India's Growth and Poverty Reduction Experience:

Facts and Conjectures

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- In this presentation, I am going to look at the growth experience of India using cross-state data from the sixteen main states

- There are some issues with the data beyond 1992, but I will still try to see what can be said for that period.

- The all-India experience is given in Figure 1.

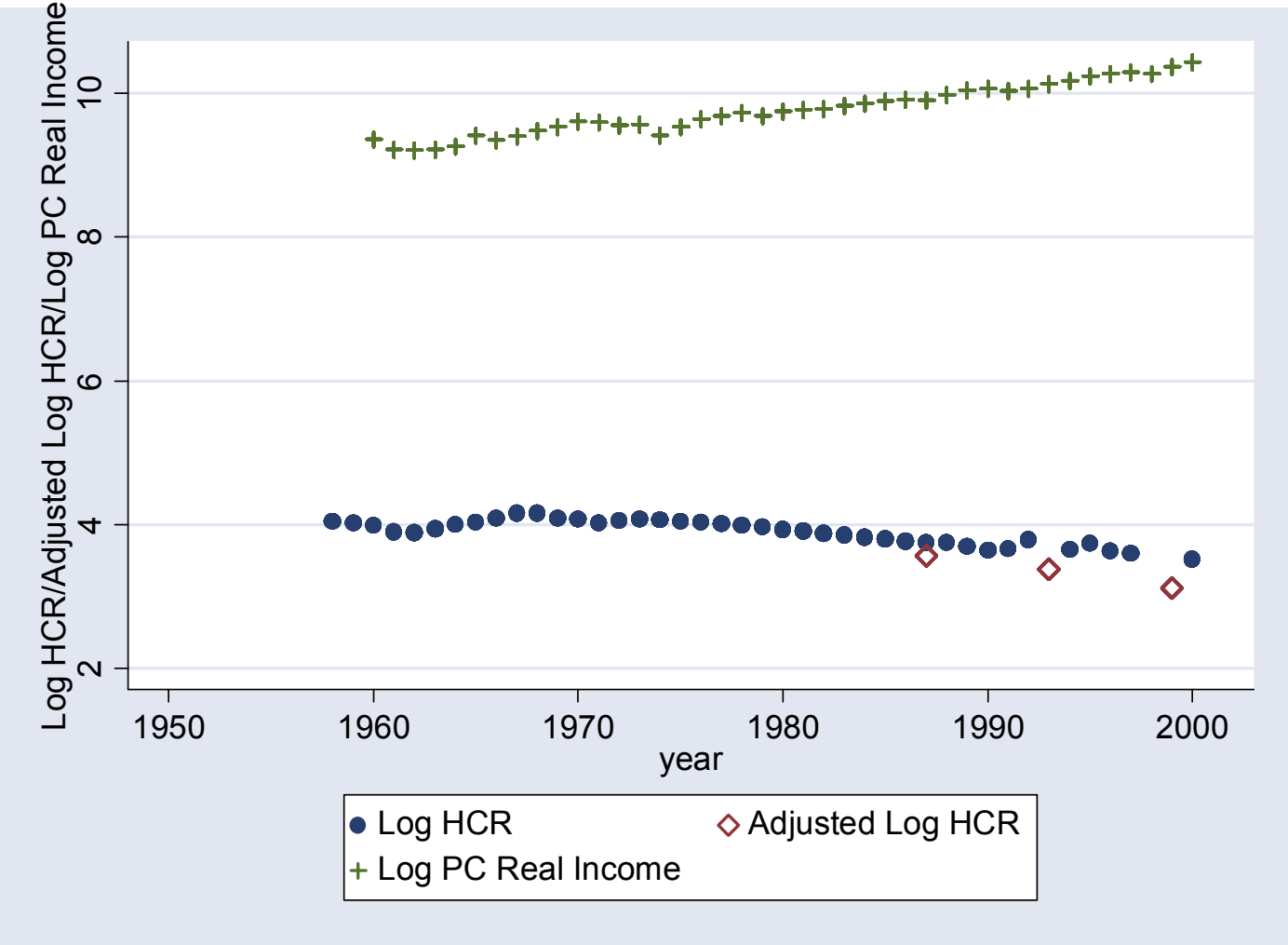

Figure 1. Growth and Poverty Reduction (plus adjusted series), All India, 1958-2000

- But there is considerable cross-state heterogeneity

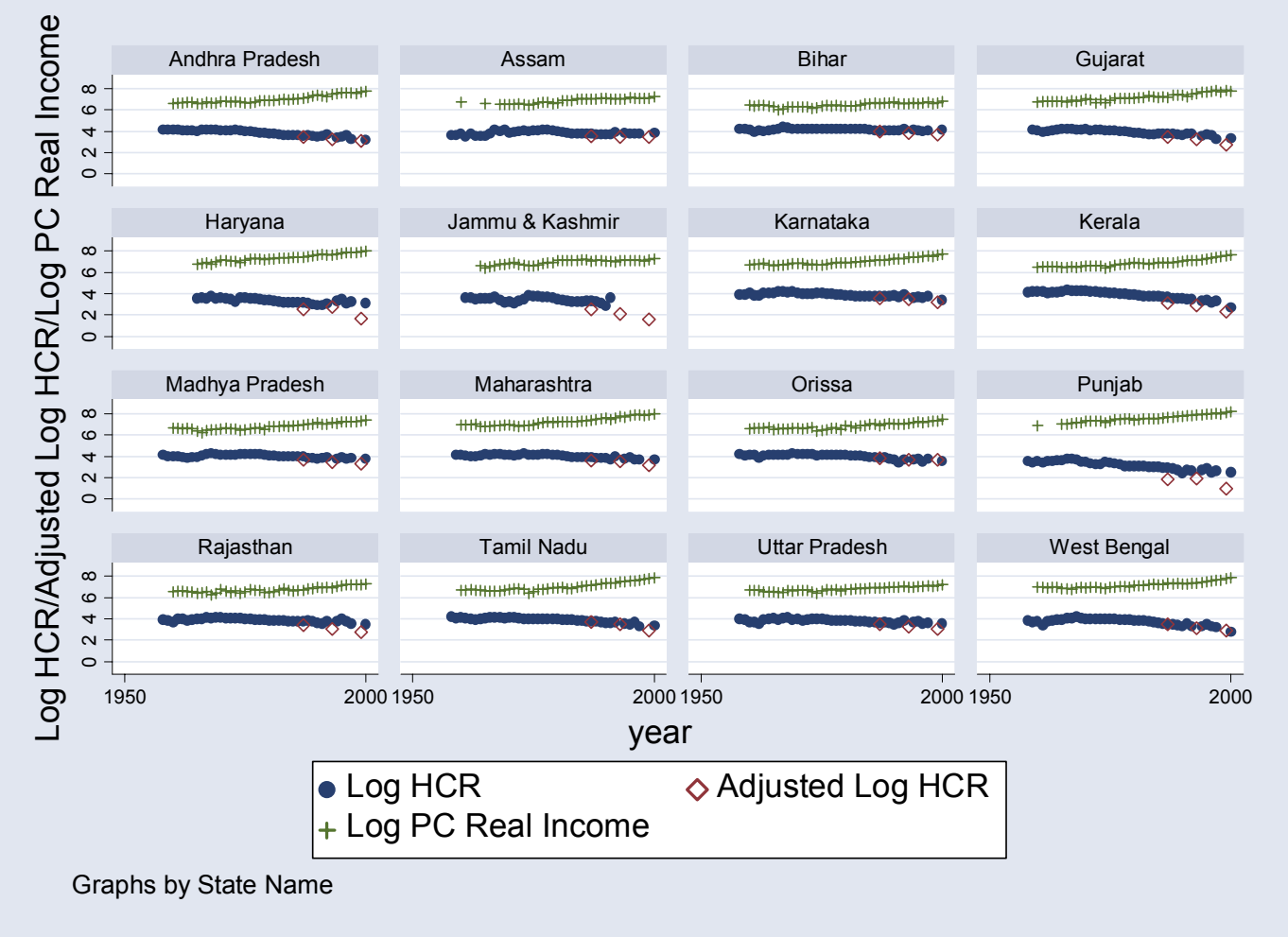

Figure 2. Growth and Poverty Reduction (plus adjusted series), by Indian state, 1958-2000

Questions

- Our hope would be to understand this experience in relation to the policy and institutional climate of the states.

