Econ 219B
Psychology and Economics: Applications
(Lecture 7)

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Outline

1. Social Preferences Wave I: Altruism
2. Workplace Effort: Altruism
3. Shaping Social Preferences
4. Social Preferences Wave I: Warm Glow and Charitable Giving
5. Social Preferences Wave II: Inequity Aversion and Reciprocity
6. Workplace Effort: Inequity Aversion
7. Methodology: Field Experiments

1 Social Preferences Wave I: Altruism

- First set of models (since 1970s): Pure altruism
  - Self with payoff x_s
  - Other with payoff x_o
  - Self assigns weight α to Other's utility:

$$U = u(x_s) + \alpha u(x_o)$$

- First used to model within-family altruism (Becker, 1981; Becker and Barro, 1986)

- Still very useful benchmark model

2 Workplace Effort: Altruism

- **Bandiera-Barankay-Rasul (QJE, 2005)**
  - Impact of relative pay versus piece rate on productivity
- Standard model:
  - *Piece rate:* Worker i maximizes

$$\max_{e_i} pe_i - c(e_i)$$

$$e_{iP}^* = c'^{-1}(p)$$

  - *Relative pay*: Worker i maximizes

$$\max_{e_i} pe_i - \gamma \sum_{j \neq i} \frac{e_j}{I-1} - c(e_i)$$

$$e_{iRP}^* = e_P^* = c'^{-1}(p)$$

- Assume simple altruism:

$$U_i = u_i + \alpha \sum_{j \neq i} u_j$$

  - *Piece rate*: Worker maximizes

$$\max_{e_i} pe_i - c\left(e_i\right) + \alpha \sum_{j \neq i} \left[pe_j - c\left(e_j\right)\right]$$

  - Same solution as with $\alpha = 0$
  - *Relative pay*: Worker i maximizes

$$\max_{e_i} pe_i - \gamma \sum_{j \neq i} \frac{e_j}{I-1} - c\left(e_i\right) + \alpha \sum_{j \neq i} \left[pe_j - \gamma \sum_{q \neq j} \frac{e_q}{I-1} - c\left(e_j\right)\right]$$

  - Solution

$$c'\left(e_{iRP}^*\right) = p - \alpha\gamma\left(I-1\right) \text{ -> } e_{iRP}^* < e_{iP}^*$$

- Test for impact of social preferences in the workplace
  - Does productivity increase when switching to piece rate?
- Use personnel data from a fruit farm in the UK
- Measure productivity as a function of compensation scheme
- Timeline of quasi-field experiment:
  - First 8 weeks of the 2002 picking season –> Fruit-pickers compensated on a relative performance scheme
    - Per-fruit piece rate is decreasing in the average productivity.
    - Workers that care about others have incentive to keep the productivity low
  - Next 8 weeks –> Compensation switched to flat piece rate per fruit
  - Switch announced on the day change took place

