Lecture 5
"Nonstandard" theories of fighting

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Nonstandard theories of fighting

Caselli et al 2015: Geography of inter-state wars

A taxonomy of bargaining failures

Agency problems

Intrinsic preferences

- Relative status
- Utility from violence
- Fairness, reciprocity, and punishing injustice

Rationalist conflict

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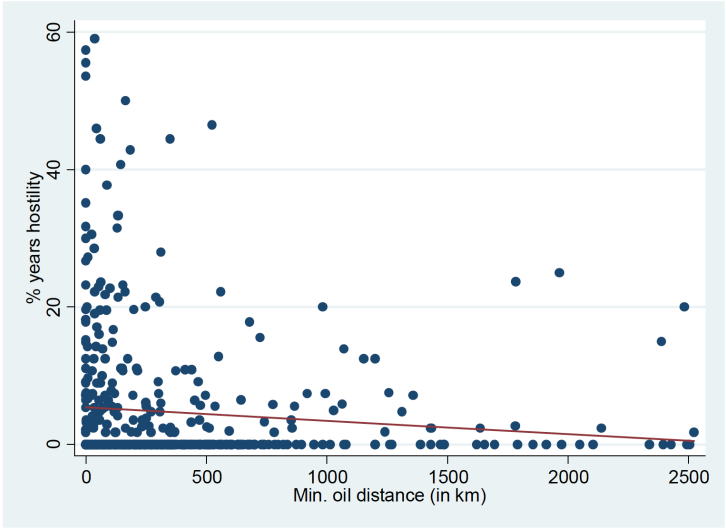
Conflict between states increasing with oil close to border

Caselli et al 2015



OLS specification

$$Hostility_{d,t+1} = \alpha + \beta One_d t + \gamma (One \times Dist)_d t + \delta Both_d t$$
$$+\eta (Both \times MinDist)_d t + \omega (Both \times MaxDist)_d t + X'\xi + u_d t$$

Hostility = 1 if conflict in that country-year
One = 1 if one country has oil
Both = 1 if both have oil
Distance = Distance from border normalized to [0,1]
MinDist / MaxDist = Minimum/Maximium of the distances of the oil from the border in the two countries

What is being estimated here?

$$Hostility_{d,t+1} = \alpha + \beta One_d t + \gamma(One \times Dist)_d t + \delta Both_d t$$
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- Appears to be a measure of incidence—so capturing conflict intensity not onset?
- If oil fields are relatively constant over time, could simplify to a cross-sectional regression
- But if there are new oil discoveries, then identifying assumption is that the timing of the discovery is not endogenous to interstate tensions (e.g. no development or explorations in periphery in response to perceived future threats)
- Note this does not take into account reassessments of oil field sizes (more common than oil field discoveries?)
- Also does not take into account major changes in value (price swings)

Regression results

- Appears to be principally driven by within-country changes in oil discoveries (though that might require dyadic FE to be sure)
- Very influenced by control variables—not clear which
- But relatively robust to alternate specifications

	(1)	(2)	(3)	(4)
One	0.034	0.029	0.049*	0.077**
	(0.032)	(0.027)	(0.027)	(0.030)
One × Dist	−0.050	−0.044	−0.073***	−0.086***
	(0.035)	(0.027)	(0.026)	(0.027)
Both	0.022	0.028	0.034	0.045*
	(0.021)	(0.020)	(0.029)	(0.027)
Both × MinDist	−0.077**	−0.044	−0.105***	−0.089***
	(0.035)	(0.035)	(0.030)	(0.029)
Both × MaxDist	0.026	−0.014	0.016	0.004
	(0.040)	(0.036)	(0.030)	(0.029)
Type oil	All	All	All	All
Country FE	No	No	Yes	Yes
Add. controls	No	Yes	No	Yes
Observations	19,962	11,303	19,962	11,303
R-squared	0.019	0.090	0.145	0.158

Where does this fit into to theories of conflict?

- Is there theory a rationalist explanation?
- If not, is there a rationalist rationalization?

