

# The geography of intergenerational mobility: Evidence of educational persistence and the "Great Gatsby Curve" in Brazil

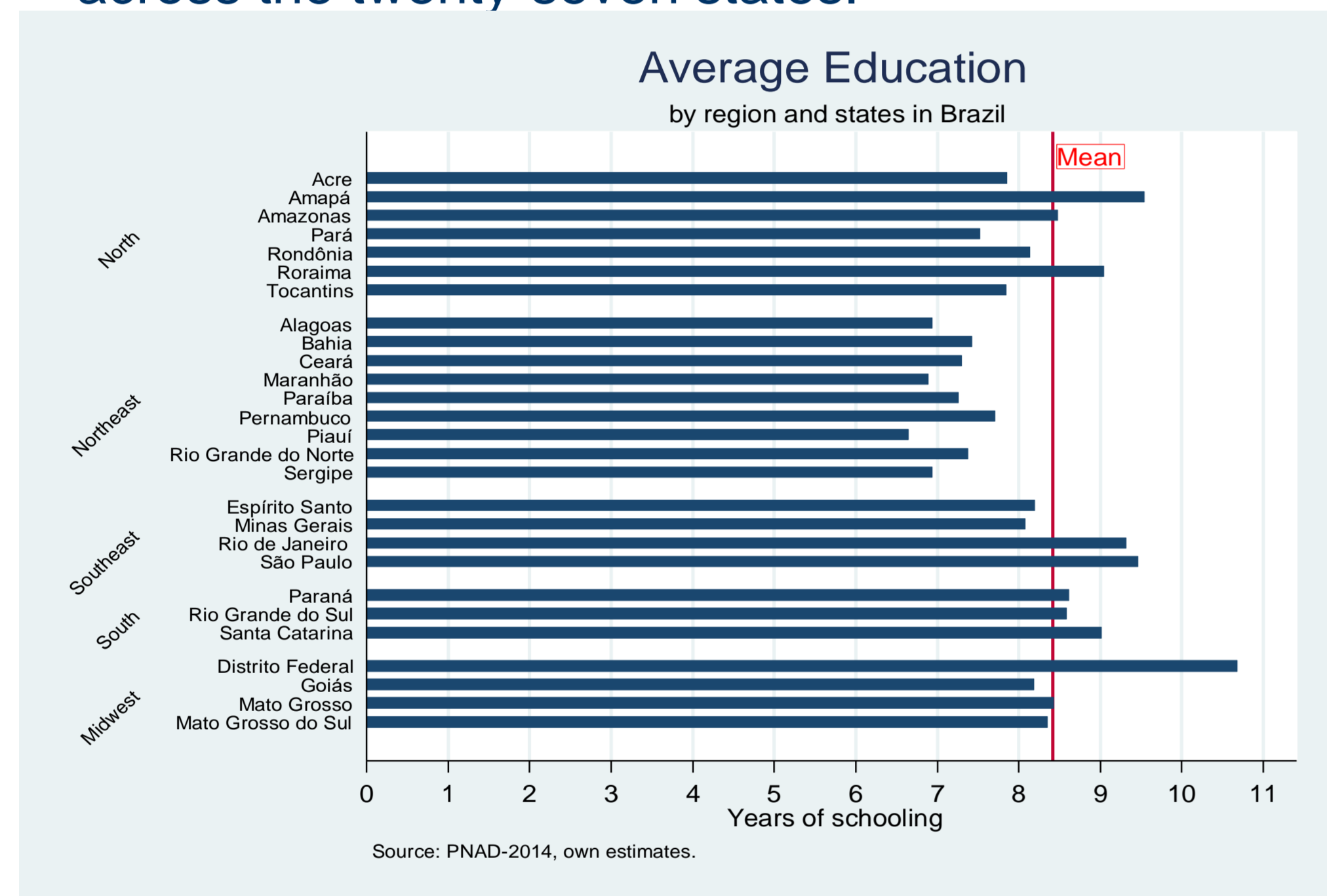
1. Is there a variation in intergenerational educational mobility across Brazilian states?
2. Does the "Great Gatsby Curve" also hold true within a single country?
3. Have children from families with low educational backgrounds living in states with higher income inequality levels a greater chance to drop out the school system?

## Contribution

- "Great Gatsby Curve" free of comparability bias.
- Investigation of a causal link between income inequality and intergenerational mobility.
- Empirical evidence on intergenerational mobility for developing countries.

