

Development Economics

Slides 5

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- Aspirations, uneven growth and the potential for conflict.

“[T]hose made to wait unconscionably long for ‘trickle-down’ — people with dramatically raised but mostly unfulfillable aspirations — have become vulnerable to demagogues promising national re-generation. It is this tiger of unfocused fury, spawned by global capitalism in the ‘underdeveloped’ world, that Modi has sought to ride from Gujarat to New Delhi.”

Pankaj Mishra, “Narendra Modi and the new face of India,” *The Guardian*, May 16, 2014.

Uneven Growth and the Social Backlash

■ Roots

- Divergence (increasing returns, imperfect credit markets)
- Sectoral change (agriculture/industry, domestic/exports)
- Globalization (sectors with comparative advantage)
- Corruption (rent-seeking with rapid growth)

■ Reactions

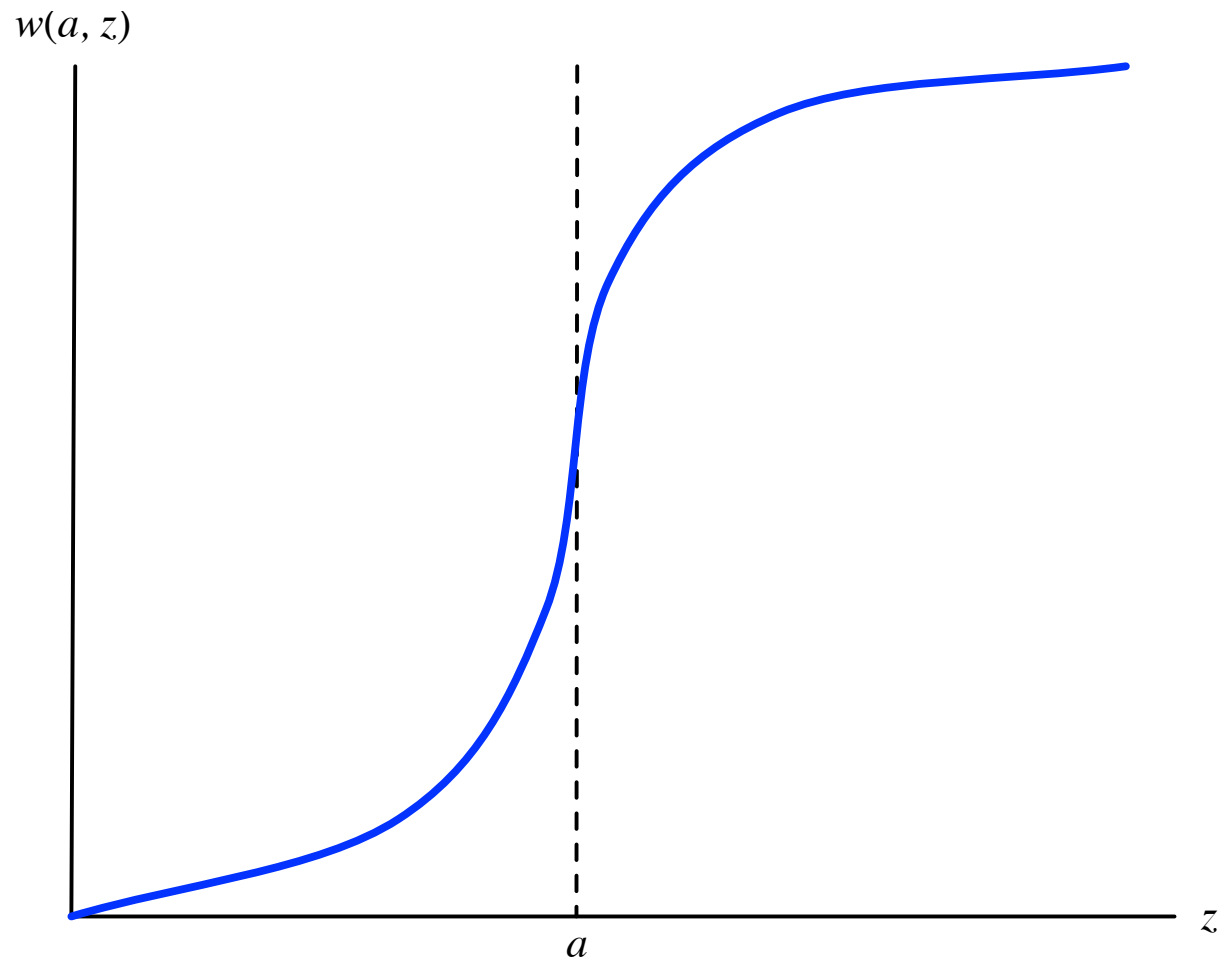
- Occupational choice (slow, imprecise, intergenerational)
- Cross-sector percolation (demand patterns, inflation)
- Political economy (person-based votes, wealth-based lobbying)