- Dramatic 50 percent increase in productivity

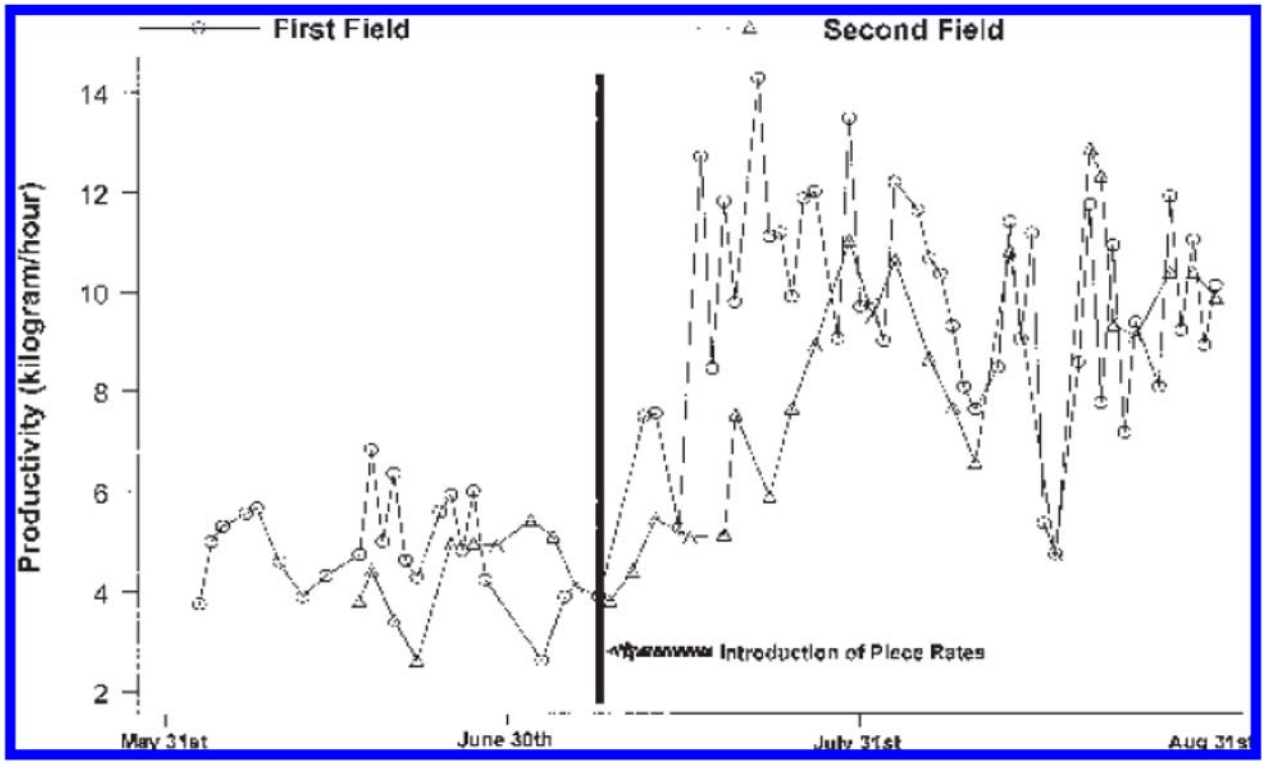


FIGURE I
Productivity (kilogram/hour) over the Season

- No other significant changes

	Relative incentives	Piece rates	Difference
Worker productivity (kg/hr)	5.01	7.98	
	(.243)	(.208)	2.97***
	[4.53, 5.49]	[7.57, 8.39]	
Kilos picked per day	Confidential		23.2***
Hours worked per day	Confidential		−.475
Number of workers in same field	41.1	38.1	−3.11
	(2.38)	(1.29)	
Daily pay	Confidential		1.80
Unit wage per kilogram picked	Confidential		−.105***

*** denotes significance at 1 percent. Sample sizes are the same as those used for the productivity regressions. Standard errors and confidence intervals take account of the observations being clustered by field-day. Productivity is measured in kilograms per hour. Daily pay refers to pay from picking only. Both daily pay and the unit wage per kilogram picked are measured in UK Pounds Sterling. Some information in the table cannot be shown due to confidentiality requirements.

- Is this due to response to change in piece rate?
  - No, piece rate went down –> Incentives to work less (susbt. effect)

- Results robust to controls
- Results are stronger the more friends are on the field

	(1a) Relative incentives	(1b) Relative incentives	(2a) Piece rates	(2b) Piece rates
Share of workers in the field who are friends	−1.68***	−5.52**	.072	1.17
	(.647)	(2.36)	(.493)	(1.60)
Share of workers in the field who are friends × number of workers in same field		1.60**		−.285
		(.684)		(.501)
Number of workers in same field		.182		.085
		(.117)		(.069)
Marginal effect of group size (at mean friends' share)		.236**		.076
		(.110)		(.065)
Worker fixed effects	Yes	Yes	Yes	Yes
Field fixed effects	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes
Adjusted R^2	.3470	.3620	.3065	.3081
Number of observations (worker-field-day)	2860	2860	4400	4400

- Two Interpretations:
  - Social Preferences:
    - Work less to help others
    - Work even less when friends benefit, since care more for them
  - Repeated Game
    - Enforce low-effort equilibrium
    - Equilibrium changes when switch to flat pay
- Test: Observe results for tall plant where cannot observe productivity of others (raspberries vs. strawberries)

- Compare Fruit Type 1 (Strawberries) to Fruit Type 2 (Raspberries)
  - No effect for Raspberries