- Ideally, we would wish to parcel this out into
  - Initial conditions
  - Subsequent policy experiences

- But this is quite difficult as we expect the initial conditions and subsequent policy to be related.

Example: Labour Regulation

- In my work with Robin Burgess, we find that states with more pro-labor regulation had lower levels of manufacturing development.

- The states with more labor regulation also had higher levels of unionization at the beginning of the period.

- It is difficult to know whether the trend growth rates are influence by initial conditions or whether it is really the subsequent policy reforms that are responsible.

Comparative Poverty Reduction Experiences

- We will begin to look at the link between poverty and income per capita.

- I will do this by describing the data using sixteen time series regressions of the form:

- $$p_{st} = \alpha_s + \beta_s y_{st} + \varepsilon_{st}.$$

- where $p_{st} =$ log of poverty head count; $y_{st} =$ log of income per capita.

- The "explained" component of poverty reduction between any two time periods is:

$$\Delta \hat{p}_{st} = \beta_s g_s$$

- The coefficient β_s represents the poverty reduction efficiency of growth within states and it varies a fair bit across states.

Interpretation

- Suppose that consumption is proportional to the distribution of some underlying endowments y with cdf F.

- There is a proportional scaling up of mean consumption of Δ

- Let the share in the gain be $\alpha(y)$ where

$$\int y\alpha(y)\, dF(y) = 1.$$

- Then, the headcount after growth of Δ will be:

$$F(\hat{y}(z, \Delta))$$

where $\hat{y}(z)$ solves:

$$z = \hat{y}(z, \Delta)(1 + \alpha(\hat{y}(z, \Delta))\Delta).$$

- Then the change in the (log) headcount is:

$$\log\left(F\left(\hat{y}\left(z,\Delta\right)\right)/F\left(z\right)\right)\simeq-\frac{f\left(z\right)}{F\left(z\right)}z\alpha\left(z\right)\Delta=\beta\Delta$$

Table 1. Decomposition into total poverty elasticity and growth component

State	β_s	g_s	$\bar{g}(\beta_s - \bar{\beta})$	$\beta_s(g_s - \bar{g})$
	(1)	(2)	(3)	(4)
Andhra Pradesh	-0.76	0.028	0.17	0.24
Assam	-0.38	0.021	-0.41	-0.07
Bihar	-0.30	0.012	-0.53	-0.23
Gujarat	-0.66	0.027	0.02	0.18
Haryana	-0.57	0.031	-0.12	0.32
Jammu & Kashmir	-0.57	0.018	-0.12	-0.19
Karnataka	-0.53	0.024	-0.19	0.02
Kerala	-1.23	0.026	0.90	0.21
Madhya Pradesh	-0.39	0.022	-0.39	-0.03
Maharashtra	-0.40	0.029	-0.38	0.15
Orissa	-0.69	0.021	0.06	-0.12
Punjab	-1.03	0.030	0.61	0.46
Rajasthan	-0.43	0.018	-0.33	-0.15
Tamil Nadu	-0.59	0.029	-0.09	0.24
Uttar Pradesh	-0.64	0.015	-0.01	-0.34
West Bengal	-1.17	0.021	0.82	-0.21
Average	-0.65	0.023	0.00001	0.03

Notes: log head count regressed on log real income per capita. The decomposed elements in (3) and (4) have been normalized dividing by $\bar{\beta}\,\bar{g}$.

- When we look at the comparative growth performance across the states, we can use the following decomposition:

$$\Delta\hat{p}_{st} = \bar{\beta}\bar{g} + \left(\hat{\beta}_s - \bar{\beta}\right) g_s + \beta_s \left(g_s - \bar{g}\right).$$

- Thus we have:
  - $\left(\hat{\beta}_s - \bar{\beta}\right) g_s$
  - $\beta_s \left(g_s - \bar{g}\right)$

- The first term is the average reduction, the second term the effect associated with the deviation of the growth elasticity from the mean and the second with the deviation of the growth rate from the mean.

- The data then tells us which states have done better than average in any of the relevant dimensions.

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Conjectures

- But the really interesting issue is not just to quantify this, but to understand where this heterogeneity is coming from.

- I will only offer a fairly sketchy picture

- But some of the findings are suggestive.

Background

- We are now beginning to assemble quite a lot of evidence about the comparative state level performance in growth and poverty reduction.

- Some Propositions

  - Proposition 1: States that have had more land reform have tended to have had more rapid poverty reduction even though they have (if anything) had slower agricultural growth (Besley and Burgess, QJE, 2000)

  - Proposition 2: States with more labor regulation have tended to have tended to have slower growth in manufacturing (Besley and Burgess, QJE, forthcoming).

- – Proposition 3: States with more rapid bank branch expansion into unbanked areas have experienced greater poverty reduction (Burgess and Pande, 2000)

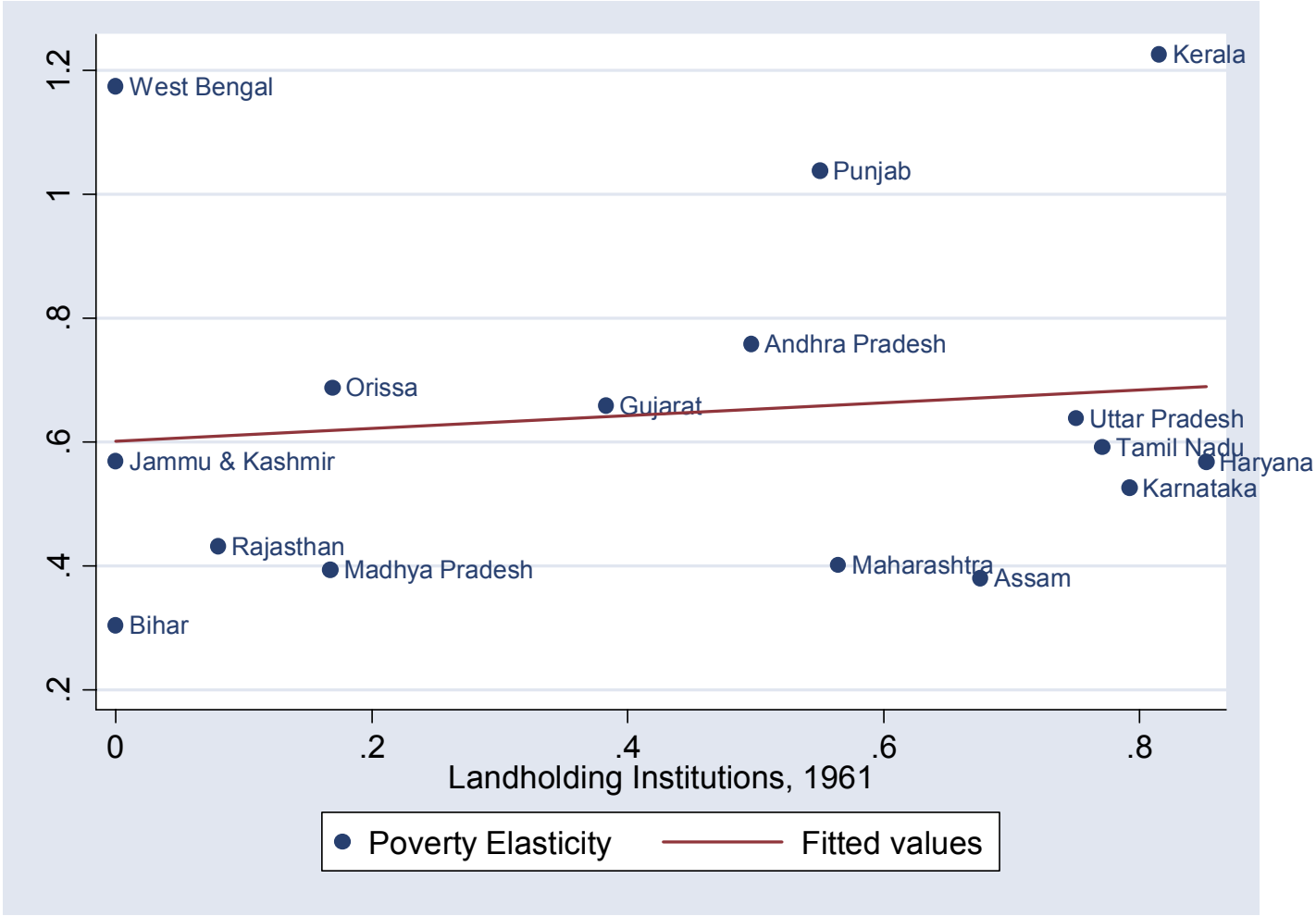
  – Proposition 4: States with systems of land-revenue collection that remained in indigenous hands have tended to experience better public goods provision (Banerjee and Iyer (2002)).