Uneven Growth and Aspirations

- The lives of others are on display:
 - **Aspirations** and **frustrations** are socially generated.
- Hirschman's **tunnel effect**.
 - Unclear if this exposure leads to betterment or to despair.
- On top of that, an ever-faster treadmill:
 - The **great acceleration**: UK, 1780, **58**; US, 1839, **47**; Japan, 1885, **34**, Brazil, 1961, **18**, Korea, 1966, **11**, China, 1980→, **7–9**.
 - ... which leads us to the topic of this lecture:
- Growth, aspirations and the potential for **conflict**.

Aspirations

- Appadurai (2004), Ray (1998, 2006), Genicot-Ray (2013)
- An **aspiration** is a reference point a to evaluate current and future personal outcomes z .



- Aspirations are, in turn, influenced by achievements of others.

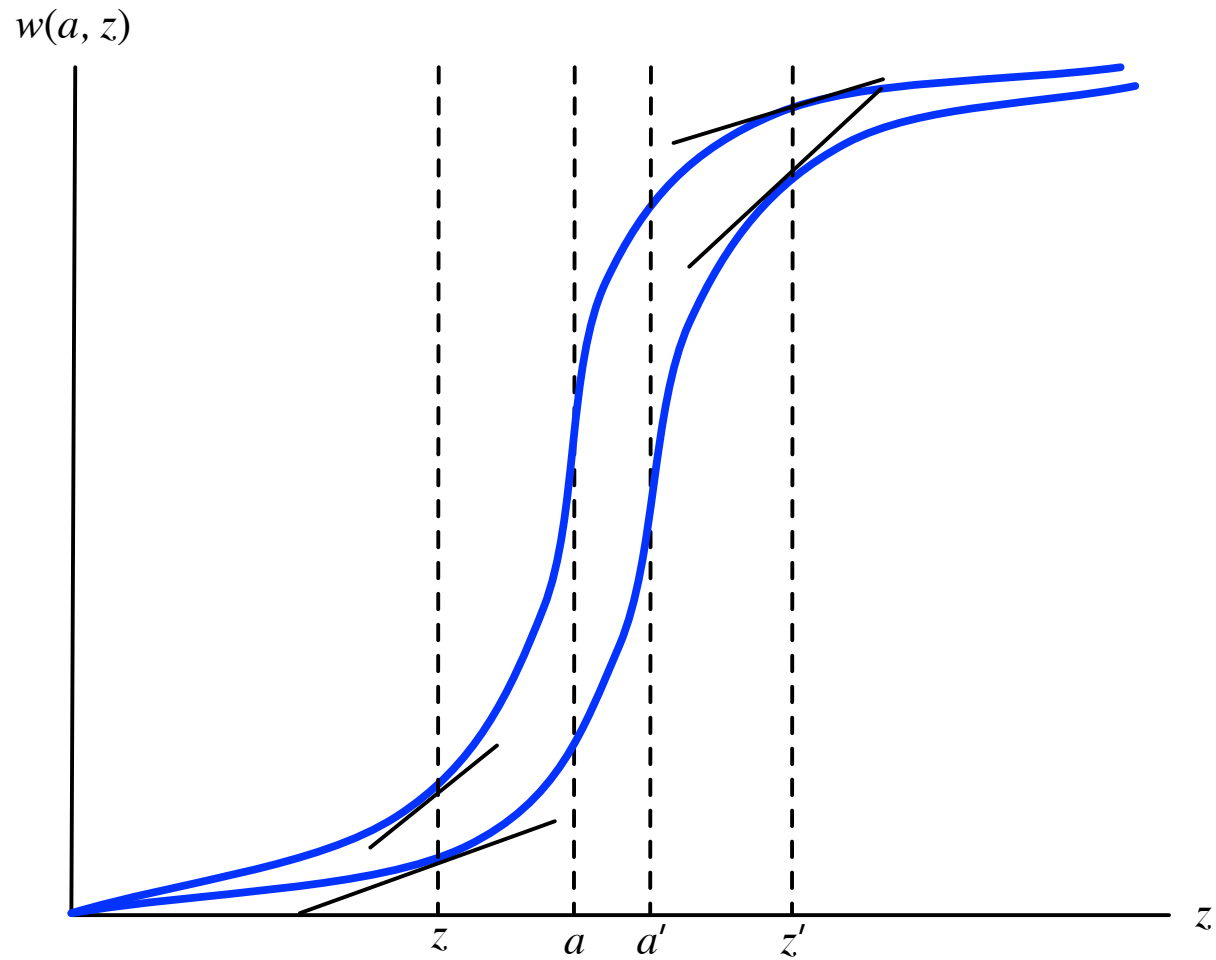
$$a = \Psi(y, s),$$

where s = social outcomes and y = current personal outcome.

(incomes, occupations, achievements)

- This generates a two-way process:
 - aspirations affects the behavior of every individual or group
 - behavior feeds back on aspirations

- For instance, what happens when aspirations increase?
- level effects and marginal effects



- Simplest model:

$$\max_k w(z, a) - c(k, y),$$

- where $z = f(k)$.
- **Theorem.** For given y , there is a unique threshold value of a below which “aspirations are satisfied” ($z \geq a$), and above which they are frustrated ($z < a$).
- Once aspirations are frustrated, chosen wealth declines as aspirations continue to grow.
- “The French found their position all the more intolerable as it became better.”

Alexis de Tocqueville

The Salience Question

- Uneven growth → conflict, but along what lines?
 - Religion, ethnicity, geography, occupation, class?
 - The Marxian answer:
 - class
 - example: Maoist violence in rural India
 - But the argument is problematic.
 - Conflict is usually over directly contested resources.

Directly Contested Resources

- Labor markets
 - Ethnic or racial divisions, immigrant vs native
- Agrarian land
 - Rwanda, Darfur, Chattisgarh
- Real estate
 - Gujarat, Bengal
- Business resources
 - Kyrgystan, Ivory Coast, Malaysia . . .