Simple version of their model

Many conflict scenarios can be crudely captured by the following static, two-player game:

		Player B	
		Action 0	Action 1
Player A	Action 0	0,0	$x + c_A, -x + c_B$
	Action 1	$x + c_A, -x + c_B$	$x + c_A, -x + c_B$

where x, c_A, c_B are real numbers. Action 0 is a "peace" action that, if played by both parties, maintains the "status quo," here normalized to (0, 0). Action 1 is a "conflict" action, such as initiating a war. The parameter x ($-x$) is the expected (gross) payoff from the conflict to player A (B). If $x > 0$ player A is the expected winner. For example, x could represent the capture of a strategic location or a mineral resource deposit currently located in country B, weighted by the probability that A succeeds at capturing it. Finally, c is a country-specific cost (or benefit if positive) of undertaking the conflict action.[8]

Some unusual features built in: Payoff asymmetry

		Player B	
		Action 0	Action 1
Player A	Action 0	0,0	$x + c_A, -x + c_B$
	Action 1	$x + c_A, -x + c_B$	$x + c_A, -x + c_B$

- Will see peace (0,0) iff: $c_B \leq x \leq c_A$
- $|x|$ is a measure of *payoff asymmetry*
- How does this setup differ from the simple "Coasean" case?

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- If A and B could negotiate, they should be able to settle on $(x, -x)$ without fighting, rather than (0,0)
  - This would reflect their relative probabilities of victory
  - By assumption, the efficient bargain is not available
- What, theoretically, is the payoff asymmetry $|x|$?

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- If A and B could negotiate, they should be able to settle on $(x, -x)$ without fighting, rather than (0,0)
  - This would reflect their relative probabilities of victory
  - By assumption, the efficient bargain is not available
- What, theoretically, is the payoff asymmetry $|x|$?
  - A commitment problem, from a difficult-to-divide resource and limited transfers? But why should oil be indivisible?
  - Alternatively: Oil instigates agency problems

Rationalist conflict

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What are the alternatives to incomplete info & commitment problems?

Opening paragraphs of Fearon 1995

The central puzzle about war, and also the main reason we study it, is that wars are costly but nonetheless wars recur. Scholars have attempted to resolve the puzzle with three types of argument. First, one can argue that people (and state leaders in particular) are sometimes or always irrational. They are subject to biases and pathologies that lead them to neglect the costs of war or to misunderstand how their actions will produce it. Second, one can argue that the leaders who order war enjoy its benefits but do not pay the costs, which are suffered by soldiers and citizens. Third, one can argue that even rational leaders who consider the risks and costs of war may end up fighting nonetheless.

This article focuses on arguments of the third sort, which I will call rationalist explanations.[1] Rationalist explanations abound in the literature on international conflict, assuming a great variety of specific forms. Moreover, for at least two reasons many scholars have given rationalist explanations a certain pride of place. First, historians and political scientists who have studied the origins of particular wars often have concluded that war can be a rational alternative for leaders who are acting in their states' interest—they find that the expected benefits of war sometimes outweigh the expected costs, however unfortunate

Most explanations for a conflict falls into 5 kinds of bargaining failure

1. Commitment problems
2. Incomplete information + incentives to misrepresent
3. Agency problems
4. Non-standard preferences (Utility from violence)
5. "Irrationality"

An expanded list

1. Commitment problems
2. Incomplete information + incentives to misrepresent
3. Agency problems
   - 3.1 Absence of formal institutional checks
   - 3.2 Absence of informal checks (social norms & preferences)
   - 3.3 Absence of economic incentives/integration
4. Non-standard preferences
   - 4.1 Glory / relative status
   - 4.2 Fairness & reciprocity
   - 4.3 Utility from violence
   - 4.4 Value-rational violence
5. Miscalculation
   - 5.1 Errors in belief formation
   - 5.2 Decision-making under arousal

Where (arguably) papers on the syllabus fit in

3. Agency problems — **Jackson & Morelli 2007, Caselli et al 2015, Sanchez de la Sierra**
4. Intrinsic preferences
   - 4.1 Relative status — **Ager et al 2018**
   - 4.2 Fairness & reciprocity — **Passarelli & Tabellini 2018, Fehr & Gachter 2000**
   - 4.3 Utility from violence
   - 4.4 Value rational violence
5. Miscalculation
   - 5.1 Errors in belief formation — **Acemoglu & Wolitksky 2014, Jha & Shayo 2018, Dube & Harish 2020**
   - 5.2 Decision-making under arousal – **Blattman, Jamison & Sheridan 2017**