  – Proposition 5: States with more rural industrialization have reduced poverty more rapidly (Foster and Rosenzweig (2003))

  – Proposition 6: States with more female literacy have done better in reducing poverty (Ravallion and Datt (2002)).

Initial Conditions

- – Land tenure arrangements
  - – inequality in land
  - – institutions – specifically whether states used landlord or non-landlord based revenue collection.
- Unionization rates
- Share of manufacturing
- Female literacy
- SC/ST share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Landholding Institutions, 1961
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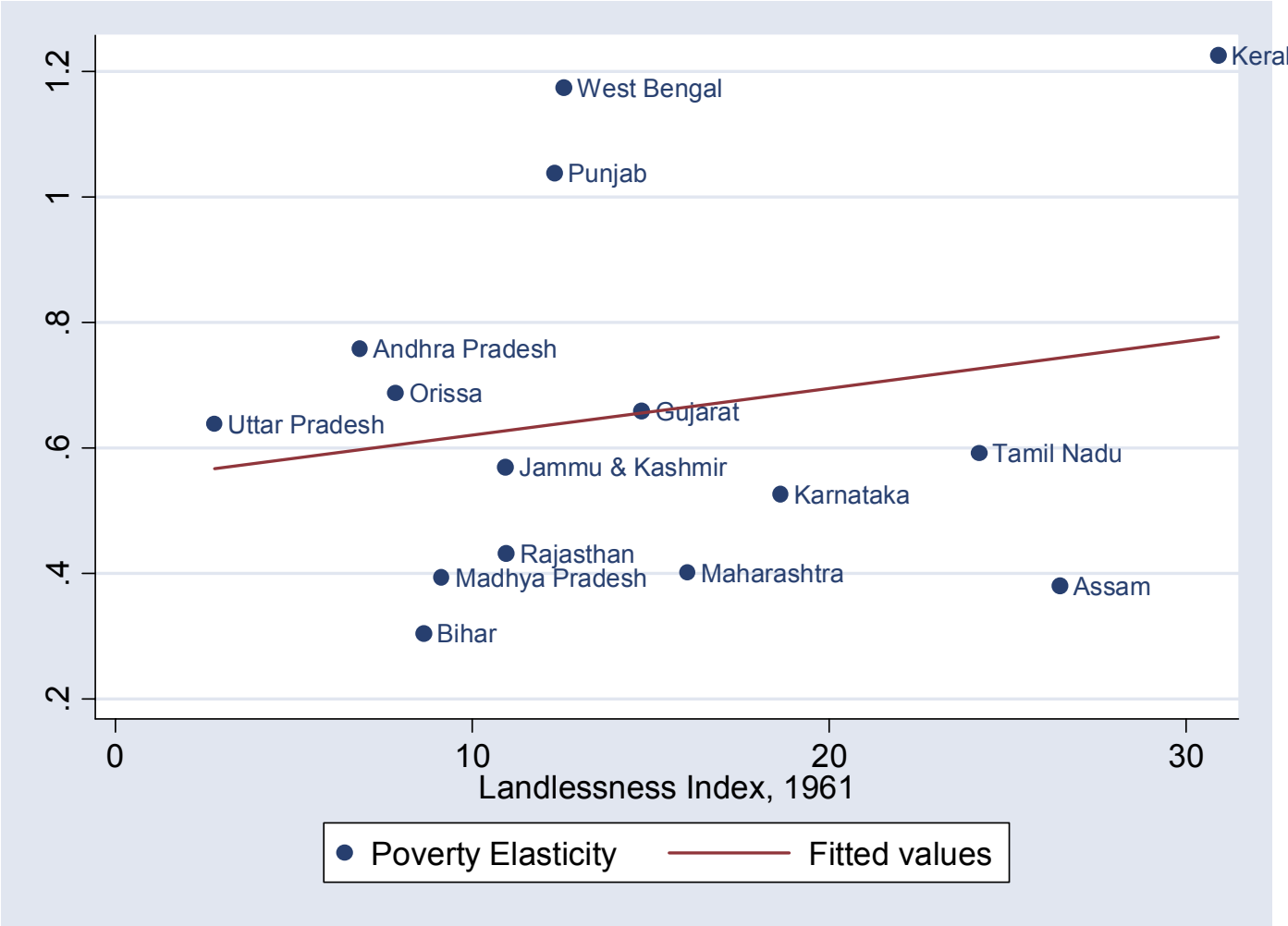
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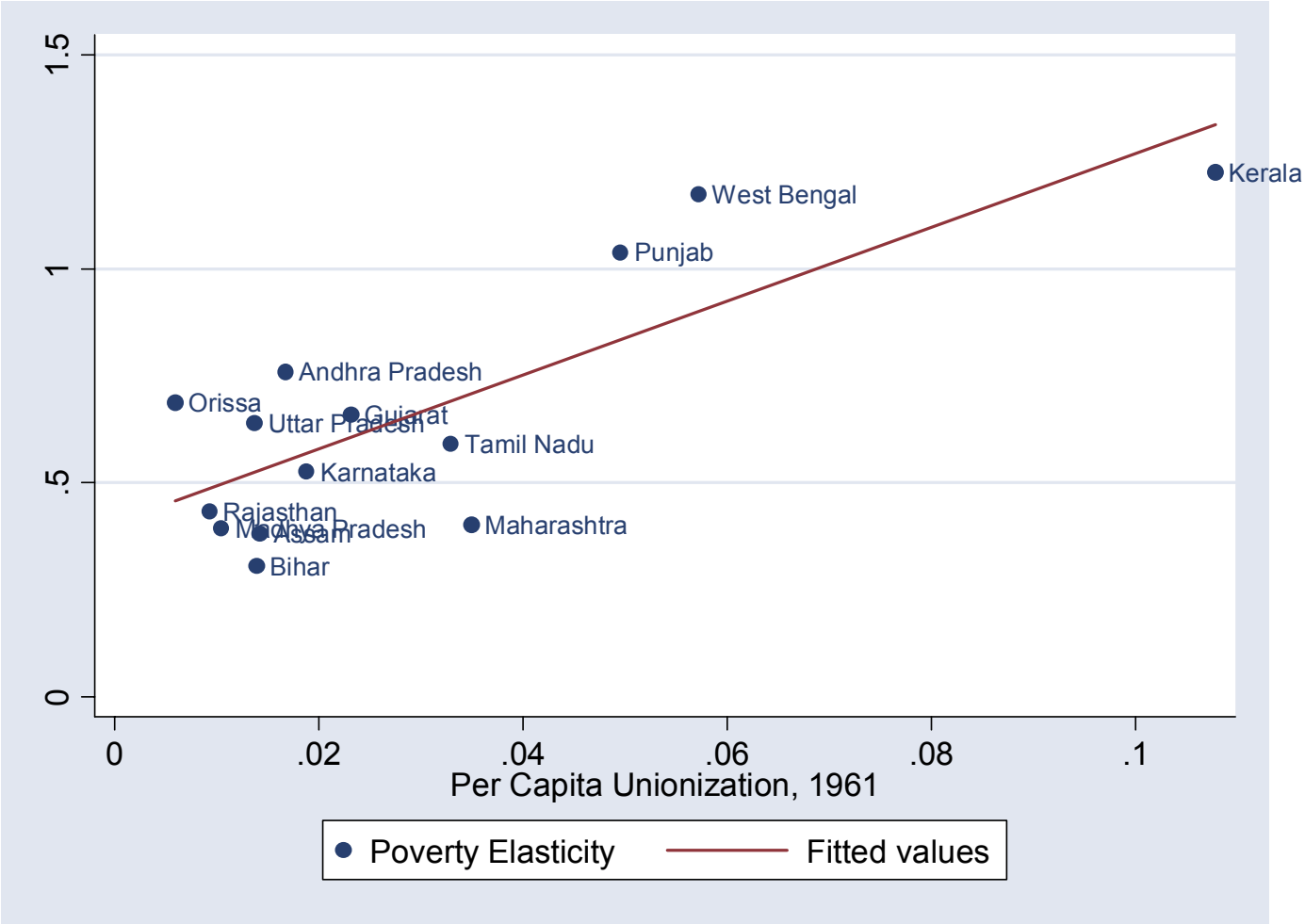
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Per Capita Unionization, 1961
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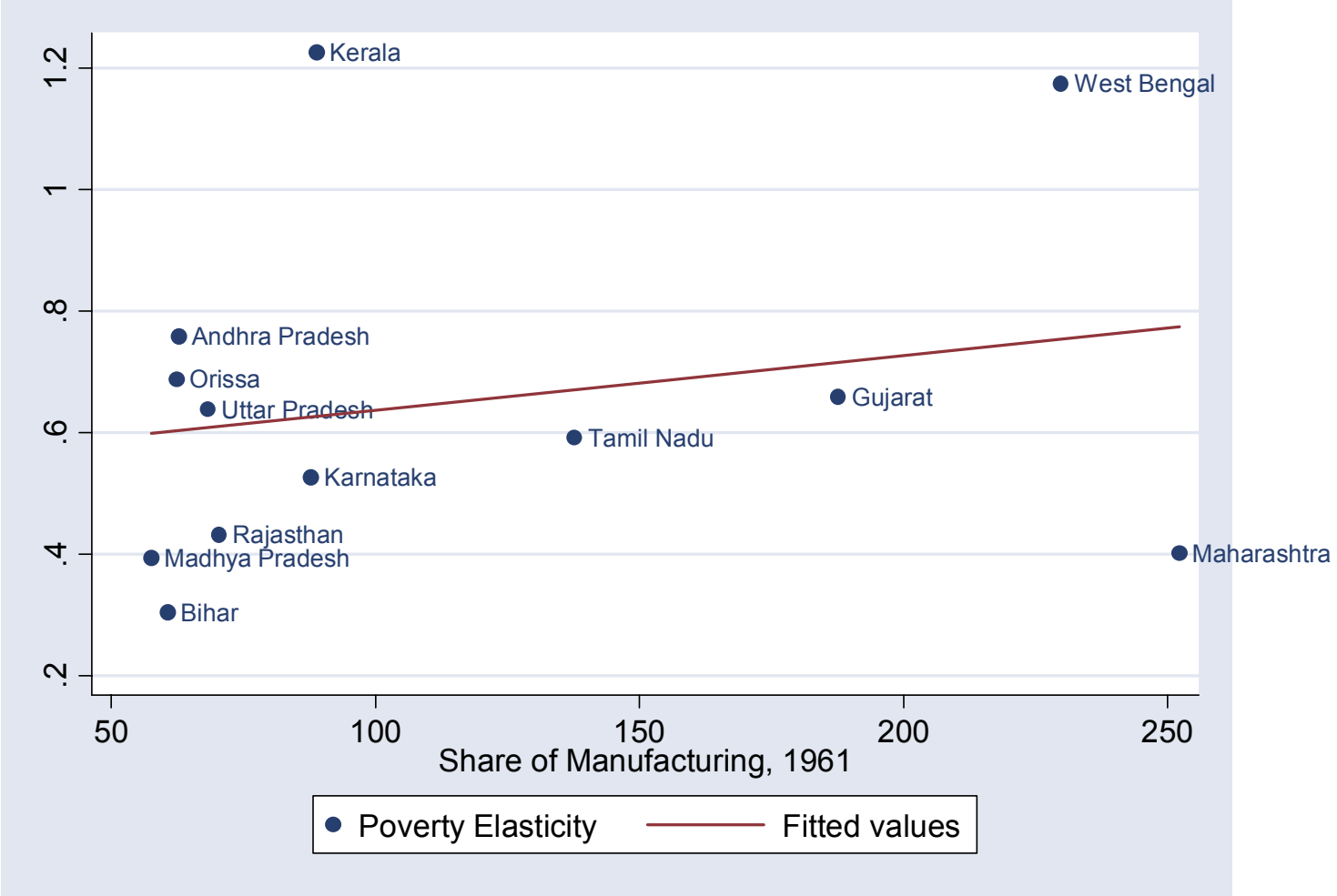
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Share of Manufacturing, 1961
Poverty Elasticity
