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Do Smaller States Lead to More Development? *Evidence from Splitting of Large States in India*

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Introduction

In year 2000 three large states Uttar Pradesh, Bihar and Madhya Pradesh split to create three new states Uttarakhand, Jharkhand and Chhattisgarh respectively. As states are the proximate determinants of local institutions driving development outcomes, a change in their boundaries provides us an opportunity to evaluate the impact of these shifts on the provision of public goods and distribution of development outcomes. However, shifting of state borders or creation of new states are very rare, and the case of creation of three new states in India in November 2000, provides us with an opportunity to test these development hypotheses. This paper makes an attempt to investigate the impact of the creation of these three states on the developmental indicators like per capita income, literacy rate, availability of toilet, housing and electricity of the new and the parent state.

Before & After



Descriptive Statistics for Old and New States

Indicators / Year	Parent State			New State		
	2001	2011	% Increase	2001	2011	% Increase
Per Capita Income						
Uttar Pradesh	5,995	10,071	201	16,232	85,372	436
Bihar	6,200	22,582	364	11,014	36,514	231
Madhya Pradesh	12,697	37,079	199	12,170	48,366	297
Electricity in % HH						
Uttar Pradesh	31.9	36.81	15	60.33	87.04	44
Bihar	10.25	16.36	60	24.3	45.78	88
Madhya Pradesh	69.98	87.11	4	53.1	75.26	42
Literacy rate						
Uttar Pradesh	73.19	87.2	19	56.27	67.7	20
Bihar	63.25	72.2	14	55.52	67.2	21
Madhya Pradesh	90.86	94	3	47	61.8	31

Arguments in favor and against formation of New States

Arguments in favor of new states

- 1) The creation of a smaller state unleashes the suppressed growth potentials of the hitherto peripheral regions of a large state.
- 2) Comparatively smaller but compact geographical entities tend to ensure that there is better democratic governance, as there is greater awareness among the policy makers about the local needs.
- 3) Smaller spatial units having linguistic compatibility and cultural homogeneity also allow for better management, implementation and allocation of public resources in provisioning basic social and economic infrastructure services.
- 4) A relatively homogeneous smaller state allows for easy communicability, enabling marginal social groups to articulate and raise their voices.
- 5) Smaller states provide gains for the electorates in terms of better representation of their preferences in the decisions by the government. Smaller states mean key decisions will be taken closer to the ground. It makes more sense if the decision on key issues of a district in Himalayas (Uttarakhand) is taken in Dehradun (the capital of the new state) which is 50 km away, compared to in Lucknow (the capital of the parent state) which is 500 kilometers away.

Arguments against new states

- 1) Reminiscent of 'partition anxiety', many fear the rise of regional and linguistic fanaticism as threats to national unity and integrity. A global surge in ethno-nationalist conflicts serves to rekindle these fears.
- 2) Many believe that bigger states ensure cohesion and stability; however, there are myriad forms of political violence going on unabated in the big states.
- 3) Smaller states (like mineral rich Chhattisgarh and Jharkhand) are often viewed as being much more vulnerable to the pressures of the corporations and multi-nationals due to their small scale economies and the greed of the newly emergent regional elite.

Data: The paper uses data from the three panels of Indian Human development survey conducted in 1993, 2005 and 2011

Quasiexperimental Methods

1. Difference-in- Difference approach with parent states as control

$$y_{hit} = \mu_t + \alpha_i + \beta \text{treatment}_i * \text{post}_t + \sum \delta X_{hit} + \epsilon_{hit}$$

Where y_{hit} = Indicators of Development like Per capita Income, literacy, monthly per capita expenditure etc of household h in district i in year t .

treatment_i is a dummy = 1 if district is in new state, 0 otherwise
 μ_t = fixed effect for each year, α_i = fixed effect for each district
 post_t = dummy variable, 1 for years after year 2000 and 0 before.
 X_{hit} = HH level demographic & socio-economic control variables, & ϵ_{hit} is the error term