- Contestation \Rightarrow conflict between **economically similar** groups
- Some counterarguments:
 - bauxite/land in Maoist violence
 - agrarian/industrial land in Singur and Nandigram.
 - \Rightarrow class violence, but exception rather than the rule.
- The implications of direct contestation:
 - **Ethnic markers.**
 - **Instrumentalism** as opposed to **primordialism** (Huntington, Lewis)
- An aside:
 - This is only one view of why ethnic markers may be salient

Hindu-Muslim Conflict

based on Mitra and Ray (2014)

- Recurrent episodes of violence
 - Partition era of the 1940s, and earlier
 - Continuing through the second half of the twentieth century.
- ~ 1,200 riots, 7,000 deaths, 30,000 injuries over 1950–2000.
 - Numbers may look small relative to Indian population
 - Don't capture displacement, segregation and widespread fear.

Some Ethnographic Literature

- Thakore (1993) on Bombay riots [land]
- Das (2000) on Calcutta riots [land]
- Rajgopal (1987) and Khan (1992) on Bhiwandi and Meerut riots [textile sector]
- Engineer (1994) and Khan (1991) on Jabbalpur, Kanpur, Moradabad [competition in *bidis*, brassware]
- Upadhyaya (1992) on Varanasi riots [sari dealers]
- Wilkinson (2004) on Varanasi [wholesale silk trade]
- Field et al (2009) on Ahmedabad [housing]

- Engineer (1987) on Meerut riots:

“If [religious zeal] is coupled with economic prosperity, as has happened in Meerut, it has a multiplying effect on the Hindu psyche. The ferocity with which business establishments have been destroyed in Meerut bears testimony to this observation. Entire rows of shops belonging to Muslims . . . were reduced to ashes.”

- Das (2000) on Calcutta riots:

“[I]t appears that that ‘promoters’ played a crucial role in inflaming the riot whose victims . . . were slum-dwellers. Their obvious aim was to clear the *bustees* [or slums] for construction projects. . . The expectation was that once such people could be forced to abandon their establishments the realtors would have ‘an easy way to rake in the fast buck’ . . . What actually took place in 1992 was a land-grabbing riot under a communal garb.”

