The Rich-poor Divide, Within-group Inequality and Conflict

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Inequality is often considered a prime cause of conflict

All major theorists of conflict believe that economic inequality is, at least, a potentially important cause of dissent. All major cross-national quantitative studies of dissent include economic inequality (...) all studies of particular conflicts consider [it] to be a potential cause (Lichbach, 1989, p.431).

- Inequality plays a crucial role in most theories of conflict:
  - E.g. Grossman (1991); Acemoglu and Robinson (2001 & 2006); Robinson (2001); Esteban and Ray (2008).
- But cross-national studies of the causes of conflict find no robust relationship (e.g. Collier and Hoeffler, 2004).
  - Quality of cross-country data may be at fault (both on inequality and conflict)
  - There may also be theoretical reasons...

A complex relationship

- Inequality increases the incentives of the poor (who have little to loose) to predate from the rich.
  - $\rightarrow$ One should expect a positive relationship inequality-conflict
- Inequality increases willingness of the rich to repress and forestall violence.
  - $\rightarrow$ This may allow for a (less intuitive) negative relationship.

In fact, look at this colombia evidence

Table: Overall Land inequality and Rebel Attacks

Land Gini	-3.879**	-4.501***	-3.800**	-4.004**	-4.428***	-4.331***
	(1.593)	(1.608)	(1.548)	(1.599)	(1.665)	(1.676)
Controls						
Scale		✔	✔	✔	✔	✔
Dept. & region dum.			✔	✔	✔	✔
Geography				✔	✔	✔
Strategic location.					✔	✔
Poverty						✔
Observations	808	807	807	791	791	791
R^2	0.01	0.15	0.33	0.33	0.34	0.34

Notes: * Significant at 10 ** significant at 5 *** significant at 1Robust s.e. in parentheses.

A complex relationship

- Going beyond overall inequality adds even more nuance:
  - role of the middle class,
  - **within-group inequality**.
- In this paper we examine the way in which three different dimensions of inequality influence violent (predatory) conflict.
  1. The "rich-poor" divide.
  2. Economic dispersion within the *rich*.
  3. Economic dispersion within the *poor*.

Model – notation

- N individuals receive both a wage income, w, and rents, r, per unit of a fixed asset (land)
- Two groups, rich and poor, $j = \{r, p\}$; $N = N_r + N_p$
  - Each individual i within group j supplies one unit of labor inelastically and owns a fraction θ_{ij} of land

$\rightarrow$ Individual income and consumption without conflict:

$$c_{ij}^{peace} = w + \theta_{ij} r$$

- Conflict reduces a fraction $(1 - \rho)$ of output.
- Group j wins with probability p_j ($\equiv j$'s *military power*) and captures the land of opponent.
  - Land gains divided equally among group members

$\rightarrow$ Consumption under conflict:

$$c_{ij}^{conflict} = (1 - \rho)\left[w + p_j\left(\theta_{ij} + \frac{\theta_{-j}}{N_j}\right) r\right]$$

Gains of conflict

- Inequality parametrized by λ, the fraction of the land controlled by the rich ($\equiv$ rich's *economic power*): $\lambda = \theta_{ir} N_r$
- Expected benefit of conflict for individual i in group j:

$$\pi_{ij} = c_{ij}^{conflict} - c_{ij}^{peace}$$

$\Rightarrow$

$$\pi_{ir} = -\rho \left(w + \frac{\lambda}{N_r} r \right) + (1 - \rho) \frac{1}{N_r} \left[p_r - \lambda \right] r$$

and,

$$\pi_{ip} = -\rho \left(w + \frac{1 - \lambda}{N_p} r \right) + (1 - \rho) \frac{1}{N_p} \left[\lambda - p_r \right] r.$$

I. The rich-poor divide and conflict

Two regimes in the rich-poor divide:

1. "Dispossession": elite is militarily strong ($p_r > \lambda$)
   - The poor never initiate conflict ($\pi_{ip} < 0$)
   - But the elite may($\pi_{ir} \lesseqgtr 0$), to dispossess the poor.