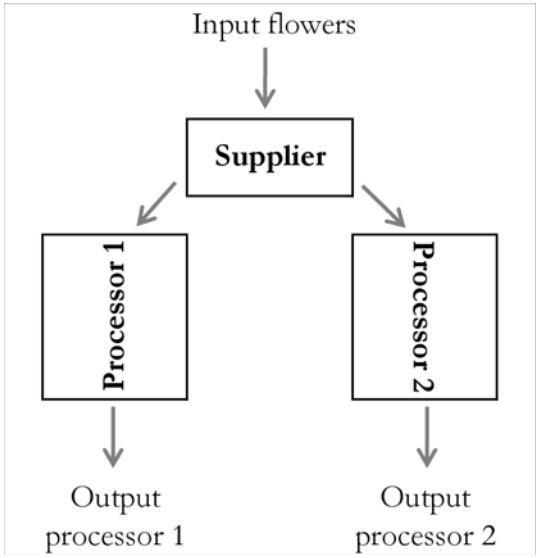
DEPENDENT VARIABLE = LOG OF WORKER'S PRODUCTIVITY (KILOGRAM PICKED PER HOUR PER FIELD-DAY)
ROBUST STANDARD ERRORS REPORTED IN PARENTHESES, ALLOWING FOR CLUSTERING AT FIELD-DAY LEVEL

	(1) Fruit type 2	(2) Fruit type 1	(3) Fruit types 1 and 2 combined
Piece rate dummy (P_t)	−.063	.483***	
	(.129)	(.094)	
Piece rate × fruit type 2			−.100
			(.095)
Piece rate × fruit type 1			.490***
			(.092)

- –> No Pure Social Preferences. However, can be reciprocity

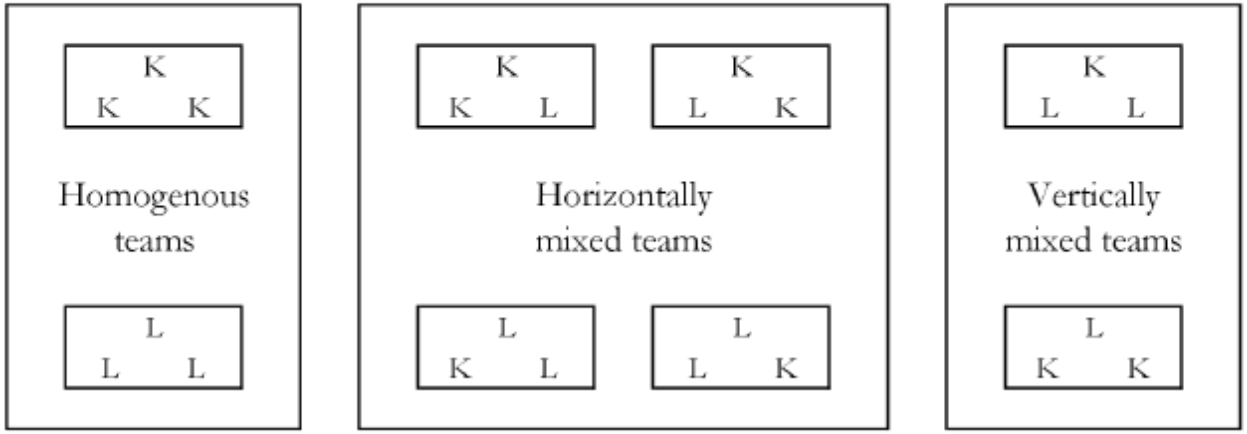
- Important to control for repeated game effects –> Field experiments

