Class conflict

- Alesina-Rodrik, Persson-Tabelllini: Inequality increases redistribution, redistribution reduces growth through incentive effects.
- Run a country regression with inequality

\[(y_{it+a} - y_{it})/a = \alpha y_{it} + X_{it} \beta + \gamma g_{it} + \nu_i + \epsilon_{it}\]

over long periods of data.
- Negative correlation between beginning of period inequality and long-run growth.

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Criticism

- Benabou (1996): Inequality is slightly negatively correlated with redistribution in the cross-country data. And redistribution seems to be positively correlated with it.
- Panel Data Evidence: Deininger and Squire panel data set on inequality (available on the world Bank Web Site). Forbes (98), Li-Zou (98). Observe that level of inequality may well be correlated with countries’ specific propensity to grow (the fixed effect).
Estimate the same relationship with shorter lags

\[(y_{it+5} - y_{it})/5 = \alpha y_{it} + X_{it}\beta + \gamma g_{it} + v_i + \epsilon_{it}\]
• Want to use fixed effects. However, in the presence of a lagged endogenous regressor, fixed effect is biased. Use GMM estimator developed by Arellano and Bond (91).

• First difference the data:

\[
(y_{it+a} - y_{it})/a = \frac{(aa + 1)}{a} (y_{it} - y_{it-a})
\]

\[+ (X_{it} - X_{it-a})\beta + \gamma (g_{it} - g_{it-a}) + \epsilon_{it} - \epsilon_i \]

use \(y_{it-a}, X_{it-a}\) and \(g_{it-a}\) (and previous lags) as instruments for the differences.

• Find that when using fixed effects or Arellano and Bond, the relationship is positive and significant. Conclude that increases in inequality increase growth. Class conflict is not a problem.
POTENTIAL PROBLEMS

- This literature has commonly assumed a linear relationship between growth and observed levels of inequality. Barro (99) is a partial exception (interact inequality with wealth–w/o fixed effect. Finds that the negative relationship holds only in levels).
- There are reasons to think that the true relationship is not linear in levels
  - Theoretical reasons: Increases in inequality often come with conflict as do decreases in inequality. change may be bad (at least in the short run).
  - Measurement issues: Measurement error goes up during times of turmoil.
The evidence for misspecification

- Partially linear model:
  \[
  \frac{(y_{it+a} - y_{it})}{a} = \frac{(a\alpha + 1)}{a} (y_{it} - y_{it-a}) \\
  + (X_{it} - X_{it-a})\beta + \phi(g_{it} - g_{it-a}) + \epsilon_{it} - \epsilon_i
  \]

Kernel and series estimation of $\phi(.)$

- Inverted U-curve. Robust to using other specifications.
- Non-linearity in existing models:
  \[
  (y_{it+a} - y_{it})^* = y_{it+a} - y_{it} \\
  - (a\hat{\alpha} + 1)(y_{it} - y_{it-a}) - a(X_{it} - X_{it-a})
  \]

Estimate the relationship:
  \[
  \frac{(y_{it+a} - y_{it})^*}{a} = \phi(g_{it} - g_{it-a}) + \nu_{it}. \text{Once again inverted U-Curve.}
  \]
- Is it all measurement error.
An attempt to get at this issue using micro data

- Banerjee, Mookherjee, Munshi, Ray,...Look at the effect of inequality on the efficiency of sugar cooperatives.
- Sugar coops buy sugar cane locally, extract juice and make sugar.
- The goal is to avoid a private monopoly. By law they are required to pay uniform prices to everybody and charge uniform entry fees.
- Cane growers maximize
  \[ pf(l) - wl \rightarrow pf'(l) = w, \text{ where } p \text{ is price paid to cane growers.} \]
- With the normalization one unit of cane=one unit of sugar, the coop should maximize:
  \[ qf(l) - wl \rightarrow qf'(l) = w. \text{ Optimum } q = p. \]
• Class conflict arises because the group that controls the coop gets to use the profits and as a result wants to push prices down below the efficient level.

• The Coase theorem fails because of the equal payment rules, coordination problem.

• Two groups: Big and small farmers.

• When the population is quite homogeneous (all big or all small) it does not pay to distort, since you are hurting people in your own group.

• When the population is heterogeneous but one group controls, it pays to distort.

• Our hypothesis is that big farmers get much more out of the profits than small farmers and have stronger incentives to distort.

• Empirical predictions:
  - Price and capacity should be U-shaped in share of big farmers
  - The participation rates for big farmers should go in the opposite direction the price.