2. "Grievance regime": elite's military power is weak ($p_r < \lambda$)
   - Rich never initiate conflict ($\pi_{ir} < 0$)
   - But the poor may ($\pi_{ip} \lesseqgtr 0$)

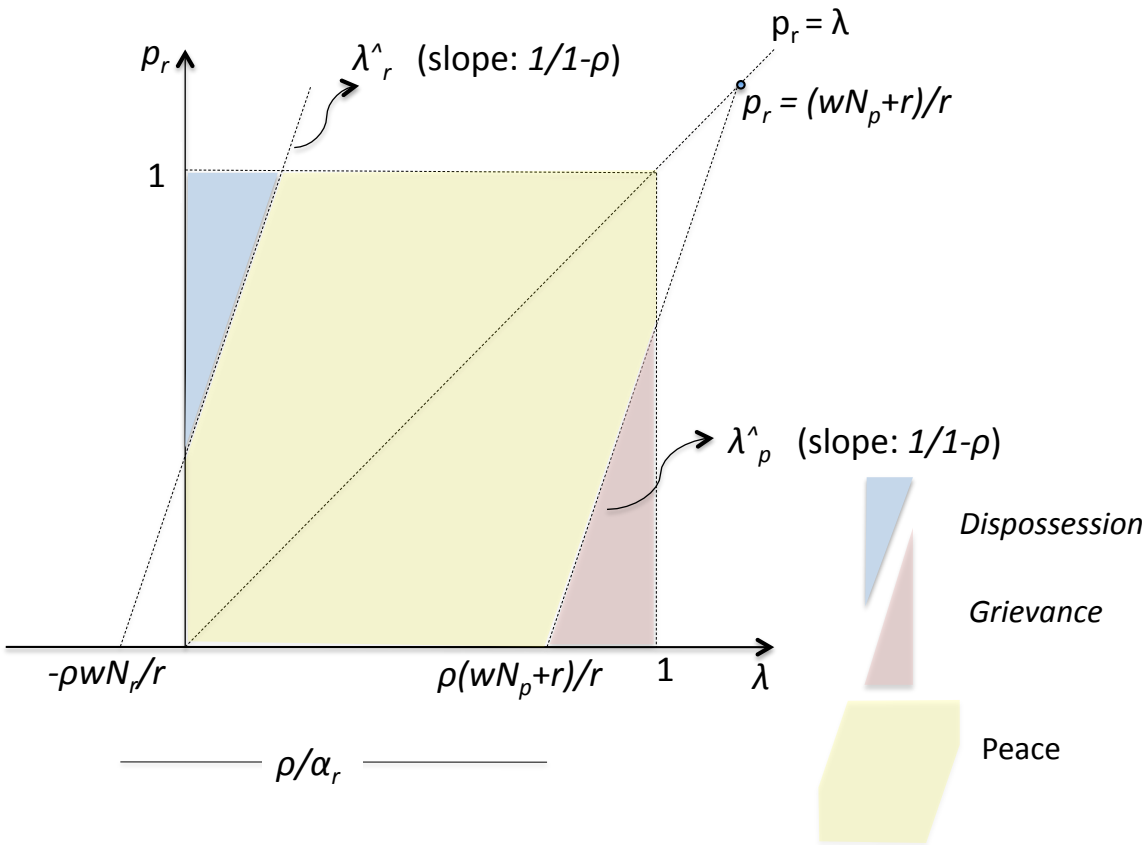
$\rightarrow$ Inequality between the two groups has an ambiguous effect on conflict

Effect of inequality on conflict?

- "Dispossession" regime: Negative!
  - Less wealth to dispossess, and more wealth to risk to the disruption of conflict, $\frac{\partial \pi_{ir}}{\partial \lambda} < 0$.
- "Grievance" regime: Positive!
  - More gains from expropriation, less costs from disruption, $\frac{\partial \pi_{ip}}{\partial \lambda} > 0$.