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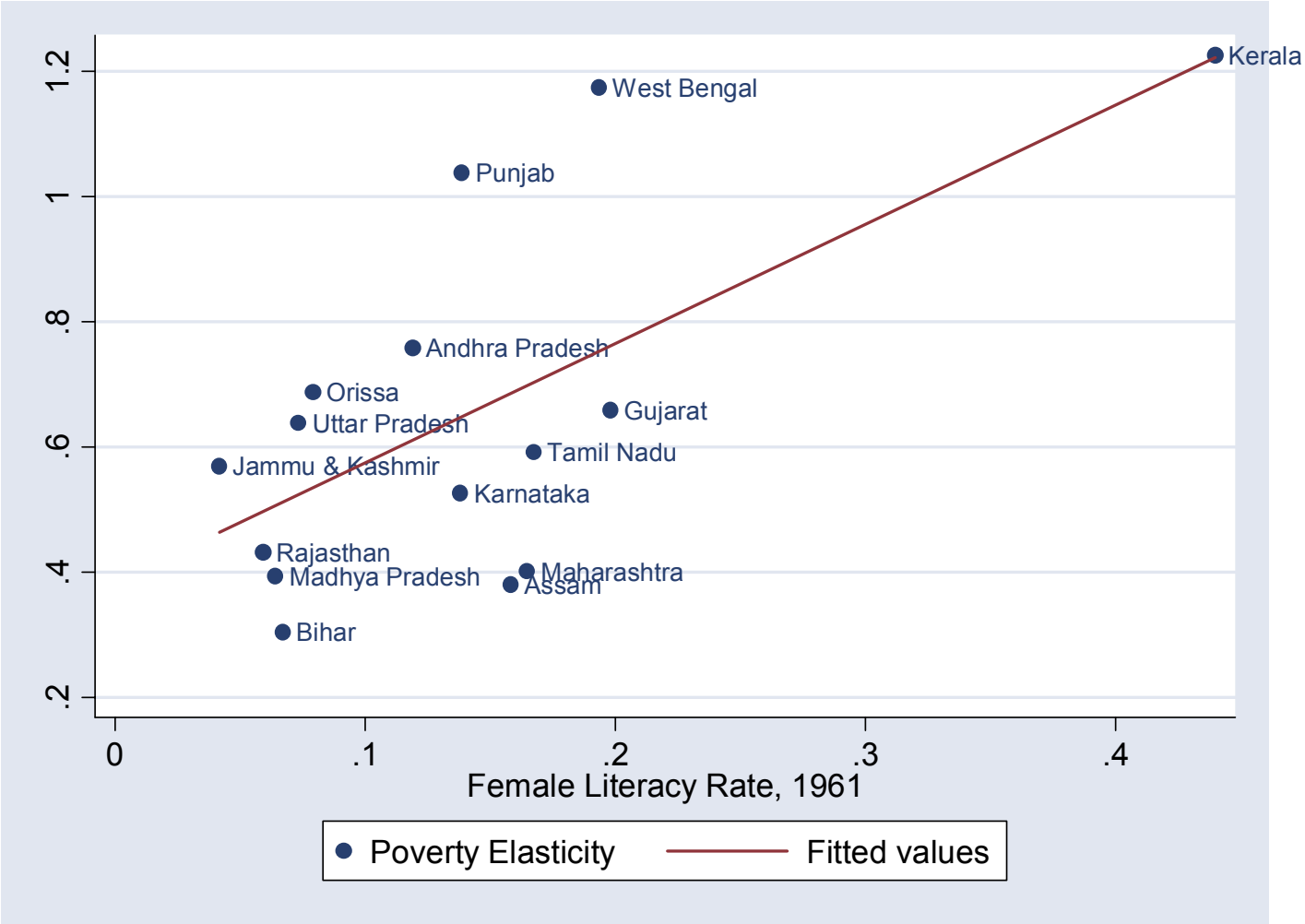
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Female Literacy Rate, 1961
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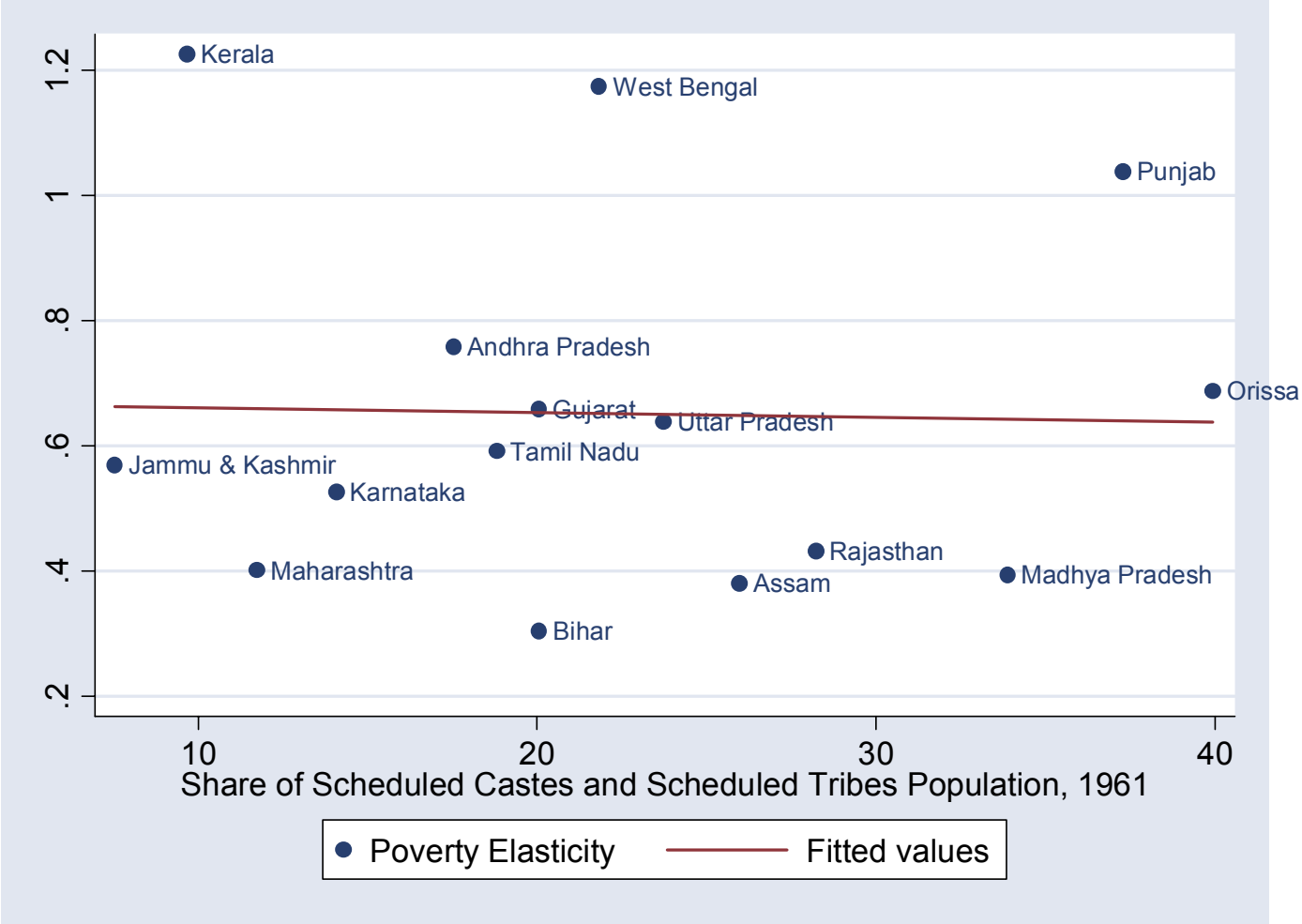
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Share of Scheduled Castes and Scheduled Tribes Population, 1961
Poverty Elasticity
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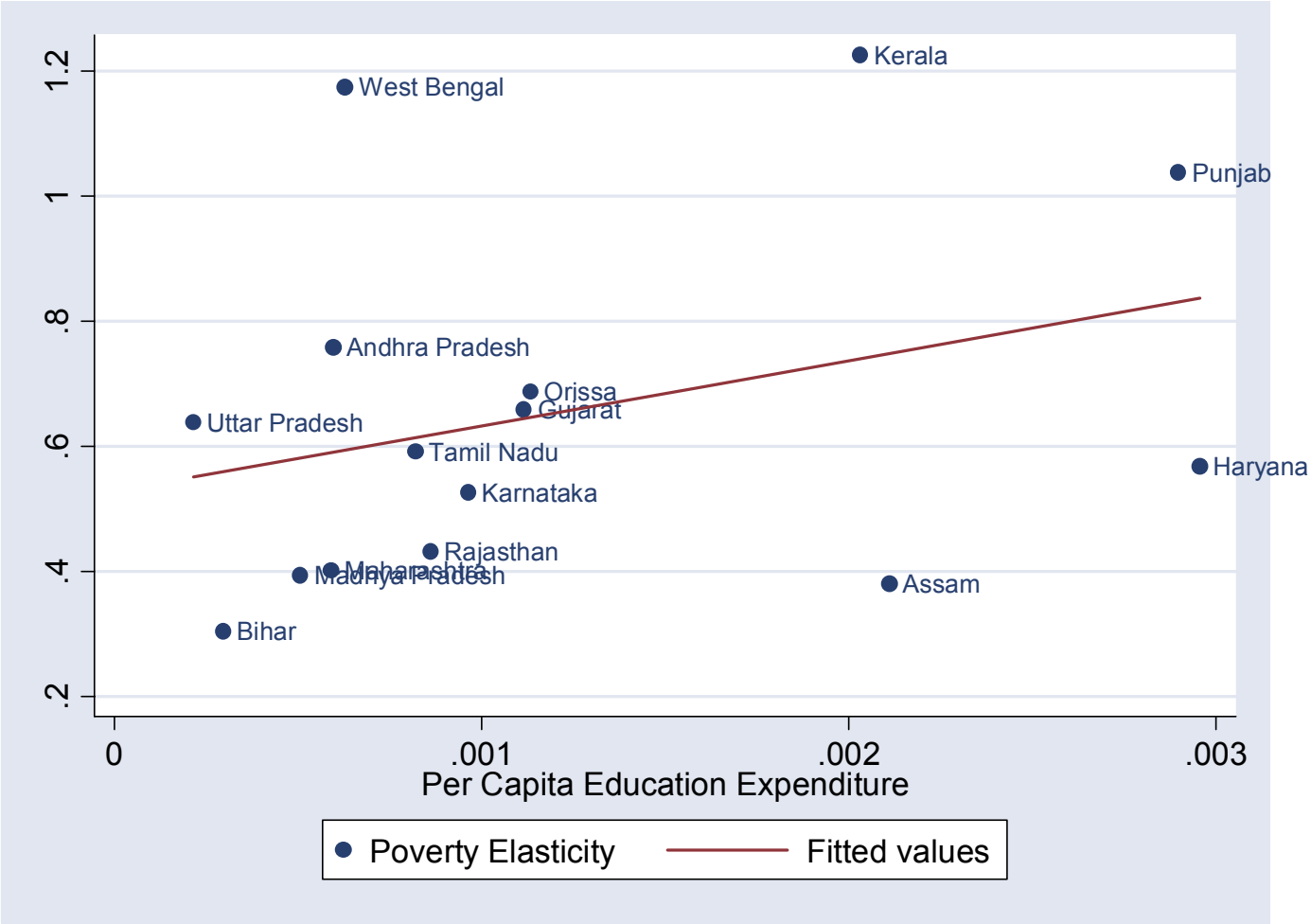
Policy regime:

- – Infrastructure
  - – Education spending
  - – Land reform
  - – Labour regulation
  - – Credit
  - – Spending per capita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Per Capita Education Expenditure
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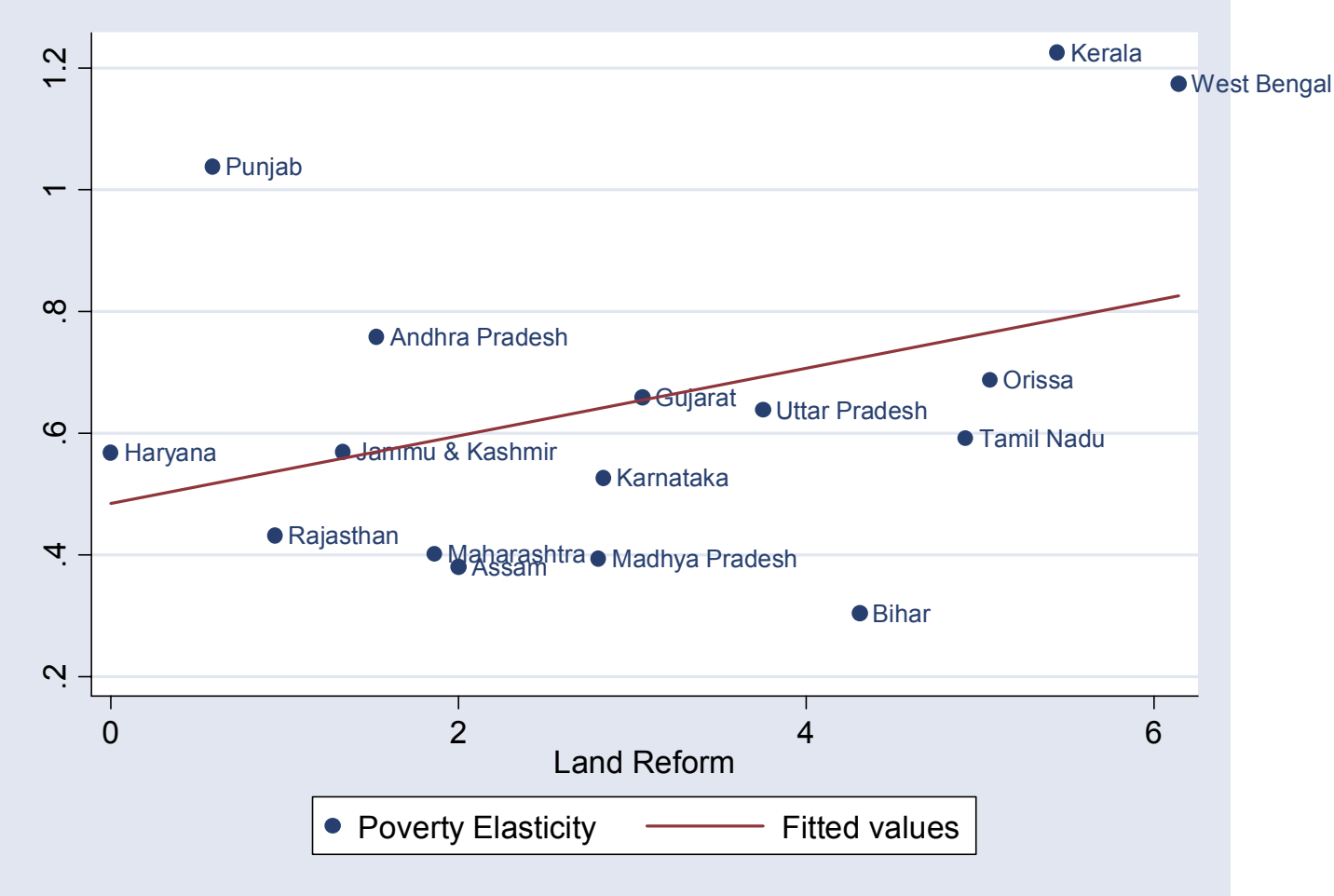
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Land Reform