VARIABLES	Panel Regression with District Fixed Effects		
	(1)	(2)	(3)
	Per Capita Income	Toilet	Electricity
New State * Post	3,155*** (1,054)	0.0823*** (0.0156)	0.236*** (0.0196)
New State	-547.1 (1,012)	-0.0653*** (0.0150)	-0.0888*** (0.0188)
Year = 2012	11,516*** (316.8)	0.833*** (0.00863)	0.332*** (0.0108)
Constant	4,792*** (532.0)	0.122*** (0.00787)	0.375*** (0.00989)
Observations	24,224	24,130	24,096
R-squared	0.068	0.502	0.086

Confidence in Governance Machinery :Panel with District FE

VARIABLES	Panel Regression with District Fixed Effects				
	(1)	(2)	(3)	(4)	(5)
	Politicians	Police	Panchayat	Schools	Hospitals
New State* Post	0.08*** (0.00)	0.05** (0.01)	0.10*** (0.01)	0.07*** (0.00)	0.04*** (0.01)
Constant	0.367*** (0.00)	0.71*** (0.00366)	0.86*** (0.00)	0.85*** (0.00)	0.85*** (0.00)
Observations	21,384	21,397	21,275	21,349	21,392
R-squared	0.004	0.002	0.007	0.005	0.001

2. Difference-in- Difference approach with adjacent states as control

$$y_{hit} = \mu_t + \alpha_i + \beta_1 * \text{treatment}_{1i} * \text{post}_t + \beta_2 * \text{treatment}_{2i} * \text{post}_t + \sum \delta X_{hit} + \epsilon_{hit}$$

$\text{treatment}_{1i} = 1$ if the district falls in new state, 0 otherwise
 $\text{treatment}_{2i} = 1$ if the district falls in old state, 0 otherwise

VARIABLES	Panel Regression with District Level Fixed Effects		
	(1)	(2)	(3)
	Per-capita Income	Toilet	Electricity
New State * Post	-1,781 (1,614)	0.0776*** (0.0167)	0.0986*** (0.0180)
Old State * Post	-6,796*** (1,004)	-0.0361*** (0.0104)	0.0110 (0.0112)
New State	-1,309 (1,538)	-0.0808*** (0.0159)	-0.0752*** (0.0172)
Old State	-1,382 (965.8)	0.0182* (0.00998)	-0.182*** (0.0108)
Year = 2012	23,176*** (532.7)	0.834*** (0.00551)	0.121*** (0.00338)
Constant	5,399*** (479.9)	0.102*** (0.00496)	0.552*** (0.00536)
Observations	65,534	65,224	65,203
R-squared	0.059	0.422	0.102

3. Regression Discontinuity across new state borders

$$Y_{hIS} = \beta_0 + \beta_1 \text{New}_{hIS} + \mu X_{hIS} + \epsilon_{hIS}$$

$\text{New}_{hIS} = 1$ if the household h is in district i that falls in new state S

VARIABLES	Panel Regression with District Fixed Effects		
	(1)	(2)	(3)
	Cement Housing	Electricity	HH Size
New State* Post	0.570*** (0.0534)	0.447*** (0.0951)	-1.454*** (0.546)
Post	0.571*** (0.0197)	0.493*** (0.0351)	-0.482** (0.201)
Constant	0.310*** (0.0198)	0.146*** (0.0351)	6.529*** (0.201)
Observations	1,686	1,721	1,722
R-squared	0.334	0.104	0.006

Results and Conclusions

- 1) The newly carved out states are faring much better as compared to their parent states in development indicators like, per-capita income, availability of toilet an electricity. This confirms that creation of a smaller state unleashes the suppressed growth potentials of the hitherto peripheral regions of a large state.
- 2) As it is possible that the parent state cannot act as a valid control, so we compare the development indicators of newly formed state and parent states with nearby states and we find that the newly formed states did better compared to the adjacent states, however the parent states did worse. This is possible due to better governance of the newly formed state as the politicians there would be more responsive and take key decisions closer to the ground.
- 3) Due to carving out of new states from parent state a boundary line was created that did not exist before and therefore is used as a point of discontinuity for RDD analysis. It shows that the districts falling in the new states have done better than their counterparts just across the border. As the state boundary is an artificial creation, this development can be associated to the better governance of the newly formed state.
- 4) Taken together, the findings suggest that political institutions indeed matter a great deal for economic development, and greater control over those institutions is a plausible means of improving the welfare of regional ethnic groups.

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