Groups are not unitary actors

- Leaders could be more prone to war
  - Do not internalize the costs
  - Have private incentives to go to war
- Leaders could be less prone to war
  - Benevolent President has a cooler head than a blood-thirsty public
  - Worry about reputation loss, or prosecution
- Jackson & Morelli: What happens when the pivotal decision-maker has a different risk-reward ratio from its group?

Recall the very simple setup from last week

- North is poor and war less costly for them
  - $x_N < c_S$: North does not have enough resources to make war worthwhile for South
  - $x_S > c_N$: South has enough resources to (possibly) make war worthwhile for North

- North will accept South's proposal if North's consumption of butter exceeds its expected payoff from war

$$b_N + t \geq \frac{g_N}{g_S + g_N}(b_S + b_N) - c_N$$

- South proposes the smallest t that satisfies the above appeasement constraint

$$t = \frac{g_N x_S - g_S x_N}{g_S + g_N} - c_N$$

A simple version of Jackson and Morelli 2007: Agency problems and war

- Model a country's decisions though the eyes of a pivotal decision maker in the society: a monarch, the median oligarch, or median voter
- Suppose she receives a fraction a of wealth in peacetime, and loses a fraction a in war, but receives spoils of war a'
- North will accept South's proposal if

$$a_N(b_N + t) \geq a'_N \frac{g_N}{g_S + g_N}(b_S + b_N) - a_N c_N$$

- South proposes smallest t to satisfy appeasement constraint

$$t = \frac{a'_N}{a_N} \frac{g_N x_S - g_S x_N}{g_S + g_N} - c_N$$

- $a'_N/a_N =$ "political bias", which is ≥ 1

Some obvious and not-so-obvious implications

- Smaller the minimum winning coalition, the more likely is conflict (Bueno de Mesquita et al. 2003)
  - The "democratic peace": Democracies are much less likely to go to war with each other than are two countries when at least one is not a democracy
  - May also help explain why democracies tend to win wars against autocracies — More biased leaders will be more willing to enter conflicts that they have a lower probability of winning

- How should this affect the equilibrium choice of leaders?
  - Strategically, oligarchs or citizens may want to be lead by a "hawk" who can extract higher transfers from other countries
  - Provided the bias is not so strong to lead the country into wars
  - A gamble some societies may be willing to pay

Roots of political bias

- An institutional failure to compel decision makers to internalize costs of war to all group members.
  - A large comparative politics literature locates civil conflicts and failed states in the over-centralization of executive power, especially in postcolonial Africa (Sawyer 1992, Bates 2008)
- Cultural variation in social preferences
- Decision-makers can be checked through economic integration
  - Jha (2013) finds intertwined trading interests reduces the risk of conflict in urban India
  - Oil economies more autocratic and have more conflict
  - War economies offer a reverse incentive (e.g. Sanchez de la Sierra 2019)

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A convention in economics of not explaining puzzling observations by changing assumptions on preferences

- Can lead to less parsimonious theory, and hundreds of special cases
- A legitimate worry that it over fits particular cases, and makes propositions non-falsifiable

- At the same time, political participation is hard to explain without appealing to preferences, e.g.
  - Voting, protests, armed conflict
- And experimental evidence has begun to document a number of regularities
  - e.g. Social preferences from last two weeks

- Generally, empirical and theoretical work is need here

To the best of my knowledge, theorists have yet to introduce social preferences into conflict models

- **Altruism**, e.g. concern for the deaths of civilians on other side
  - Would make war less likely, by reducing the transfer t needed to appease the aggressor
  - Parallels to the agency problem, in reverse (Jackson & Morelli 2007)
  - e.g. See Jha (2012) on ethnic tolerance in India

- **Relative status**, e.g. concerns over the economic success of a competing ethnic group
  - When $x_N < x_S$ this could increase the t required to satisfy the appeasement constraint and accentuate limited transfer problems