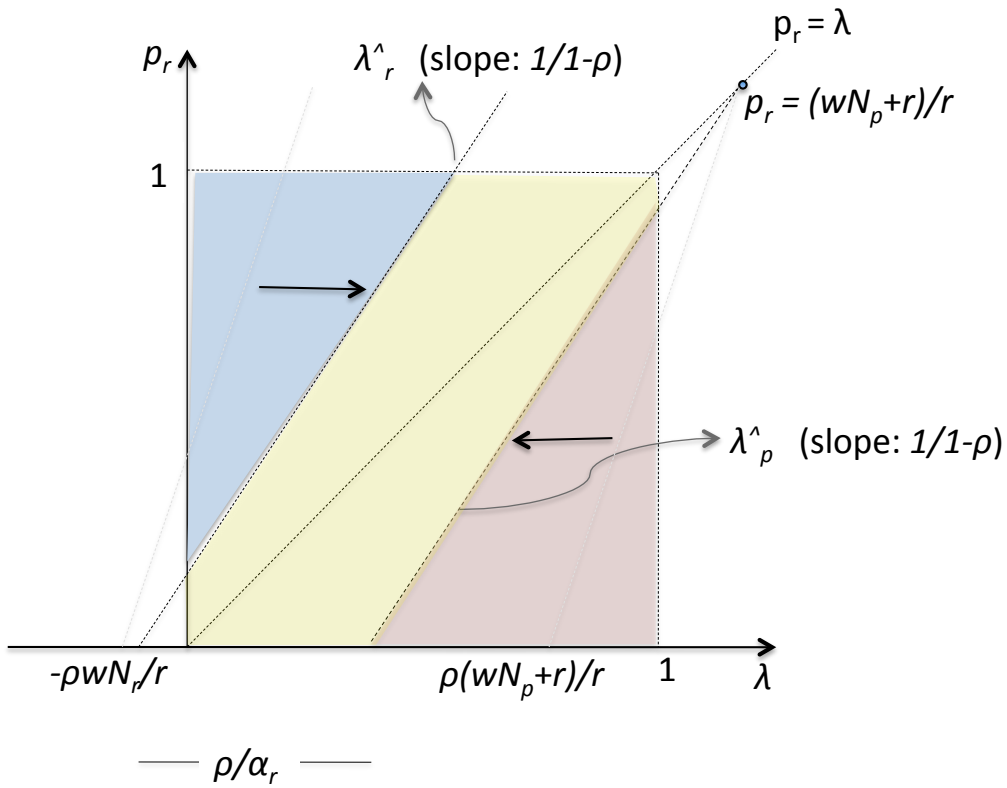
Graphical summary

Figure: Rich-poor divide and conflict



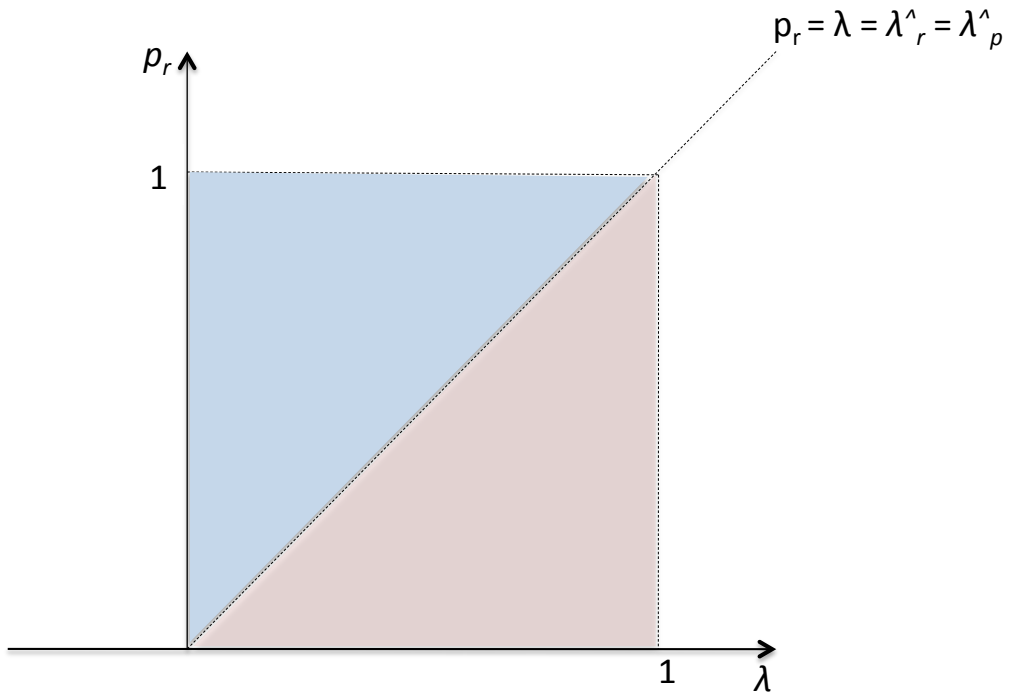
Graphical summary – comparative statics

Figure: Effect of $\downarrow \rho$ ($=$ cost of conflict)



Graphical summary – extreme case

Figure: $\rho = 0$



II. Within-group inequality and conflict

- Now conflict within groups on wether to initiate conflict.
  - Only some rich (poor) find fighting profitable.
- Inequality within a group (I_j) influences collective action.
  - E.g. for I_r: For the elite property rights protection depends on collective action (or to lobby the state for protection).
- If conflict breaks out each group member chooses own fighting effort
  - Probability of wining is now endogenous (function of group-wide efforts).

$$p_r = f\left(\sum_{i \in r} e_i, \sum_{i \in p} e_i\right)$$

  - Functional form of cost of effort: $c(e_i) = \frac{e_i^{\beta}}{\beta}$ for $\beta > 1$

Effect of inequality on conflict is also ambiguous

1. Effect on probability of winning
   - Effect of within-group inequality depends on shape of the cost of effort.
     - The less convex, the more effective smaller groups are (Olsonian logic of concentration of benefits).
     - Hence increasing within-group inequality increases the probability of winning

$$\frac{\partial p_r^*}{\partial I_r} > 0 \iff \beta < 2 \qquad (< 0 \iff \beta > 2)$$

2. Effect on conflict initiation
   - Same cost-shape argument. Olsonian effect kicks in for less convex effort costs