## Motivation

- Brazil as a promising area of research.
- The country has a significant variation in educational attainment and income inequality across the twenty-seven states.



## Empirical Approaches

1. Transition Matrices:  $\rho_{ij} = \mathbb{P}(X_{t+1} = j | X_t = i)$  for  $i, j \in \mathfrak{R}$

2. Linear Regression Model:  $\frac{educ_{is}^c}{\sigma_s^c} = \delta + \rho \frac{educ_{is}^p}{\sigma_s^p} + \eta \left( \frac{educ_{is}^p}{\sigma_s^p} \cdot UF_i \right) + \lambda UF_i + \gamma (X_i \cdot UF_i) + \varepsilon_{is}$

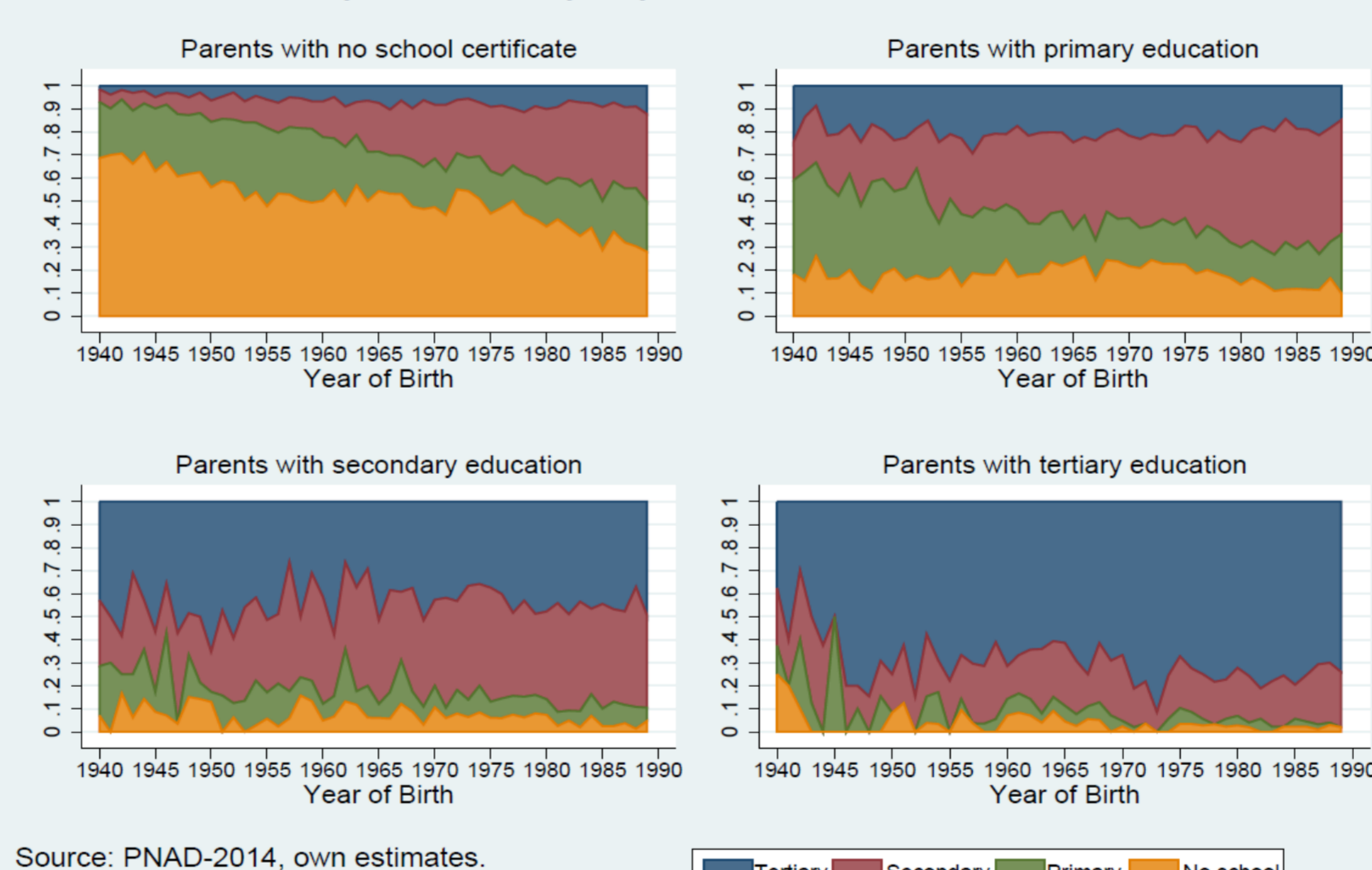
3. Probit Model:  $EduOutcome_{isc} = \pi_0 + \pi_1 (IlliteP_{is} \cdot ratio_s) + \pi_2 (NoEducP_{is} \cdot ratio_s) + \pi_3 IlliteP_{is} + \pi_4 NoEducP_{is} + \pi_5 ratio_s + \gamma_1 male_{is} + \gamma_2 rural_{is} + \gamma_3 bothP_{is} + \gamma_4 race_{is} + \gamma_5 birthc_{is} + \varepsilon_{is}$