- **Reciprocity & fairness**, e.g. intrinsic desire to punish unjust acts
  - Could help explain why skirmishes from info asymmetries lead to longer conflicts or feuds
  - But in equilibrium, threat of feuds *should* be a major deterrent to hostile or insulting actions

Today we will look at a few recent empirical conflict contributions that push us towards taking these preferences seriously

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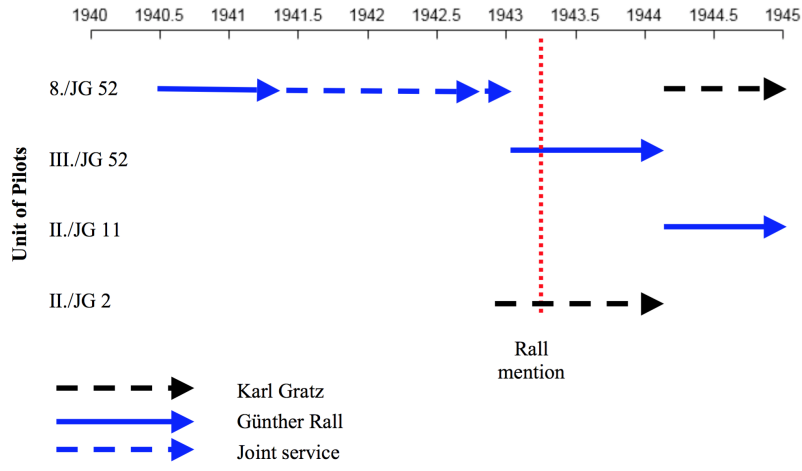
Economists have long hypothesized that people care about *relative* position

- *Between* ingroup and outgroup
  - In lab games, out group envy exceeds in group envy (Chen & Li 2009)
  - Pleasure region of brain active when out group experiences relative losses (Cikara et al 2011)
- *Within* reference groups:
  - Higher earnings of neighbors correlate with lower levels of happiness (Luttmer 2005)
  - Knowledge of relative salary or income matters for job satisfaction (Card et al. 2012), subjective well-being (Perez-Truglia 2016)
- But evidence with respect to violence is rare

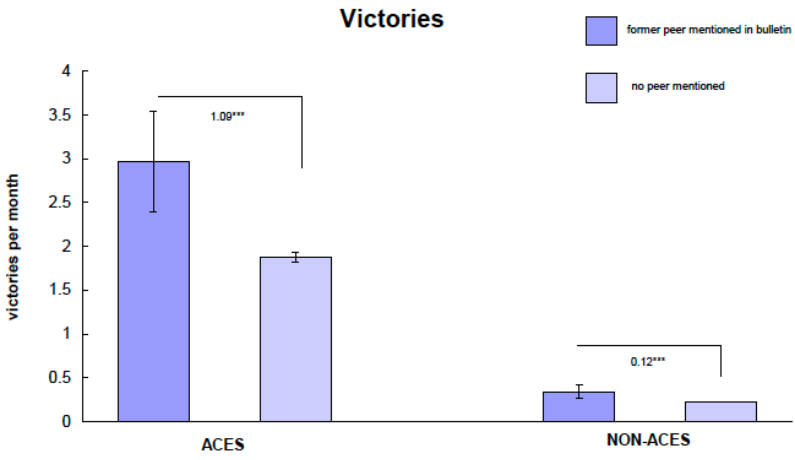
Ager et al 2018 on German WWII fighter pilots