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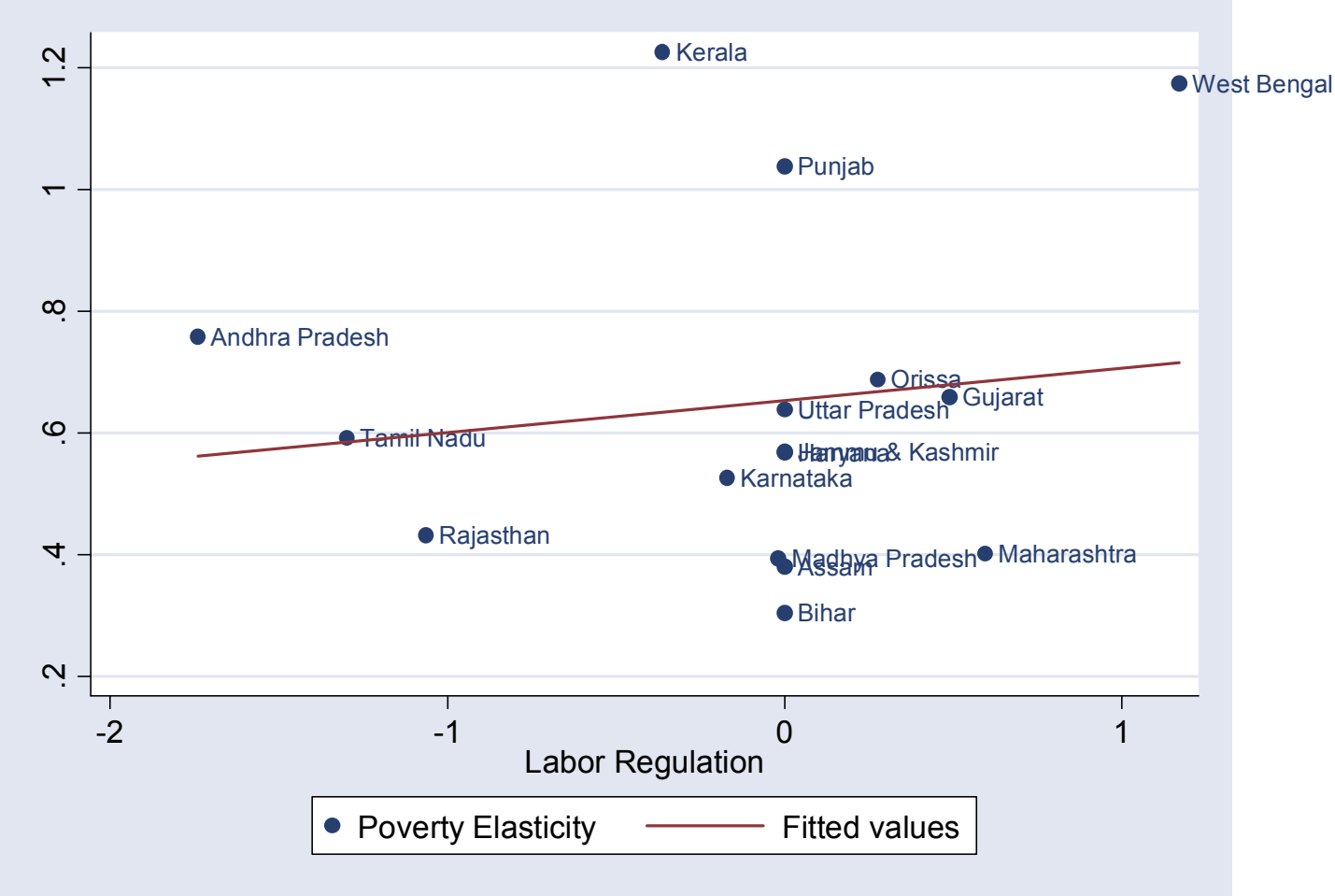
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Labor Regulation
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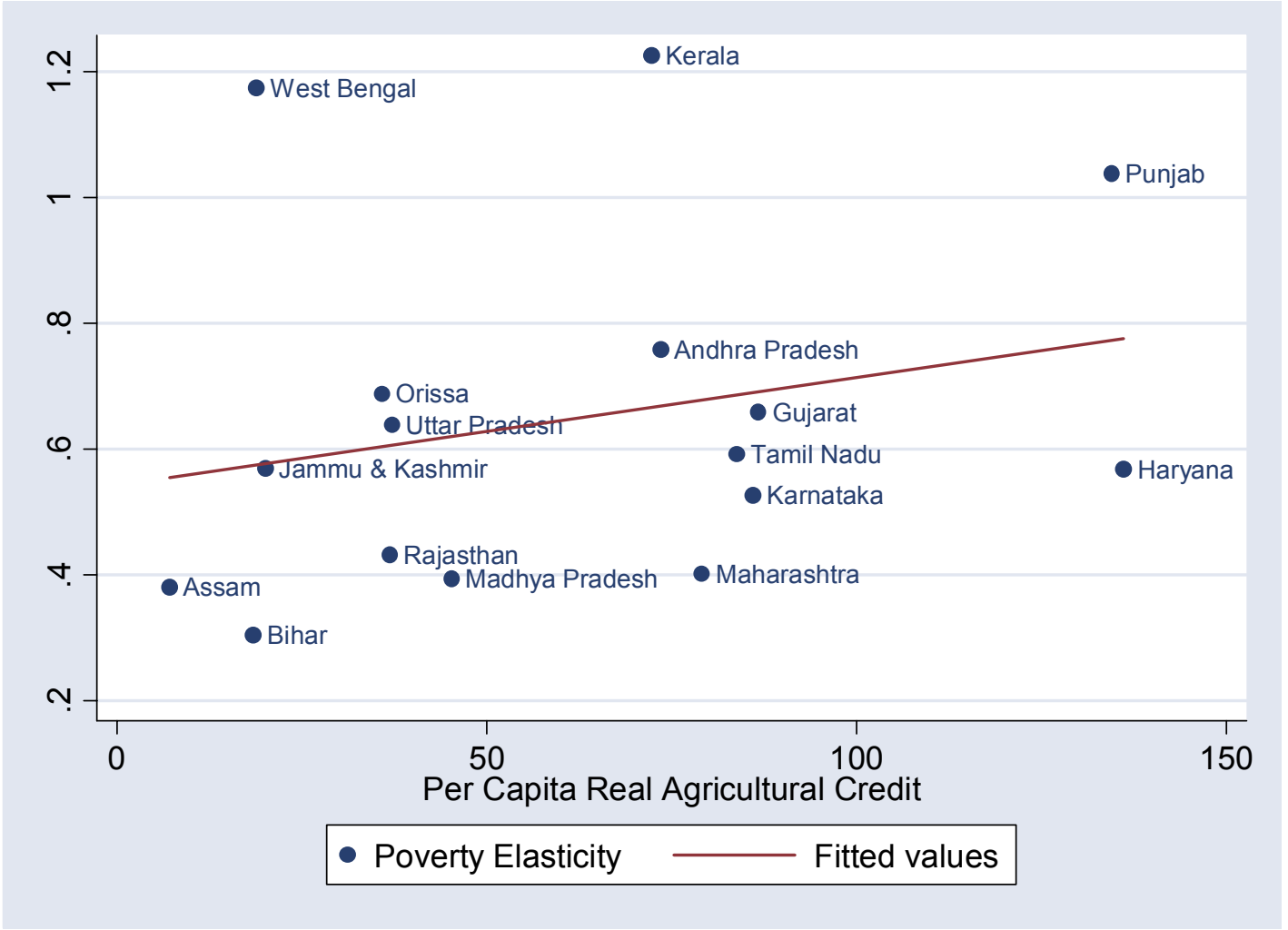
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Per Capita Real Agricultural Credit