4. Marginal Effects:  $\frac{\partial E(EduOutcome | x)}{\partial x} = \frac{\partial F(x\beta)}{\partial x} = f(\tilde{x}\beta) \beta$

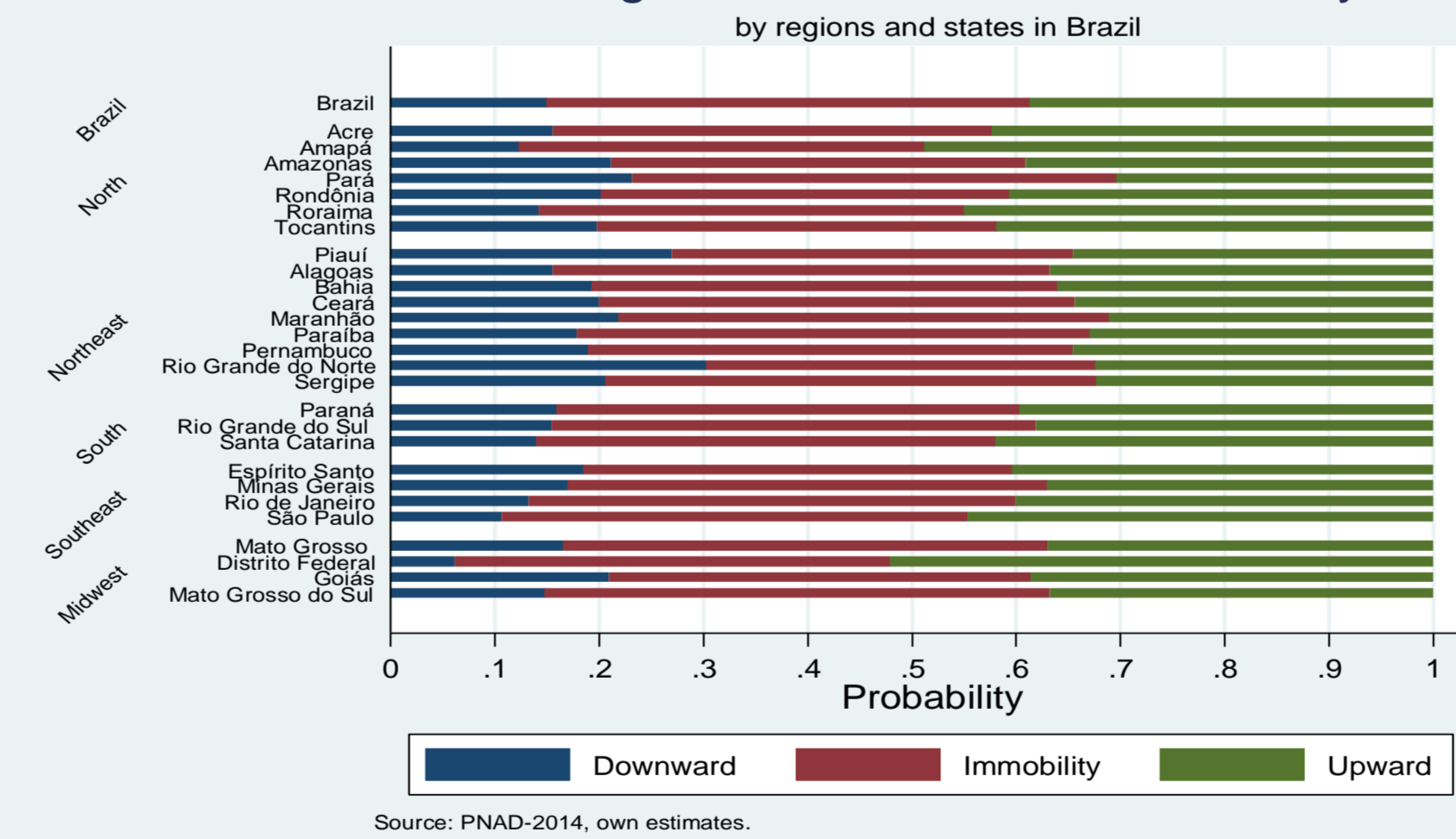