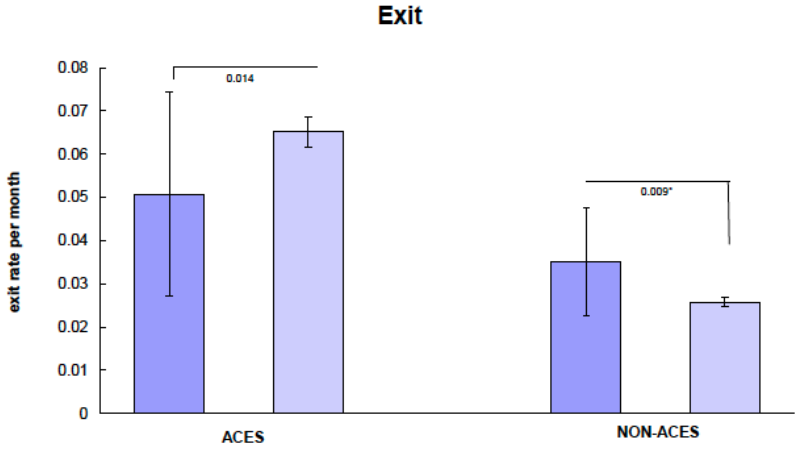
Figure 4: Identification Strategy



Note: The red dashed line indicates mention in the *Wehrmachtbericht* for Günther Rall.

Figure 1: Victory and Exit Rates per Month for Fighter Pilots (Aces and Non-Aces) during Periods of Fighter Pilot Mentions





Note: The figure shows mean monthly victory and exit rates for aces and non-aces (without any additional controls). Aces are defined as being in the top 20% of the average monthly victory rate during all of World War II. Pilots are "former peers" if they previously flew in the same squadron as a pilot mentioned in the German armed forces daily bulletin (*Wehrmachtsbericht*) but no longer do at the time of mention.

A principal innovation of this paper is the data

- Merge two main sources
  1. Database of German fighter pilots during World War II from a combat claims list that contains the number of monthly victories per pilot together with pilots first and last name, rank, wing, group, and squadron
  2. Match with a separate database of personal data on German fighter pilots including war status (e.g., killed in action, prisoner of war, World War II survivor) and for some the starting date of his Luftwaffe career
  3. Treat exit from the claims list as a death, verified in some cases with a separate source of death records

- Selection
  - No data on pilots who never scored a victory (presumably people who died very quickly)
  - Exclude nighttime pilots who mainly intercepted bombers
    - Unclear why you wouldn't show these in tables, or account with a dummy and interaction

Why is this potentially a powerful example?

- In normal circumstances, it is difficult to determine whether individuals *intrinsically* care about their relative position, versus the instrumental advantages
  - ▷ But the incredibly lethal effects of this behavior hardly look instrumental
  - ▷ e.g. A "fly till you die" rule

- This means one of the principal challenges of this paper is ruling out other explanations, e.g.
  - ▷ Correlated shocks (results robust to faraway comparisons, to equipment upgrades)
  - ▷ Social learning (not consistent with movement during mention periods only)

Some comments

- Could these findings extend to out-group status competition, and hence inter-group competition?
  - Working against: The scale of the behavior changes is greatest when the former peers worked together more closely, or are more similar the geographical origin of pilots
  - There are interesting parallels to social identity theory with categorization, identification, and comparison
  - e.g. For the purposes of my identity as an advanced nation I make relative status comparisons with other advanced nations

- The mainly temporary effects somewhat surprising
  - Is this what we would have predicted ex ante if this is about sustained status competition?
  - Are these time consistent preferences? Or evidence of more reflexive decision-making?

Finally, can we just pause for a moment to reflect on some of the statistics in this paper?

- e.g. During January 1942, the air force lost 1.8% of its fighter pilots; by May 1944, it was losing 25% of them *every month*
- This more than anything else ought to make us wonder what the utility function looks like for a volunteer recruit
- There is more to this participation than simply status relative to other pilots

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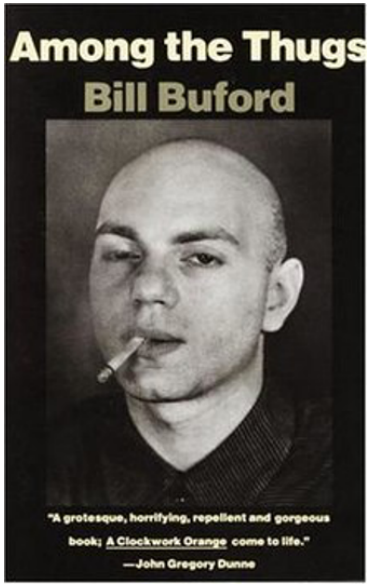
"Value-rational violence"