Quick Summary of the Theory

- Two groups. Each has potential victims and aggressors.
- Random encounters that can be escalated on “ethnic grounds” .
(processions, murder, rape, pigs)
- Aggressors decide whether to engage in violence.
- Victims buy security against attacks.
- Aggression and defense technologies:
 - could be based on physical capital or human beings
 - human if overwhelmingly based on human effort from own group

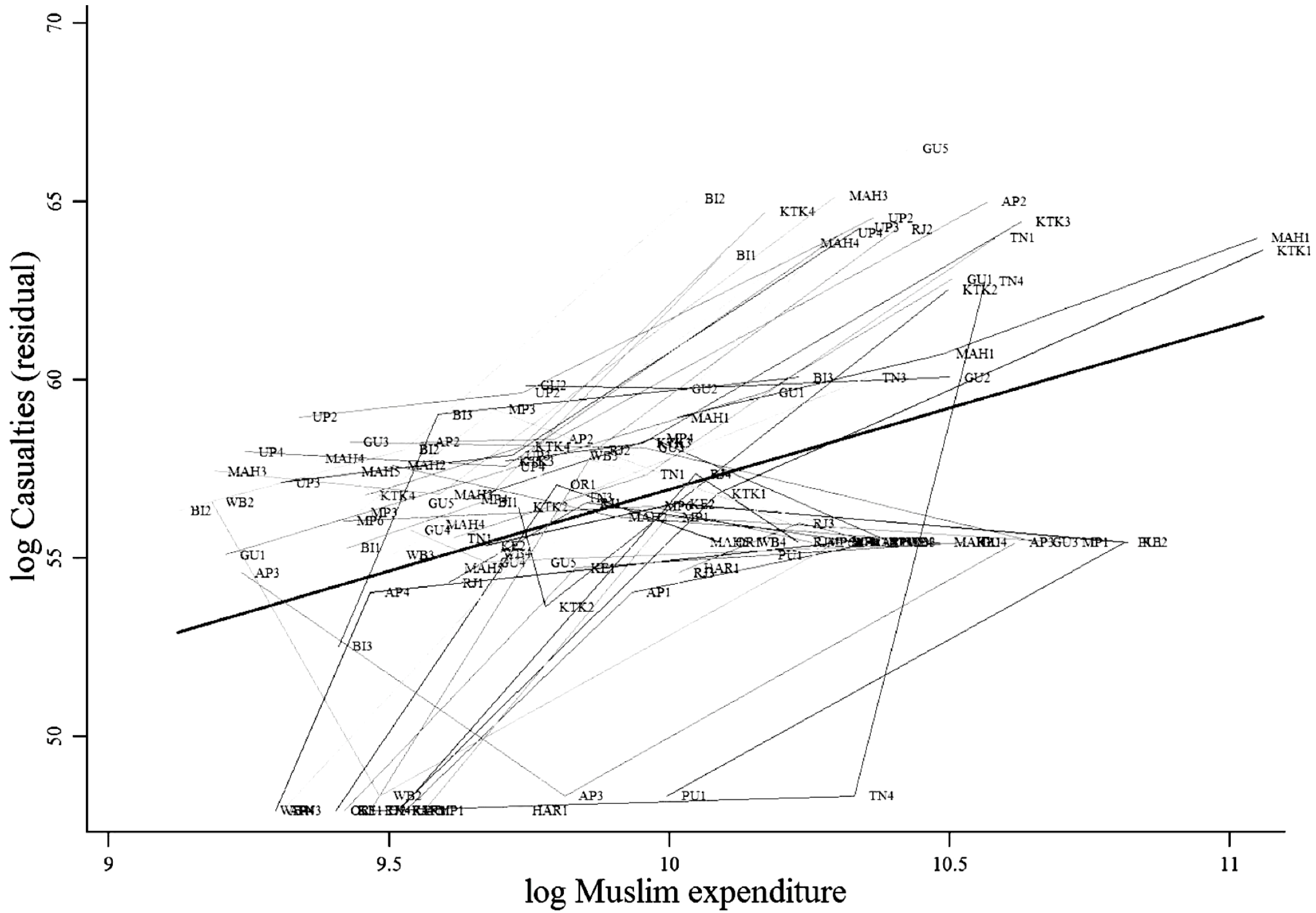
■ Proposition

- Assume human technologies for attack and defense.
 - Under a proportional increase in group income:
 - Attacks instigated **by** group members unambiguously decline.
 - Attacks perpetrated **on** group members increase.
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- Extensions to non-human technologies discussed in paper.