     - Higher inequality $\rightarrow$ easier collective action $\rightarrow$ higher probability of going to war

Table: Summary of Theoretical Predictions

	λ	I_r		I_p	
		$\beta > 2$	$\beta < 2$	$\beta > 2$	$\beta < 2$
p_r^*	$-$	$-$	$+$	$+$	$-$
π_p^*	$+$	$+$	$-$	$-$	$+$
π_r^*	$-$	$-$	$+$	$+$	$-$

Overview of empirical results for case study: Colombia

- Data:
  - Event-based information on violent conflict (location, date and type)
  - Land concentration computed using cadastral records.
- Evidence consistent with:
  - Deeper rich/poor divide is associated with *more* violence
    $\rightarrow$ "Grievance"-type conflict

	λ	I_r		I_p	
		$\beta > 2$	$\beta < 2$	$\beta > 2$	$\beta < 2$
p_r^*	$-$	$-$	$+$	$+$	$-$
π_p^*	$+$	$+$	$-$	$-$	$+$
π_r^*	$-$	$-$	$+$	$+$	$-$

Table: Rich-Poor Divide and Rebel Attacks

Rich-Poor divide	25.35***	21.62***	7.928**	7.003*	8.239**	6.766*
	(4.153)	(4.493)	(3.623)	(3.583)	(3.802)	(3.926)
Controls						
Scale		✔	✔	✔	✔	✔
Dept. & region dum.			✔	✔	✔	✔
Geography				✔	✔	✔
Strategic location.					✔	✔
Poverty						✔
Observations	808	807	807	791	791	791
R^2	0.02	0.15	0.33	0.33	0.33	0.33

Notes: * Significant at 10%, ** significant at 5%, *** significant at 1%. Robust s.e. in parentheses.

Overview of results for Colombia

- Evidence consistent with:
  - Deeper rich/poor divide is associated with *more* violence,
    $\rightarrow$ "Grievance"-type conflict
  - Inequality within rich landowners tends to *decrease* conflict.
    $\rightarrow$ Olsonian technology of conflict?