- Weber (1978) described value rational actions as ones determined by a conscious belief in the value for its own sake of some ethical, aesthetic, religious, or other form of behavior, independently of its prospects of success
  - Varshney (2003) has applied the concept to the elimination or subjugation of an ethnic rival, or the extermination of a heretic ideology
  - Here violence is not so much end itself, but the sole means to an end
  - Another instance is one where the idea of compromise on some ideological value or principle is itself abhorrentliberty and self-determination in the case of the colonial U.S., the Irish Republic, or other separatist movements.
- Little hard evidence on presence of variation
- Maps trivially to model of political bias

Joy or pleasure in violence

- Participant observers in British soccer hooliganism, the Vietnam War, and mobs demanding sacrifice all describe an overwhelming (though often momentary) joy in group violence (Broyles Jr 1984, Girard 1977, Buford 2001)
- Evolutionary biology and behavioral economics also suggest that a common feature of human identity groups is parochial altruismnot only do we have preferences for the well being of our in group, we take pleasure in seeing the other group do poorly or receive punishment (Chen and Li, 2009; Cikara et al., 2011; Glowacki et al., 2017; Kalin and Sambanis, 2018).
- Little hard evidence on presence of variation
- Maps trivially to model of political bias



"There, on the streets of Fulham... I felt myself to be hovering above myself, capable of perceiving everything in slow motion and overwhelming detail.

I realized later that I was on a druggy high, in a state of adrenaline euphoria. And for the first time I am able to understand the words they use to describe it.

That crowd violence was their drug. What was it like for me? An experience of absolute completeness."

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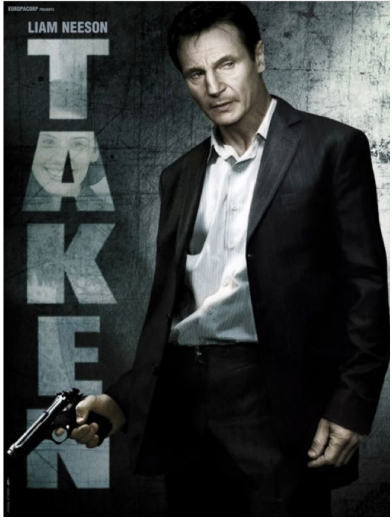
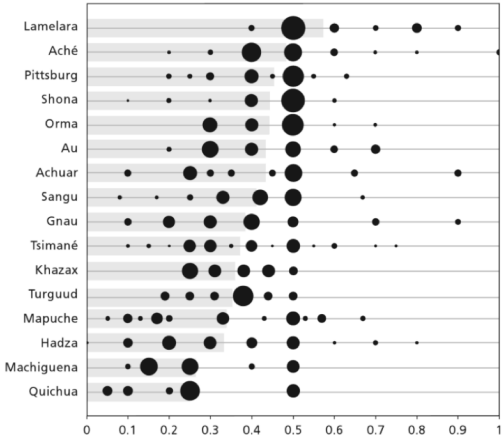
Matt Rabin's fable:
Think about every Hollywood blockbuster



Do humans have a taste for punishing injustice?

Ultimatum game play

- Offers of 40-50% common
- Offers less than 20% are frequently rejected
- Modal offer in a Dictator Game often zero, though average offer is typically 20-30



Source: Henrich et al. 2004.

Note: The size of the bubble at each location along each row represents the proportion of the sample that made a particular offer. The right edge of the lightly shaded horizontal gray bar gives the mean offer for that group.

Conclusions from many, many, many ultimatum games

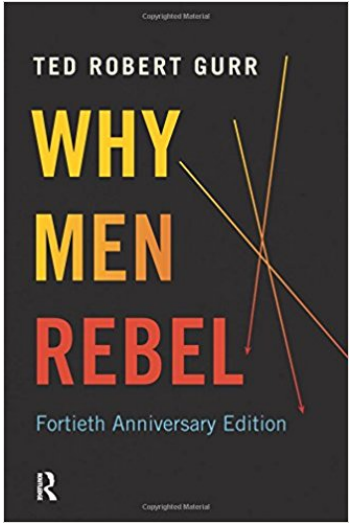
Fehr & Schmidt 2006 Handbook chapter

- Consistent across many places, cultures
  - Also observe third party punishment of injustice
- Increases in the monetary stakes (amounts to give) did little or nothing to change behavior
- One interpretation is that indidivual emotional responses and prevailing social norms affect subjects preferences for justice
  - Some evidence from ultimatum game play that norm and fairness perceptions trigger emotional arousal, when responders are confronted with an unfair offer, and that punishment of an unfair action activates reward areas of brain
  - "Automatic" reactions via emotion could be a product of biological and cultural evolution, or imply internalized social norms
  - but not beyond considered thinking: strong experimental evidence suggesting that the demand for altruistic giving and for punishment increases if its price decreases

What does the ethnographic evidence say?