Data

- **Conflict data.** Varshney-Wilkinson (TOI 1950-1995)
 - our extension (TOI 1996-2000).
- **Income data.** National Sample Survey Organization (NSSO) consumer expenditure data.
 - Rounds 38 (1983), 43 (1987-8) and 50 (1993-94).
- **Controls.** Various sources, in particular Reports of the Election Commission of India.
- Three-period panel at the regional level; 55 regions.



Empirical Specification

- **Baseline:** We use the Poisson specification:

$$E[\text{Count}_{i,t} | \mathbf{X}_{it}, r_i] = r_i \exp(\mathbf{X}'_{it} \beta + \tau_t)$$

- where \mathbf{X} includes
 - expenditures (as income proxies) both for Hindu and Muslim.
 - time-varying controls.
- r_i are regional dummies; τ_t are time dummies.
- **Other Specifications:**
 - Negative binomial to allow for mean count \neq variance.
 - Plain vanilla OLS (on log count).

■ Casualties, 5-Year Average Starting Just After

	[Poiss]	[Poiss]	[NegBin]	[NegBin]	[OLS]	[OLS]
H Exp	***-7.87 (0.005)	***-6.82 (0.003)	** -2.79 (0.093)	-3.31 (0.131)	** -9.15 (0.033)	* -8.46 (0.085)
M Exp	***5.10 (0.000)	***4.67 (0.001)	**2.64 (0.040)	**3.87 (0.023)	***6.89 (0.006)	***9.52 (0.009)
Pop	4.28 (0.468)	3.91 (0.496)	0.62 (0.149)	0.74 (0.132)	-3.87 (0.614)	-1.23 (0.877)
RelPol	*5.55 (0.054)	*5.57 (0.056)	0.72 (0.763)	1.09 (0.715)	6.00 (0.470)	6.86 (0.408)
Gini H		-5.426 (0.317)		4.121 (0.521)		-14.473 (0.342)
Gini M		3.399 (0.497)		-5.952 (0.362)		-11.073 (0.451)
Lit, Urb	Y	Y	Y	Y	Y	Y

■ Mus exp ↑ 1% ⇒ Cas ↑ 3–5%. Opp for Hindu exp.

■ Killed and Riot Outbreaks, 5-Year Average Starting Just After

	[Poiss]		[NegBin]		[OLS]	
	Kill	Riot	Kill	Riot	Kill	Riot
H exp	-0.07 (0.976)	-2.12 (0.393)	-2.25 (0.293)	*-5.37 (0.069)	-4.27 (0.339)	** -6.30 (0.019)
M exp	0.85 (0.636)	*2.49 (0.067)	**3.69 (0.030)	**4.16 (0.016)	**6.42 (0.043)	***6.42 (0.006)
Pop	*-6.03 (0.071)	0.26 (0.900)	0.83 (0.170)	0.30 (0.823)	-3.31 (0.549)	-0.03 (0.995)
RelPol	1.31 (0.659)	0.26 (0.875)	0.10 (0.970)	*4.58 (0.085)	4.17 (0.556)	2.73 (0.603)
GiniH	-2.63 (0.686)	-2.69 (0.617)	6.32 (0.389)	4.56 (0.484)	-8.77 (0.445)	-8.99 (0.366)
GiniM	4.58 (0.505)	-1.11 (0.790)	-11.24 (0.121)	-9.14 (0.153)	-15.06 (0.235)	-11.93 (0.199)
Lit, Urban	Y	Y	Y	Y	Y	Y

■ Contemporaneous Relation Reflected For Different Lags

	[1] Cas-2	[2] Cas-1	[3] Cas	[4] Cas+1	[5] Cas+2	[6] Cas+3
H exp	0.98 (0.687)	0.10 (0.968)	-0.11 (0.959)	***-6.83 (0.003)	***-11.11 (0.000)	***-10.23 (0.001)
M exp	-0.15 (0.915)	-0.68 (0.624)	*2.36 (0.085)	***4.67 (0.001)	***6.40 (0.000)	***8.32 (0.000)
Pop	5.18 (0.187)	7.36 (0.117)	**7.84 (0.018)	3.90 (0.507)	5.47 (0.385)	4.48 (0.410)
RelPol	-2.35 (0.440)	-0.87 (0.786)	**5.99 (0.038)	**5.63 (0.038)	**5.70 (0.038)	***6.40 (0.008)
BJP	Y	Y	Y	Y	Y	Y
Lit, Urb	Y	Y	Y	Y	Y	Y
Ginis	Y	Y	Y	Y	Y	Y

■ See paper for other variations, e.g:

■ lagged conflict as regressor, political controls, urban only.