	λ	I_r		I_p	
		$\beta > 2$	$\beta < 2$	$\beta > 2$	$\beta < 2$
p_r^*	$-$	$-$	$+$	$+$	$-$
π_p^*	$+$	$+$	$-?$	$-$	$+$
π_r^*	$-$	$-?$	$+$	$+$	$-$

Table: Within-Rich Inequality and Rebel Attacks

Within-rich ineq.	-2.803*	-3.020**	-3.028**	-3.237**	-3.506**	-3.516***
	(1.485)	(1.459)	(1.542)	(1.596)	(1.637)	(1.639)
Controls						
Scale		✔	✔	✔	✔	✔
Dept. & region dum.			✔	✔	✔	✔
Geography				✔	✔	✔
Strategic location.					✔	✔
Poverty						✔
Observations	808	807	807	791	791	791
R^2	0.01	0.14	0.33	0.33	0.33	0.33

Notes: * Significant at 10%, ** significant at 5%, *** significant at 1%. Robust s.e. in parentheses.

Overview of results for Colombia

- Evidence consistent with:
  - Deeper rich/poor divide is associated with *more* violence,
    $\rightarrow$ "Grievance"-type conflict
  - Inequality within rich landowners tends to *decrease* conflict,
    $\rightarrow$ Olsonian technology of conflict?
  - Inequality within poor *increases conflict*.
    $\rightarrow$ Olsonian technology

	λ	I_r		I_p	
		$\beta > 2$	$\beta < 2$	$\beta > 2$	$\beta < 2$
p_r^*	$-$	$-$	$+$	$+$	$-$
π_p^*	$+$	$+$	$-$	$-$	$+$
π_r^*	$-$	$-$	$+$	$+$	$-$

Table: Within-Poor Inequality and Rebel Attacks

Within-poor ineq.	5.241***	3.133***	2.508**	2.524**	2.695**	2.756***
	(1.141)	(1.100)	(0.997)	(1.055)	(1.058)	(1.045)
Controls						
Scale		✔	✔	✔	✔	✔
Dept. & region dum.			✔	✔	✔	✔
Geography				✔	✔	✔
Strategic location.					✔	✔
Poverty						✔
Observations	767	766	766	752	752	752
R^2	0.03	0.16	0.35	0.35	0.35	0.35

Notes: * Significant at 10%, ** significant at 5%, *** significant at 1%. Robust s.e. in parentheses.

Table: Between and Within-group Inequality and Rebel Attacks

Rich-Poor divide	27.10***	25.12***	11.02**	10.98***	13.35***	11.39**
	(5.885)	(6.049)	(4.738)	(4.235)	(4.660)	(4.723)
Within-poor ineq.	5.062***	2.958***	2.557**	2.614**	2.831***	2.921***
	(1.137)	(1.087)	(1.007)	(1.049)	(1.045)	(1.031)
Within-rich ineq.	-6.622***	-6.090***	-4.494**	-4.799**	-5.258***	-5.255***
	(2.157)	(1.955)	(1.845)	(1.911)	(1.973)	(1.972)
Controls						
Scale		✔	✔	✔	✔	✔
Dept. & region dum.			✔	✔	✔	✔
Geography				✔	✔	✔
Strategic location.					✔	✔
Poverty						✔
Observations	767	766	766	752	752	752
R^2	0.06	0.18	0.36	0.36	0.36	0.37

Notes: * Significant at 10%, ** significant at 5%, *** significant at 1%. Robust s.e. in parentheses.

Summary of empirical results for Colombia

	λ	I_r		I_p	
		$\beta > 2$	$\beta < 2$	$\beta > 2$	$\beta < 2$
p_r^*	$-$	$-$	$+$	$+$	$-$
π_p^*	$+$	$+$	$-$	$-$	$+$
π_r^*	$-$	$-$	$+$	$+$	$-$

- Evidence consistent with theoretical accounts and views that Colombias conflict is (at least partly) motivated by grievances
- And with the Olsonian view of collective action by which greater concentration of wealth improves collective effort.

Thanks!