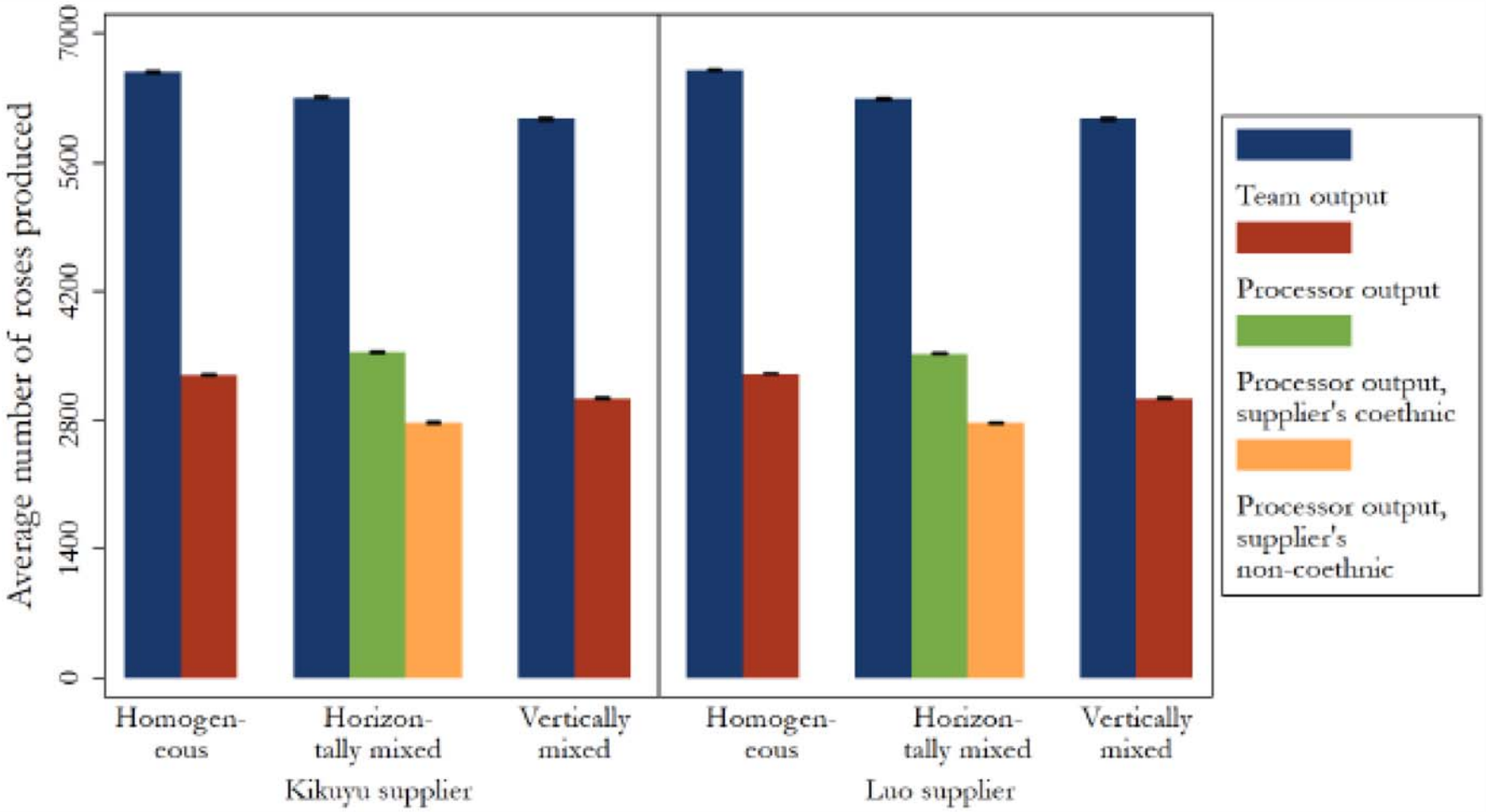
- **Hjort (2013):** Social preferences among co-workers as function of ethnicity
  - Kenya flower plant
  - Teams of 3: one supplier, two processors
  - Piece rate (at least initially) for two processors, and supplier gets pay for average productivity



- Different team ethnicity configurations of Luos and Kikuyu:
  - Vertically mixed teams –> Work less hard to sort flower
  - Horizontally mixed teams –> Sort fewer flowers to non-coethnic
  - Findings strikingly aligned to predictions of model

