Gov 2006: Formal Political Theory II
Section 4

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Agenda

- PSET review: (even more) probabilistic voting
- Models of growth & inequality
- Brainstorming: what's missing?

PSET review

We start with the familiar set-up:

- $W(q^P, \alpha^i) =$ indirect utility for voter i from policy q^P
- individual shock $\sigma_i \sim U\left[-\frac{1}{2\phi}, \frac{1}{2\phi}\right]$
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Now define $\tilde{\sigma}^i$ as the value that makes voter i indifferent between A and B:

$$\tilde{\sigma}^i(\alpha^i, q^A, q^B, \delta) = W(q^A, \alpha^i) - W(q^B, \alpha^i) - \delta$$

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So we can express π^A, the vote share of A, as follows:

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Models of inequality & growth

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- Alesina & Rodrik (1994)
  - conflict between capital and labor
  - taxes redistribute but ALSO finances a public good necessary for private production
- Persson & Tabellini (1994)
  - overlapping generations model where agents can invest in human capital
  - taxes are purely redistributive

Empirical testing

- **Cross-sectional OLS**: Alesina & Rodrik (1994), Persson & Tabellini (1994)
  - inequality decreases growth

Empirical testing: cross-sectional OLS

GROWTH REGRESSIONS FOR 1970–1985

	High-quality sample ($N = 46$)	Largest possible sample ($N = 70$)	Largest possible sample			
			($N = 49$)	($N = 41$)		
	OLS (9)	OLS (10)	OLS (11)	OLS (12)	OLS (13)	OLS (14)
Const.	4.56	2.80	4.88	7.22	7.18	7.22
	(2.67)	(2.00)	(3.16)	(3.79)	(3.69)	(3.74)
GDP70	−0.29	−0.27	−0.21	−0.28	−0.28	−0.27
	(−2.60)	(−2.33)	(−2.09)	(−2.58)	(−2.23)	(−2.15)
PRIM70	3.28	3.79	3.45	2.77	2.81	2.81
	(2.46)	(3.52)	(2.65)	(1.83)	(1.79)	(1.80)
GINI70	−9.71	−7.95		−5.71	−5.74	−5.73
	(−3.62)	(−3.49)		(−2.33)	(−2.30)	(−2.30)
GINILND			−8.14	−6.41	−6.39	−6.46
			(−5.49)	(−3.79)	(−3.69)	(−3.71)
DEMOC* GINILND					−0.11	
					(−0.13)	
DEMOC						−0.09
						(−0.15)
$\bar{R}^2$	0.28	0.23	0.43	0.46	0.45	0.45

Table II from Alesina & Rodrik, 1994

Empirical testing

- **Cross-sectional OLS**: Alesina & Rodrik (1994), Persson & Tabellini (1994)
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- **Panel data with country fixed efffects**: Li & Zou (1998), Forbes (2000)
  - inequality increases growth

Empirical testing: panel data with fixed effects

TABLE 3—REGRESSION RESULTS: ALTERNATE ESTIMATION TECHNIQUES

	Five-year periods				Ten-year periods: fixed effects
Estimation method	Fixed effects (1)	Random effects (2)	Chamberlain's π-matrix (3)	Arellano and Bond (4)	(5)
Inequality	0.0036	0.0013	0.0016	0.0013	0.0013
	(0.0015)	(0.0006)	(0.0002)	(0.0006)	(0.0011)
Income	−0.076	0.017	−0.027	−0.047	−0.071
	(0.020)	(0.006)	(0.004)	(0.008)	(0.016)
Male Education	−0.014	0.047	0.018	−0.008	−0.002
	(0.031)	(0.015)	(0.010)	(0.022)	(0.028)
Female Education	0.070	−0.038	0.054	0.074	0.031
	(0.032)	(0.016)	(0.006)	(0.018)	(0.030)
PPP	−0.0008	−0.0009	−0.0013	−0.0013	−0.0003
	(0.0003)	(0.0002)	(0.0000)	(0.0001)	(0.0003)
R^2	0.67	0.49			0.71
Countries	45	45	45	45	45
Observations	180	180	135	135	112
Period	1965–1995[a]	1965–1995[a]	1970–1995	1970–1995	1965–1995

Notes: Dependent variable is average annual per capita growth. Standard errors are in parentheses. R^2 is the within-R^2 for fixed effects and the overall-R^2 for random effects.

Table 3 from Forbes, 2000

Empirical testing

- **Cross-sectional OLS**: Alesina & Rodrik (1994), Persson & Tabellini (1994)
  - inequality decreases growth
- **Panel data with country fixed efffects**: Li & Zou (1998), Forbes (2000)
  - inequality increases growth
- **Non-linear specifications**: Banerjee & Duflo (2003)
  - changes in inequality (in *either direction*) decrease growth

Empirical testing: non-linear specification

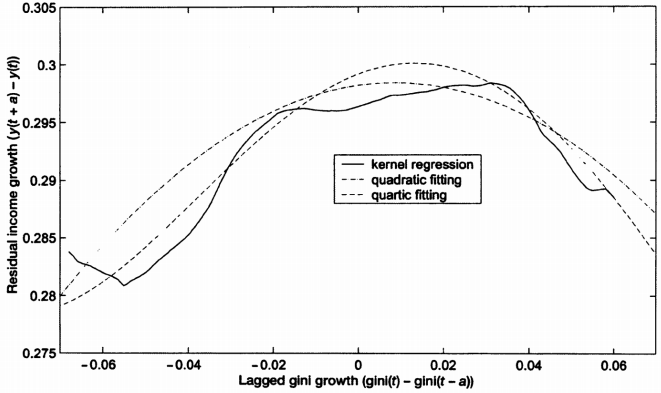

Figure 2. Relationship between income growth and lagged gini growth: partially linear model (Barro variables).