## Results

### Intergenerational Mobility

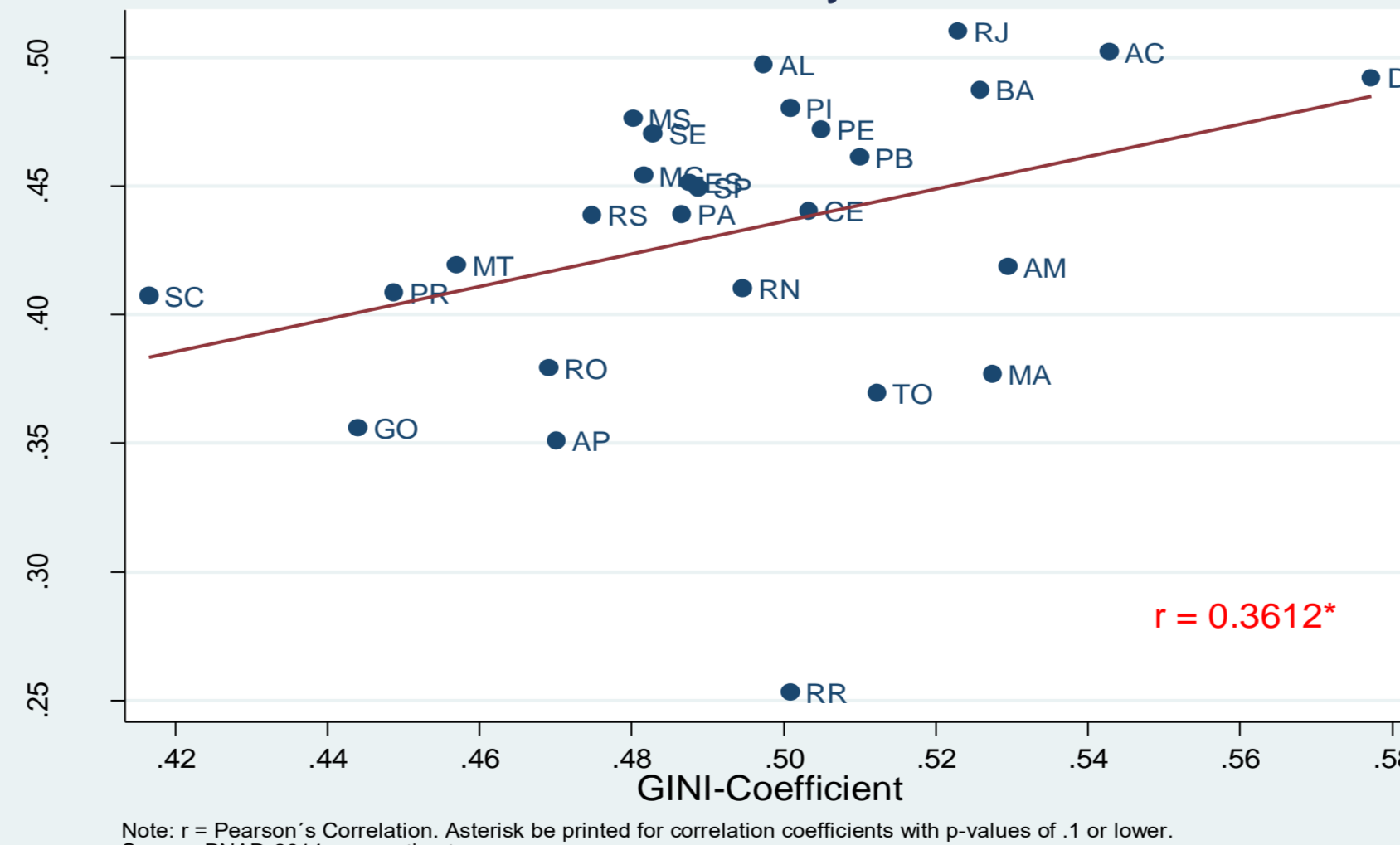
Descendants predicted probabilities of education attainment