- Wood (2004) spent time with El Salvadorean guerrilla, understanding which peasants join or not
  - Anticipated that rebels would use selective incentives to motivate and reward veterans (e.g. promises of land redistribution) but in fact ideology of the group was egalitarian
  - Common narrative distinguishing those who did or did not join: person or family experienced a violent injustice by the government
- Similar narratives in
  - Southeast Asia (Scott, 1976)
  - Syria (Pearlman, 2017)

Echoes an older political and psychological literature on frustration-aggression



- Frustration-aggression hypothesis (Gurr 1970, Berkowitz 1969)
  - Frustration arises when something blocks you from achieving a goal
  - Aggression triggered by frustration, and directed at the blocker
  - Used to explain scapegoating, revolution...
- In modern terms, reference dependent utility plus expressive preferences
  - Individuals have reference point for a fair distribution of resources
  - Below reference point they experience negative emotions (penalties to utility)
  - Expressing anger or punishing the unjust actor is intrinsically valuable (positive psychic rewards)

Passarelli & Tabellini (2017): An example of a model introducing fairness and emotions into decision making

- Some people have "expressive preferences" based in fairness
  - Participation has psychological rewards commensurate with the feeling of aggrievement, and these rewards are traded off against other considerations
  - These expressive preferences arise from a social norms — the government violating an expectation of fair behavior, such as failure to deliver a "policy entitlement", a reference point

- Expressive preferences are augmented by others' expression
  - There is a preference (not a strategic) complementarity: if expected participation is large, then more individuals are attracted to the protest for the same level of aggrievement

- But individuals behave rationally, weighing the pros and cons of participation, taking these non-standard preferences into account

More formally

Individual j in group i chooses to riot if benefits are larger than costs:

$$p_i \lambda_i a_i - \mu - \epsilon_{ij} \geq 0$$

- p_i is the proportion of your group participating
- λ_i is the size of your group
- a_i is the aggrievement caused by the policy to members of group i
- μ is the certain cost and risk of violent repression
- ϵ_{ij} is the idiosyncratic component of the cost or benefit of participation, uniformly distributed with mean 0 and density $1/2\sigma_{ij}$

Equilibrium participation rate is an increasing function of group aggrievement and a decreasing function of costs and risk:

$$p*_i = \frac{\sigma_i - \mu}{2\sigma_i - \lambda_i a_i}$$

Other thoughts

- Layers in a number of other elements, e.g. Reference points are endogenously determined, and are set by some sense of constraints facing the government
- Implications:
  - Means that rational, far-sighted governments may wish to restrain their future selves
  - Political power or influence here comes from a group's ease or technology of mobilization
  - Capacity for unrest causes an "excessive" amount of redistribution

- Feels a bit overfit to European protests
- Layers in many different "nonstandard" assumptions that interact
- An important step, but one might like to see a collection of models that consider a menu of these and similar "nonstandard" elements and illustrates how equilibrium changes with different combinations

Are there applications to conflict?

A possible avenue for exploration

- There is potentially a distribution of "fair" and "selfish" types in society
  - Many subjects behave quite selfishly even when they are given a chance to affect other peoples well-being at a relatively small cost
- The interaction between fair and selfish individuals could be key to understanding the observed behavior in strategic settings
  - Especially if there is imperfect information about fairness and incentives to misrepresent
  - This could explain why wars break out (risky gamble when fair types are uncertain in magnitude) and why it would persist (because skirmishes lead to intrinsic preferences for violence)
  - But war should be less likely to break out because each party can backwards induct this costly outcome