. Please report the state-level results in a complete table, including break coefficients, standard errors, p-values, break-year selection and sample coverage. Explain the weighting implicit in the aggregate series and consider reporting a population- or output-weighted comparison alongside the unweighted mean. The statement that every state was below trend in 2020-21 should be checked against the underlying estimates and table.

Real GSDP and implicit-deflator decomposition. The decomposition is an important part of the paper, but the interpretation that higher prices explain much of the nominal recovery should be carefully bounded. Please explain how the implicit deflator is constructed from nominal and real GSDP, and whether the decomposition is performed consistently in log terms. Given the marginal significance of the real-GSDP slope change ($p = 0.062$) and the inconclusive Durbin-Watson statistic, avoid presenting the real-output result as definitive. Report uncertainty measures for the estimated trend gaps where feasible.

Mean-growth comparison. The Welch test compares seven pre-break annual observations with four post-break observations. Annual growth rates may not be independent, and the very small post-break sample limits power. Please justify the use of the Welch test, report the group variances and confidence interval for the difference in means, and clarify whether the test is intended as a descriptive supplement rather than a decisive test of structural change.

3. Minor Comments and Editorial Suggestions

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- Section numbering appears to move from Section 5 (Robustness) to Section 7 (Conclusion). Please check whether Section 6 is missing or whether the conclusion should be renumbered.
- Use the term "nominal GSDP" consistently. The introduction refers in places to "nominal GDP trend of Indian states"; GSDP is the more precise term for the state-level measure used.
- Define all abbreviations at first use, including MoSPI, UT, HAC and sup-F. Ensure that the notation for β coefficients and the time index is consistent throughout.
- Provide source notes below each figure and table. Improve the readability of the heat map and state-level plots, particularly axis labels and small text.
- Check the consistency of the number of observations and the date range across the abstract, methodology, tables and figure captions.
- The discussion of the mechanisms (demand/supply disruption, rebound/base effects and price effects) is useful, but the analysis is primarily descriptive. Please distinguish empirically tested mechanisms from plausible explanations.
- Expand the limitations paragraph to address the short time span, small number of post-break observations, possible provisional data revisions, and the inability of an aggregate trend model to identify causal effects of COVID-19.
- Review the reference list for consistent APA-style formatting and ensure that all in-text citations have corresponding reference entries and vice versa.

4. Strengths of the Manuscript

- The research question is clear and relevant to regional macroeconomic analysis in India.
- The segmented-trend framework is appropriate as an exploratory way to distinguish a level disruption from a change in the subsequent trend.
- The comparison of nominal and real GSDP, together with the implicit deflator, adds an informative dimension to the analysis.
- The cross-state perspective moves beyond an aggregate-only discussion and highlights heterogeneity in recovery paths.

5. Final Recommendation

Major Revision. The manuscript addresses a relevant question and has the potential to make a useful empirical contribution. However, acceptance should be considered only after the authors address the small-sample inference issues, clarify and document the dataset and unit count, strengthen the explanation and reporting of the structural-break tests, provide complete state-level results, and moderate claims that are not fully supported by the available observations. The authors should also correct the presentation and numbering issues identified above.