### Intergenerational Education Mobility



### Great Gatsby Curve



### Inequality and School Dropout

Dropout rate in primary education

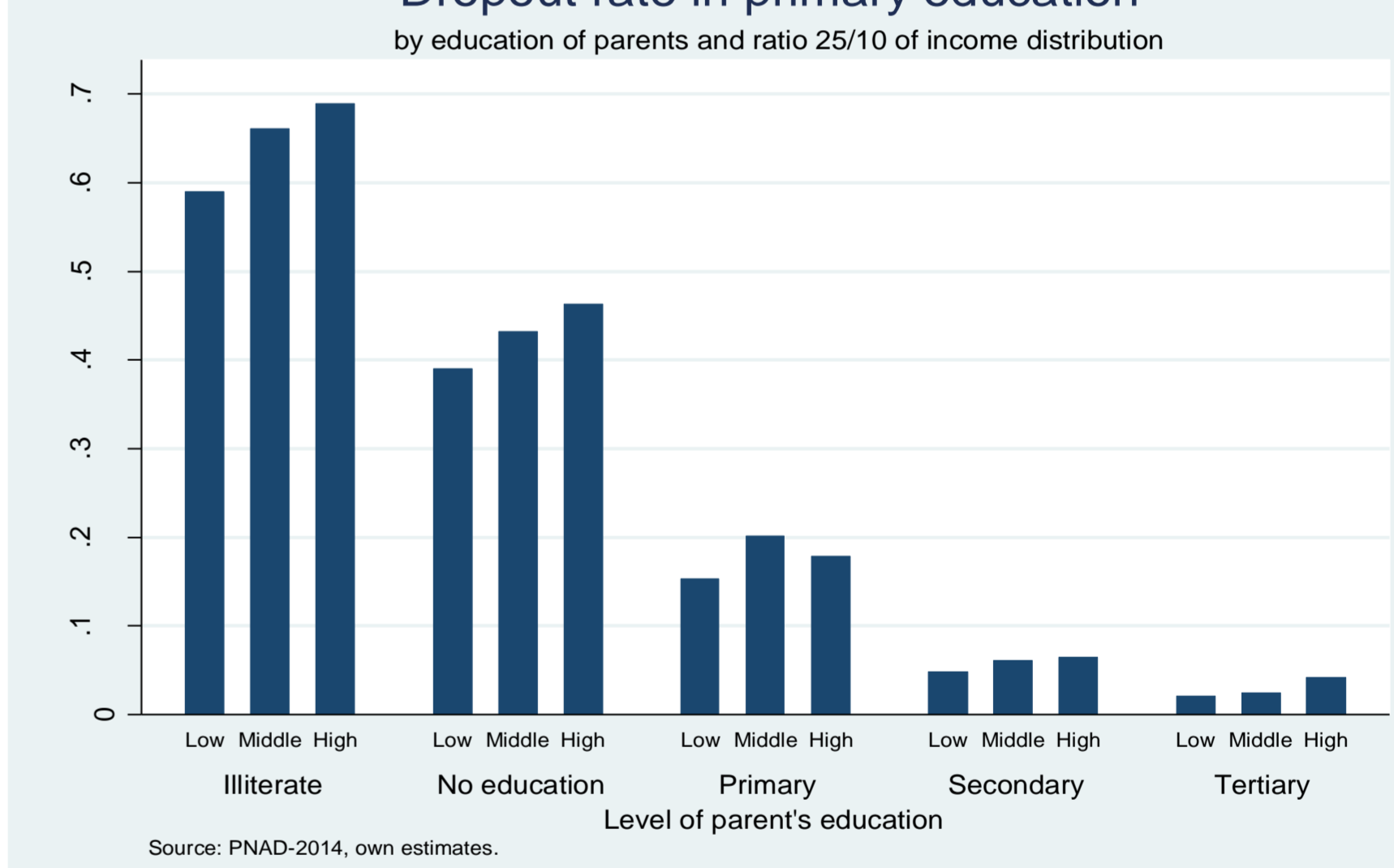
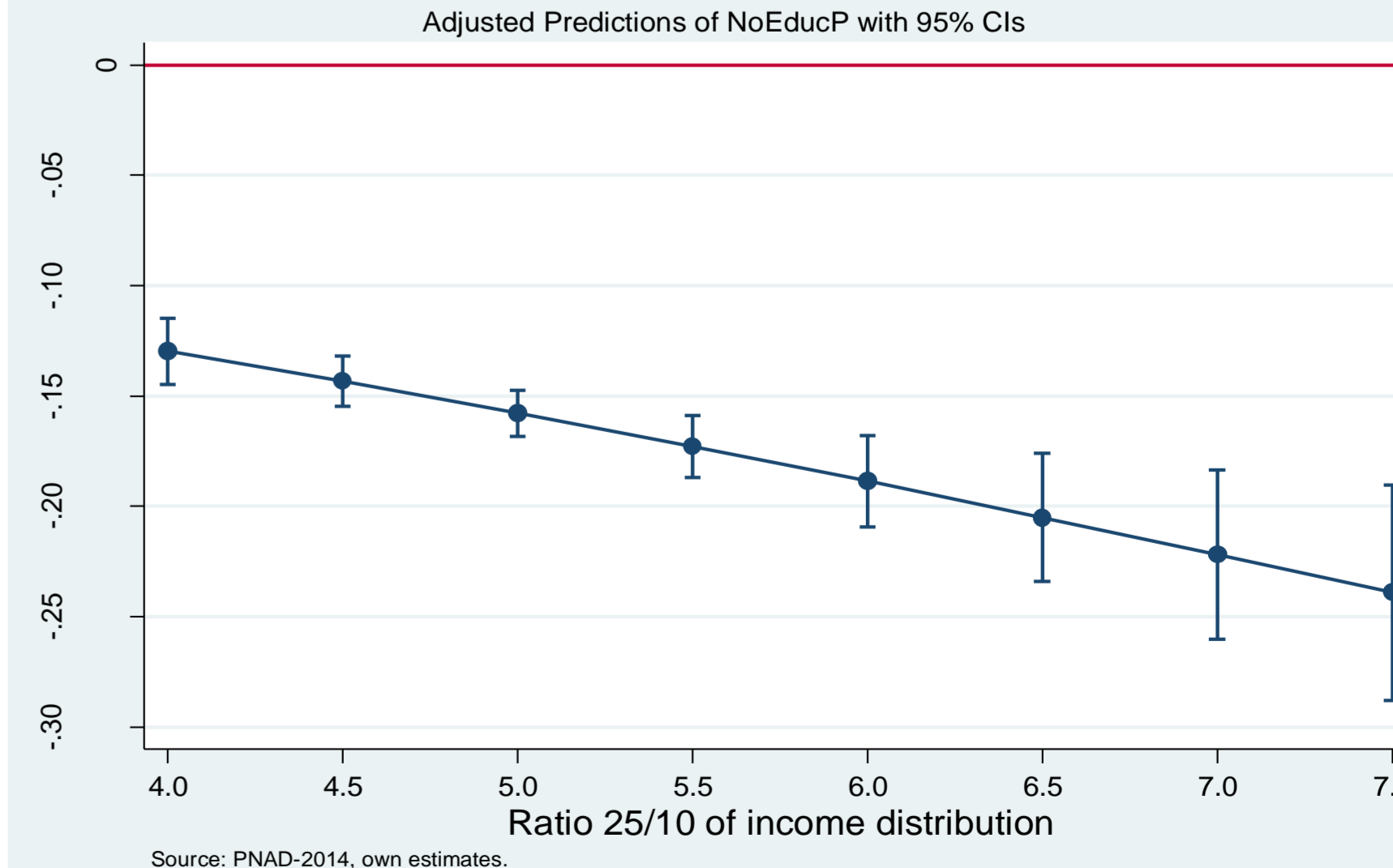