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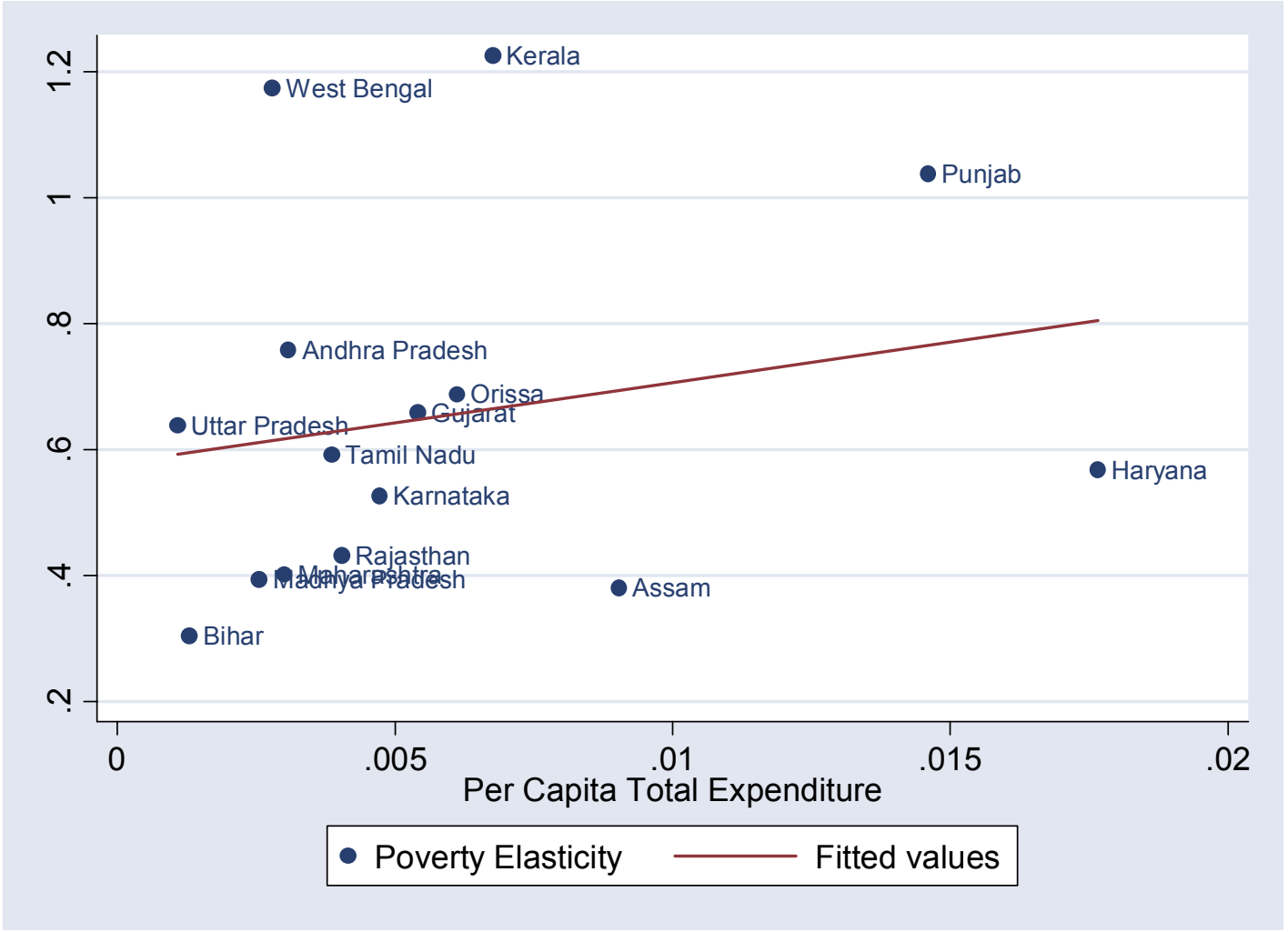
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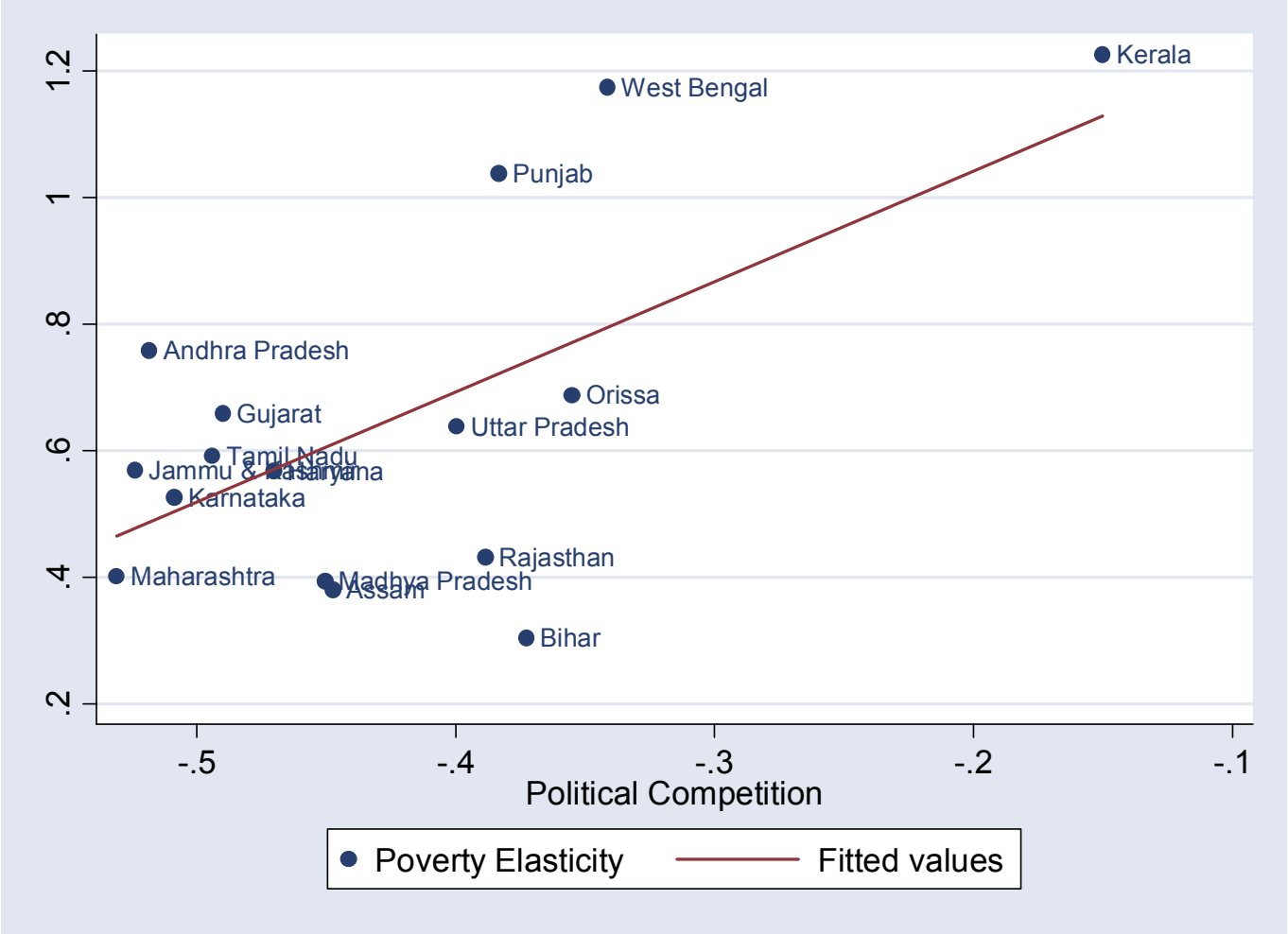
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Political Competition
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