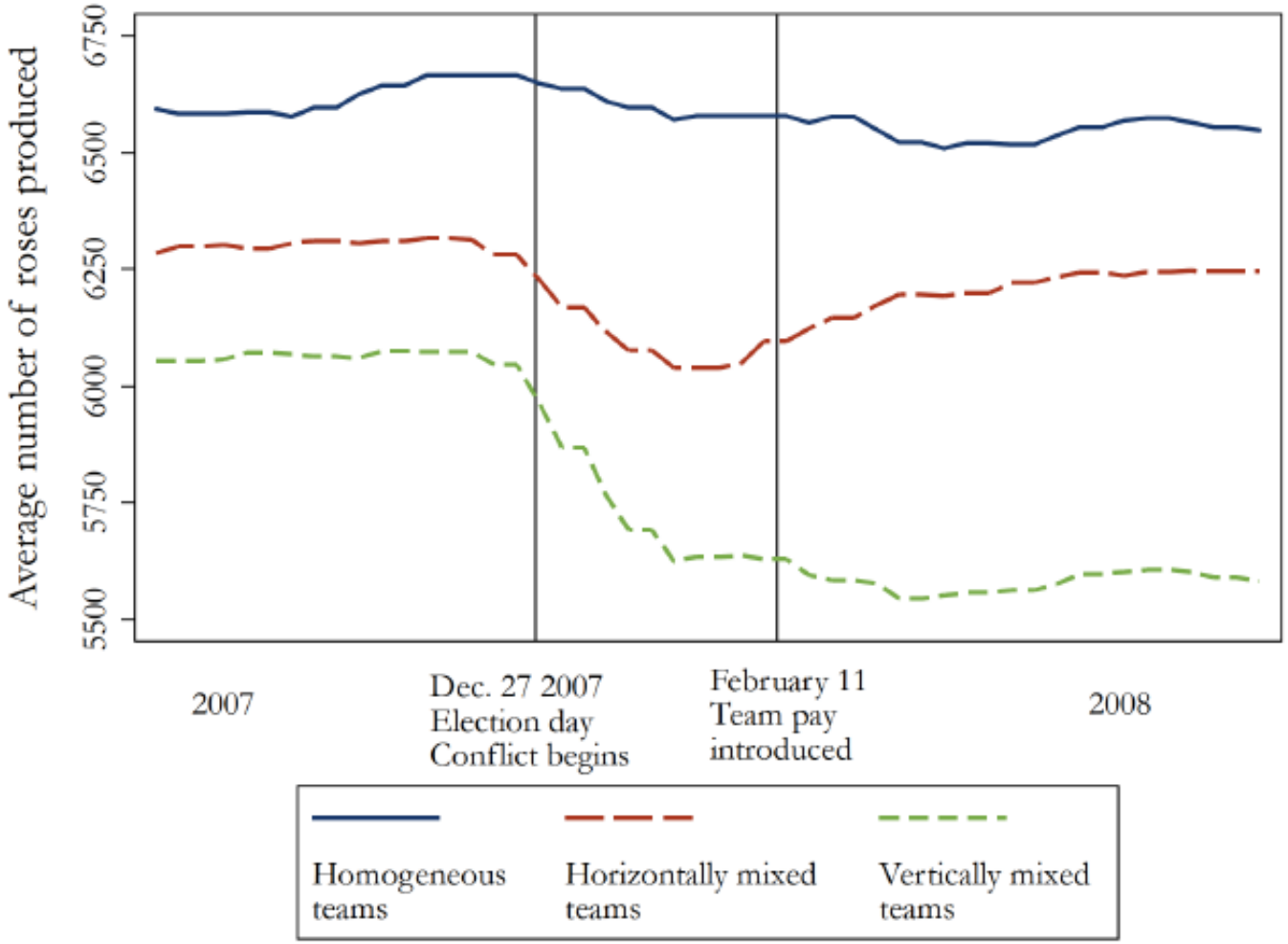
Figure I.b
Team ethnicity configuration categories




Average number of roses produced
0
1400
2800
4200
5600
7000
Homogen-
eous
Horizon-
tally mixed
Vertically
mixed
Kikuyu supplier
Homogen-
eous
Horizon-
tally mixed
Vertically
mixed
Luo supplier
Team output
Processor output
Processor output,
supplier's coethnic
Processor output,
supplier's
non-coethnic

- Two further pieces of evidence:
  1. Period of ethnic animosity and violence
  2. Switch to team pay for the processors
- Prediction of first change:
  - Exacerbate patterns
- Prediction of second change:
  - Reduce effect in horizontally-mixed teams
  - Not in vertically-mixed teams

Figure II
Output in homogeneous and mixed teams across time



3 Shaping Social Preferences

- In given economic setting, take preferences as given (Becker, '*De Gustibus non est disputandum*')
- But over medium-term, preferences can shift
- Focus on evolution of social preferences
- Example 1: **Hjort (2013)** – conflict affects social preferences between workers of differen ethnicities