Endogeneity

- Reverse causation? Anecdotal evidence on who suffers:
 - 1985–1987 526 Hindu-Muslim incidents in 10 states.
 - Muslims were 12% of the population, but suffered
 - 60% of the 443 deaths
 - 45% of the 2667 injuries
 - 73% of the estimated property damage
 - from Wilkinson (2004), who quotes the 9th and 10th *Annual Reports of the Minorities Commission* (1988 and 1989).
-
- [Previous regression on different lags in line with this]

- Omitted Variables? Possible concerns:
 - Gulf funding of conflict:
 - Correlated via remittances with Muslim expenditure.
 - Income changes driven by recovery from past conflict
 - Combined with periodic upsurges of violence.
- Instrument: Occupational Groupings
 - 18 broad occupational categories from the NSS.
 - Construct average returns for Hindus and Muslims in each.
 - Use NSS national expenditure averages to do this.
 - Use regional employment to get H- and M-indices by region.

- **Discussion:** Category breadth and the exclusion restriction.

(1) Agricultural Production and Plantations, (2) Livestock Production, (3) Fishing, (4) Mining and Quarrying (Coal; Crude Petrol and Natural Gas; Metal Ore; Other), (5) Manufacture of Food Products and Inedible Oils, (6) Manufacture of Beverages, Tobacco and Tobacco products, (7) Manufacture of Textiles (Cotton; Wool, Silk, Artificial; Jute, Veg. Fibre; Textile Products), (8) Manufacture of Wood and Wooden Products, (9) Manufacture of Paper, Paper Products, Publishing, Printing and Allied Industries, (10) Manufacture of Leather, and of Leather and Fur Products, (11) Manufacture of Rubber, Plastic, Petroleum, Coal ; Chemicals and Chemical Products, (12) Manufacture of Non-Metallic Mineral Products, (13) Basic Metal and Alloy Industries, (14) Manufacture of Metal Products and Parts, except Machinery and Transport Equipments, (15) Manufacture of Machinery, Machine Tools and Parts except Electrical Machinery, (16) Manufacture of Electrical Machinery, Appliances, Apparatus and Supplies and Parts, (17) Manufacture of Transport Equipments and Parts and (18) Other Manufacturing Industries.

- 18 sectors to partition the entire labor force of India.

■ IV regressions with H- and M-indices

	First Stage			Second Stage		
	Cas	Kill	Riot	Cas	Kill	Riot
M/H ind	***0.78 (0.001)	***0.78 (0.001)	***0.76 (0.002)			
M/H				***26.83 (0.004)	***24.97 (0.006)	***16.59 (0.010)
Pce	*-0.59 (0.079)	*-0.60 (0.082)	*-0.54 (0.089)	13.99 (0.131)	14.79 (0.115)	7.21 (0.188)
Pop	-0.16 (0.453)	-0.17 (0.445)	-0.22 (0.311)	3.81 (0.651)	1.71 (0.818)	3.40 (0.528)
RelPol	** -0.47 (0.046)	** -0.48 (0.042)	* -0.41 (0.087)	12.24 (0.174)	10.78 (0.195)	5.40 (0.348)
GiniH	***-1.29 (0.002)	***-1.28 (0.003)	***-1.37 (0.001)	1.82 (0.921)	8.22 (0.593)	1.10 (0.928)
GiniM	***2.77 (0.000)	***2.79 (0.000)	***2.77 (0.000)	** -67.18 (0.031)	** -72.74 (0.015)	** -44.73 (0.033)
BJP	Y	Y	Y	Y	Y	Y
Lit, Urb	Y	Y	Y	Y	Y	Y

More on Endogeneity

- In case the argument for lagged conflict not affecting broad occupational structure was unconvincing . . .
- Linear system GMM for dynamic panels
- Arellano-Bover (1995), Blundell-Bond (1998).
- Use lagged expenditures as instruments for current expenditures
- after first-differencing (to eliminate unobserved fixed effects)
- include our H- and M-indices as additional instruments
- Develop a two-step system GMM estimator
- Designed to yield consistent estimates in small- T large- N panels.