Table: The Impact of Inequality on School Dropout.

VARIABLES	(PSD)	(SSD)	(CTE)
Illiterate Parents * Ratio 25/10	0.0321	0.0206	0.0089
Parents with no school certificate * Ratio 25/10	0.0609**	0.0676**	-0.0489
Illiterate Parents	0.319	0.367*	-0.908***
Parents with no school certificate	0.468***	0.458***	-0.535***
Ratio 25/10	0.00516	-0.103***	0.122***
Male	0.176***	0.199***	-0.220***
Rural	0.691***	0.748***	-0.710***
Living with both parent	-0.183***	-0.135***	0.143**
White (reference)			
Black	0.164***	0.239***	-0.404***
Mixed (white/black)	0.320***	0.316***	-0.452***
Asian	-0.438***	-0.433***	0.654**
Indigenous	0.297**	0.164	-0.0841
1980 - 1989 (reference)			
1970 - 1979	0.415***	0.351***	-0.0547*
1960 - 1969	0.489***	0.512***	-0.0763**
1950 - 1959	0.463***	0.819***	-0.120***
1940 - 1949	0.724***	1.121***	-0.266***
Constant	-1.590***	-0.569***	-0.926***
Observations	35,555	35,305	34,109

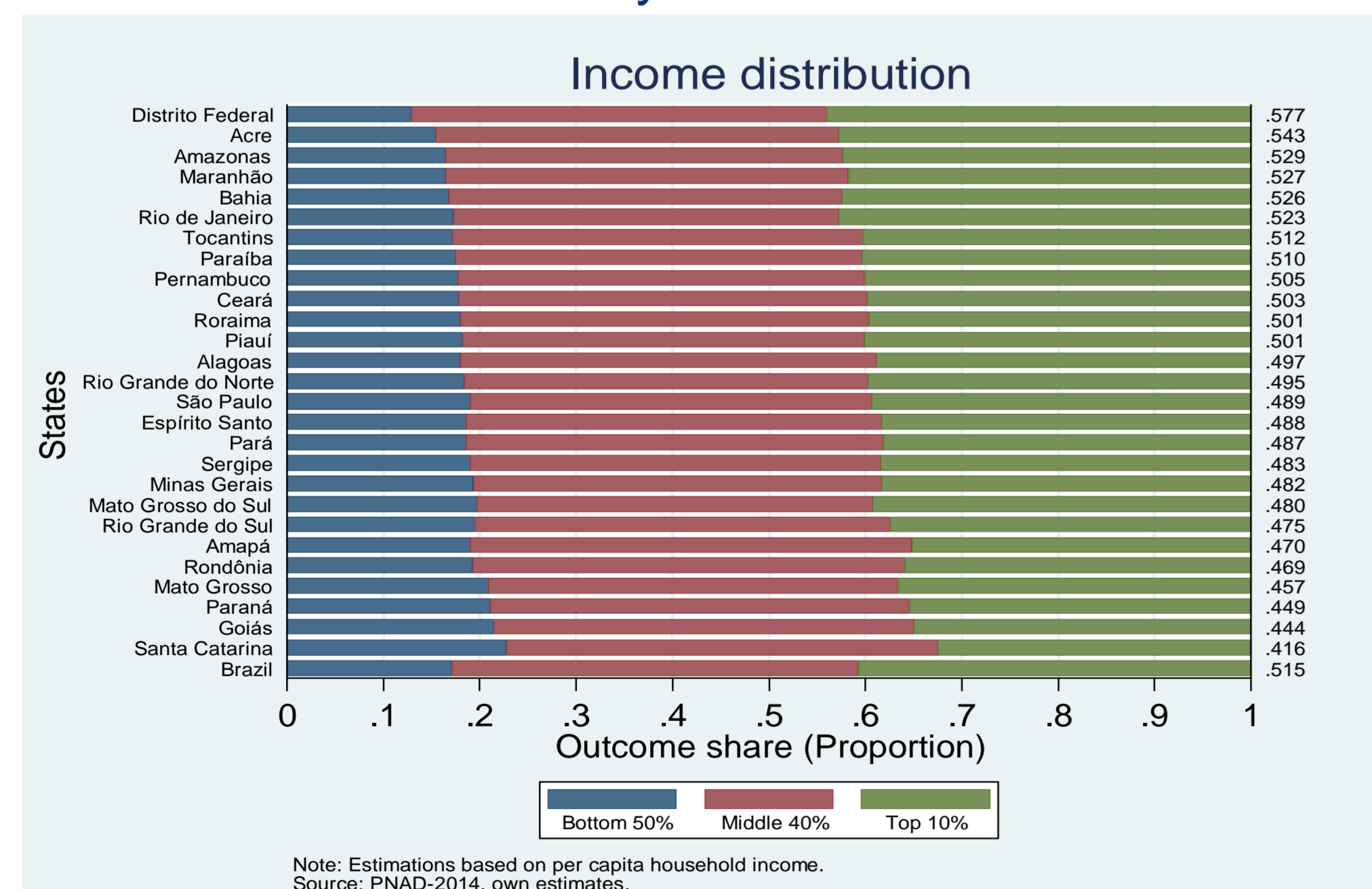
Notes: (i) Robust standard errors in parentheses; (ii) \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Source: PNAD-2014, own estimates.