Figure 2 from Banerjee & Duflo, 2003

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- **Periodization**
  - Long-term growth (e.g. 25 yr period) used in x-sectional OLS
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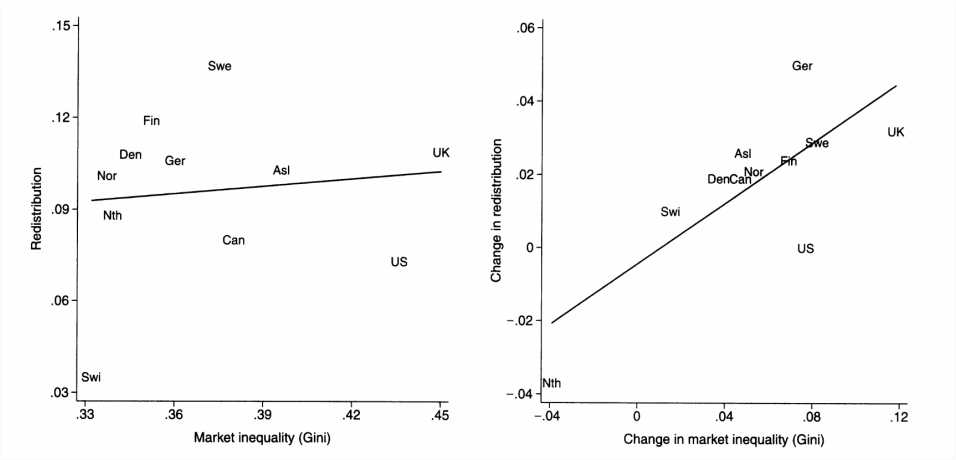
- **Measuring inequality**
  - Gini coefficient most common, but not a good measure of mean-median skew!
  - Persson & Tabellini (1994) is a notable exception, using the income share going to the middle quintile. Better approximation of the position of the median voter?

Empirical testing: evidence on the mechanism

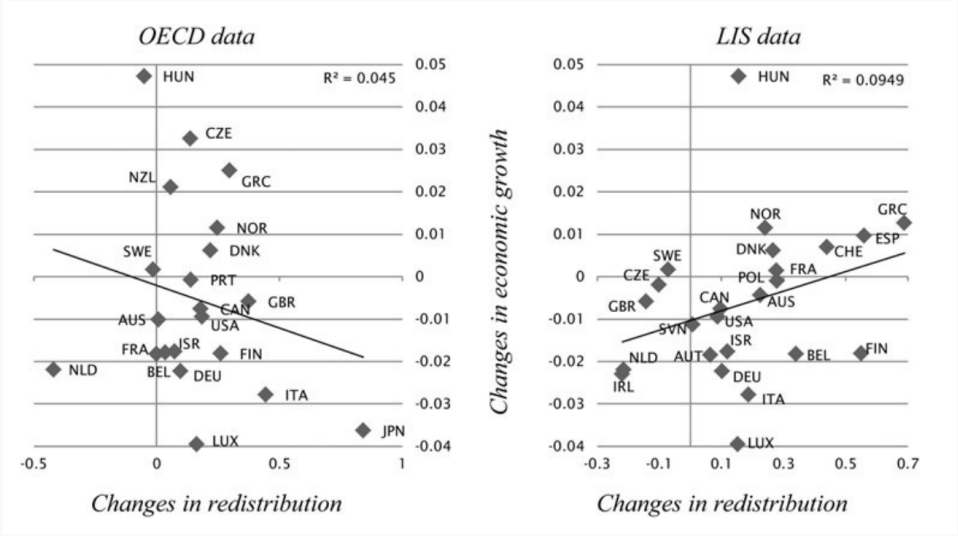
- Recall that both Alesina & Rodrik (1994), Persson & Tabellini (1994) identify (the threat of) redistribution as the key mechanism linking inequality and growth.
- So far we've only seen evidence on the inequality-growth relationship.
- Does inequality $\uparrow$ redistribution? And does redistribution $\downarrow$ growth?

Empirical testing: does inequality ↑ redistribution?



Figures 6 & 7 from Kenworthy & Pontusson, 2005

Empirical testing: does redistribution ↓ growth?



Let's brainstorm! Round I

What's missing from the A&R / P&T models?

Let's brainstorm! Round I

What's missing from the A&R / P&T models?

Drawing on your substantive knowledge, come up with 3 factors that might complicate the inequality-redistribution link or the redistribution-growth link.

Let's brainstorm! Round II

How can we incorporate these insights into a formal model?

Pick 1 suggestion and brainstorm how it could be introduced in a formal model, drawing on material we have covered so far.

Section feedback

As always, your feedback on how to improve section is much appreciated!

Feedback form: `https://goo.gl/forms/qYk5zoI4yOShpDxo2`