■ GMM with lagged expenditure and H-M-indices

	[1] Casualties	[2] Casualties	[3] Casualties	[4] Casualties	[5] Killed	[6] Outbreak
HExp	***-14.09 (0.008)		-2.11 (0.726)		-4.71 (0.234)	0.63 (0.423)
MExp	**10.26 (0.035)		**11.43 (0.013)		***9.49 (0.000)	**1.36 (0.029)
M/H		*8.59 (0.085)		**11.52 (0.035)		
Pce		***-2.38 (0.003)		**9.52 (0.010)		
Pop	**2.42 (0.038)	**2.29 (0.013)	***4.49 (0.000)	***4.68 (0.000)	***4.06 (0.000)	***0.84 (0.000)
RelPol	7.73 (0.270)	*9.70 (0.054)	2.84 (0.586)	0.07 (0.989)	0.81 (0.836)	0.15 (0.825)
LagCas			-0.12 (0.369)	-0.11 (0.416)		
LagKill					-0.09 (0.460)	
LagOut						***0.31
Controls	Y	Y	Y	Y	Y	Y

A General Malaise?

■ A counter-view:

- Rise in Muslim income (controlling for Hindu) just a proxy for overall Hindu stagnation.
- Could imply an increase in social unrest quite generally
- (not just in Hindu-Muslim conflict)
- Concomitant rise in Hindu-Muslim conflict is just a byproduct of this overall uptick in social unease
- Therefore not interpretable as **directed** violence.
- Test by using GOI dataset on Crime in India
- Has data on “all riots” .
- (Doesn't publish data on religious violence!)

■ Effect of group incomes on **all** riots:

	[1] Poisson	[2] Poisson	[3] Neg. Bin.	[4] Neg. Bin.	[5] OLS	[6] OLS
HExp	***0.75 (0.007)		-0.53 (0.448)		0.37 (0.467)	
MExp	-0.19 (0.301)		-0.12 (0.607)		-0.12 (0.617)	
M/H		-0.23 (0.202)		-0.09 (0.702)		-0.12 (0.642)
Pce		*0.52 (0.072)		-0.68 (0.243)		0.39 (0.287)
Pop	0.06 (0.910)	0.06 (0.912)	0.50 (0.221)	0.52 (0.149)	0.73 (0.314)	0.70 (0.336)
RelPol	*-0.64 (0.051)	*-0.62 (0.056)	0.20 (0.721)	0.17 (0.744)	0.12 (0.839)	0.14 (0.815)
GiniH	** -1.63 (0.046)	* -1.56 (0.058)	0.85 (0.594)	0.84 (0.562)	0.19 (0.902)	0.14 (0.928)
GiniM	-0.74 (0.307)	-0.76 (0.293)	0.35 (0.717)	0.36 (0.671)	0.61 (0.441)	0.55 (0.495)
Lit, Urb	Y	Y	Y	Y	Y	Y

A Question of Interpretation

- Our interpretation is based on the theory.
 - Positive effect of MExp, negative effect of HExp:
 - Hindus are “net aggressors” in Indian religious violence.
 - Interpretation in line with many case studies.
- A counterargument:
 - Rising Muslim incomes make it easier to fund conflict.
 - Effect outweighs the opportunity cost of direct participation.
 - Ergo, the net aggressors are Muslims, not Hindus.

■ Funding of conflict reasonable (on both sides).

■ But does it explain what we observe?

1. Recall: HExp enters negatively.

■ So if funding is responsible, the corresponding effect is obliterated and reversed for Hindu groups.

■ Possible, but in light of the fact that Muslims are by far the larger losers in outbreaks of violence, unlikely.

2. Gulf funding.

■ Taken out by the time fixed effect + instrument.

3. “Internal funding” by local groups:

■ Examine this in two ways.

■ Internal Funding: Theory

■ **Proposition.** An increase in group incomes that causes both the funding requirement f and aggressor income z to rise in equal proportion, must reduce attacks perpetrated by members of that group.