### Contrasts in Tertiary Education

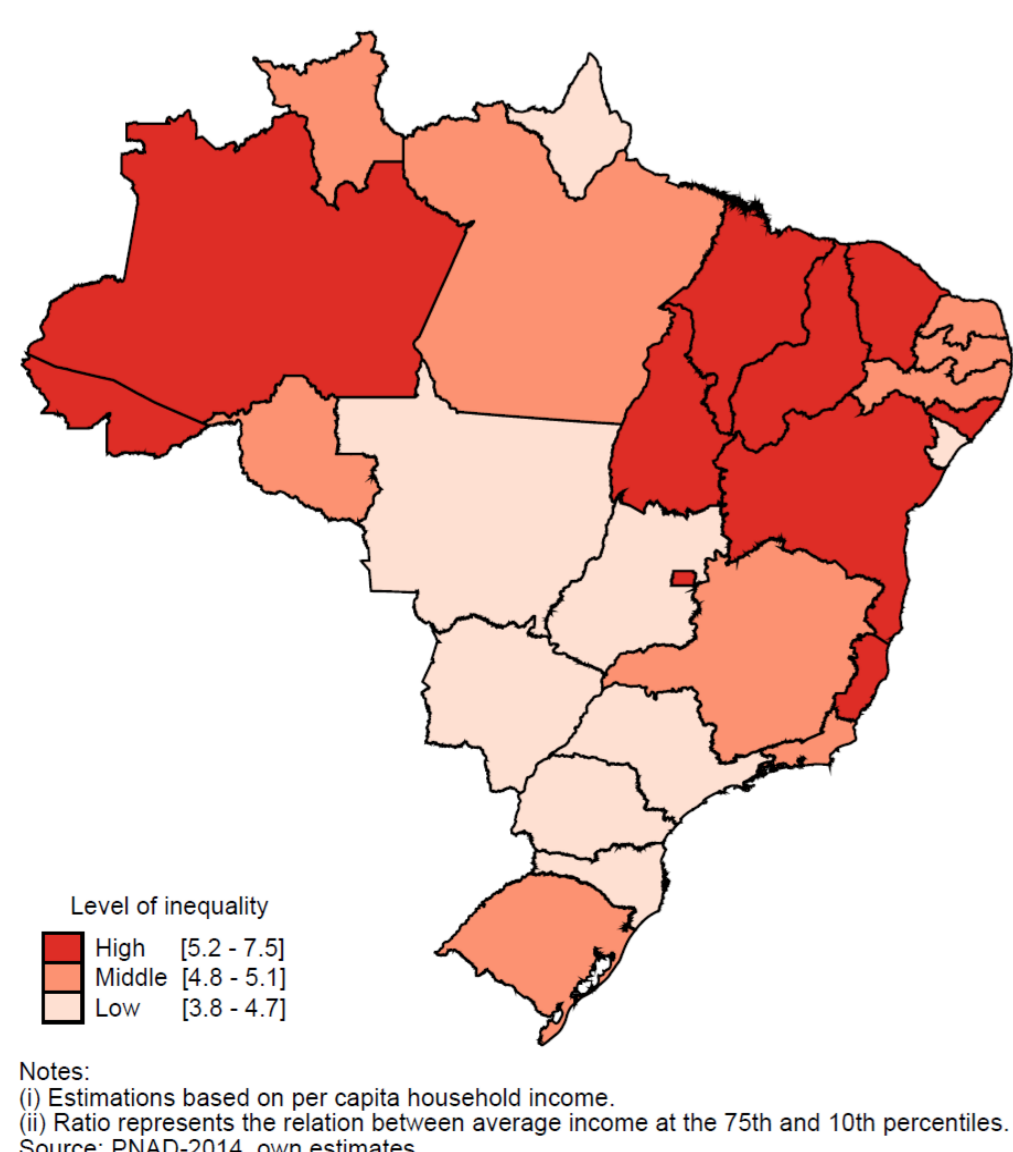


## Data

- National Household Sample Survey (PNAD-2014).
- Mobility supplement 2014 (46,051 individuals).
- Cross-sectional survey.



### Ratio 25/10 of Income Distribution



## Conclusions

- Intergenerational persistence in education varies substantially across Brazilian states.
- Confirmation of the "Great Gatsby curve" at a national level.
- Children born in families with low educational backgrounds living in states where the gap between the bottom and middle of income distribution is wider.