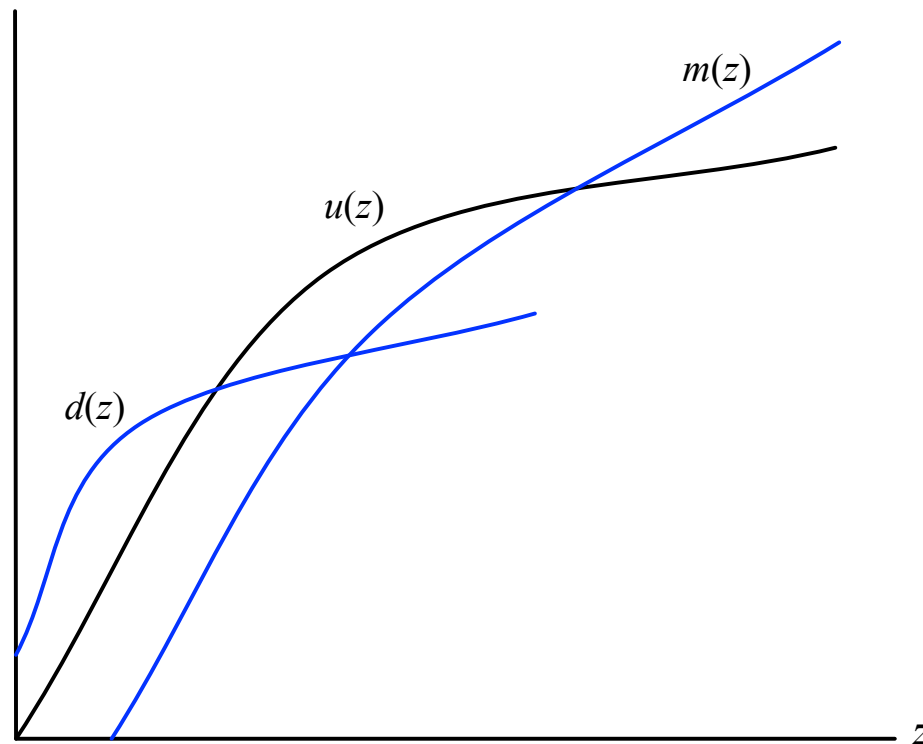
■ (Formal argument uses constant-elasticity utility.)

■ **Counterargument to Proposition.** Either:

■ Paid attackers not from the same religious group, or

■ Funding pays for non-human inputs into violence.

- Dealing with the counterargument:
- **Proposition.** Suppose that f is unchanging with z .
- Then, as z goes up: participation \rightarrow peace \rightarrow funding.



- **Implication:** the positive coefficient on M-Exp should be heightened for relatively rich regions.

	OLS			Poisson		
	[1] All	[2] Non-Low	[3] Non-High	[4] All	[5] Non-Low	[6] Non-High
HExp	*-8.46 (0.085)	** -10.06 (0.037)	* -10.21 (0.061)	*** -6.82 (0.003)	** -5.13 (0.019)	*** -7.18 (0.003)
MExp	*** 9.52 (0.009)	*** 10.55 (0.004)	** 9.15 (0.021)	*** 4.67 (0.001)	** 3.31 (0.015)	*** 4.80 (0.001)
Pop	-1.23 (0.877)	-3.47 (0.630)	-2.25 (0.784)	3.91 (0.496)	-4.33 (0.118)	3.62 (0.538)
RelPol	6.68 (0.408)	5.60 (0.588)	5.79 (0.505)	* 5.57 (0.056)	1.83 (0.366)	* 5.43 (0.071)
GiniH	-14.47 (0.342)	-16.79 (0.328)	-13.97 (0.388)	-5.43 (0.317)	2.01 (0.719)	-5.66 (0.295)
GiniM	-11.07 (0.451)	-17.32 (0.250)	-9.56 (0.549)	3.40 (0.497)	5.47 (0.222)	3.95 (0.429)
Lit, Urb	Y	Y	Y	Y	Y	Y

A Summary

- Economic development fundamentally uneven.
- Large effects on aspirations.
- Occupational choice is a slow process.
- So conflict predicted under uneven development.
- **Us** and **Them**, profoundly contextual.
- Direct contestability creates antagonism across **similar** groups.
- And non-class conflict, including ethnic conflict, may be focal.
- A research agenda in development economics cannot ignore this question of salience.