- Example 2: **Fisman, Kariv, and Markovits (2009)**
  - Subjects: Yale Law School students
  - Exploit random assignment to either econ-trained or non-econ-trained teachers
  - Exposure to economics makes more selfish
  - Also, makes more attentive to efficiency

Figure 2A. Decision-level distributions of expenditure on tokens given to *other* by price-ratio tercile
Economics subjects

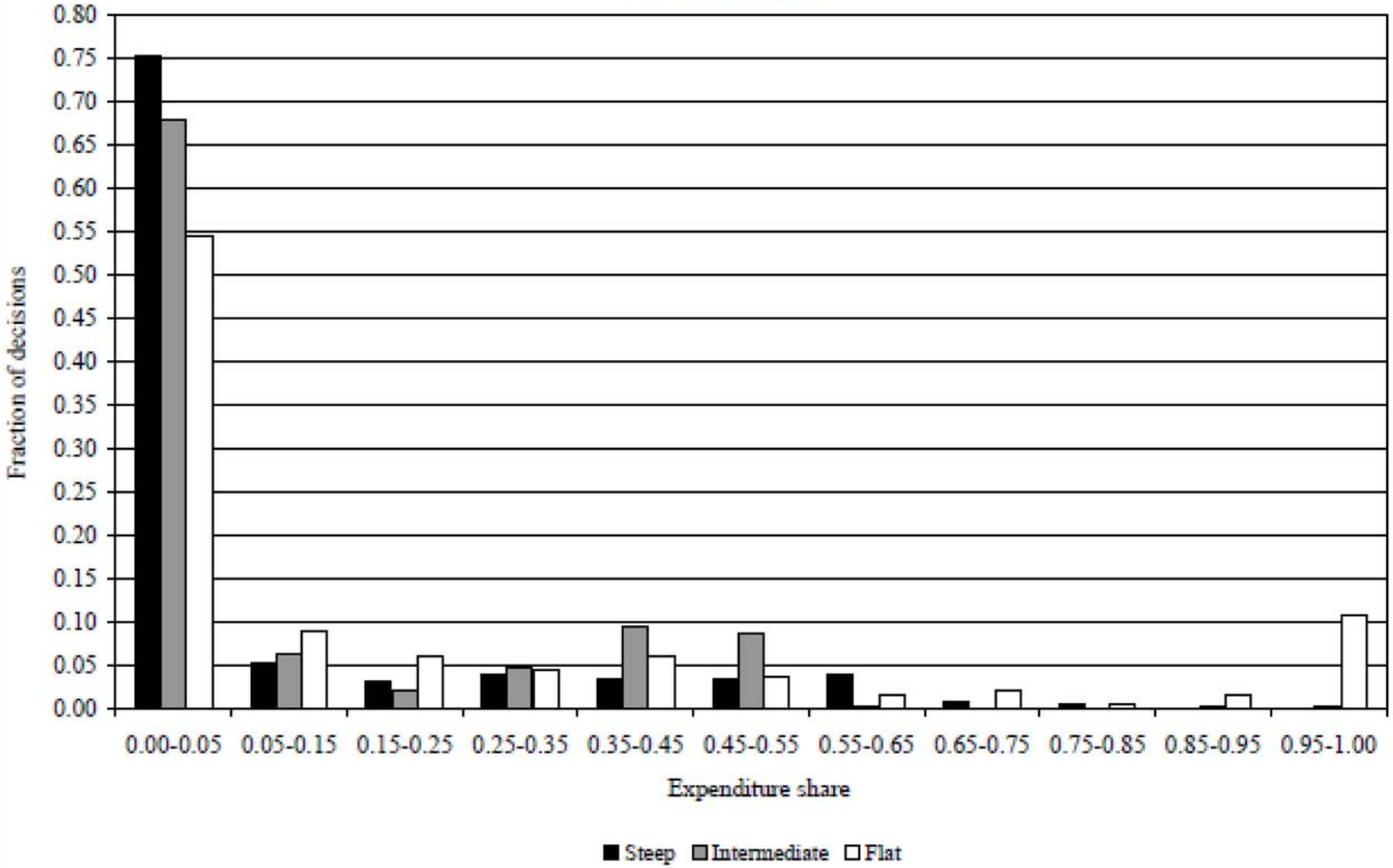
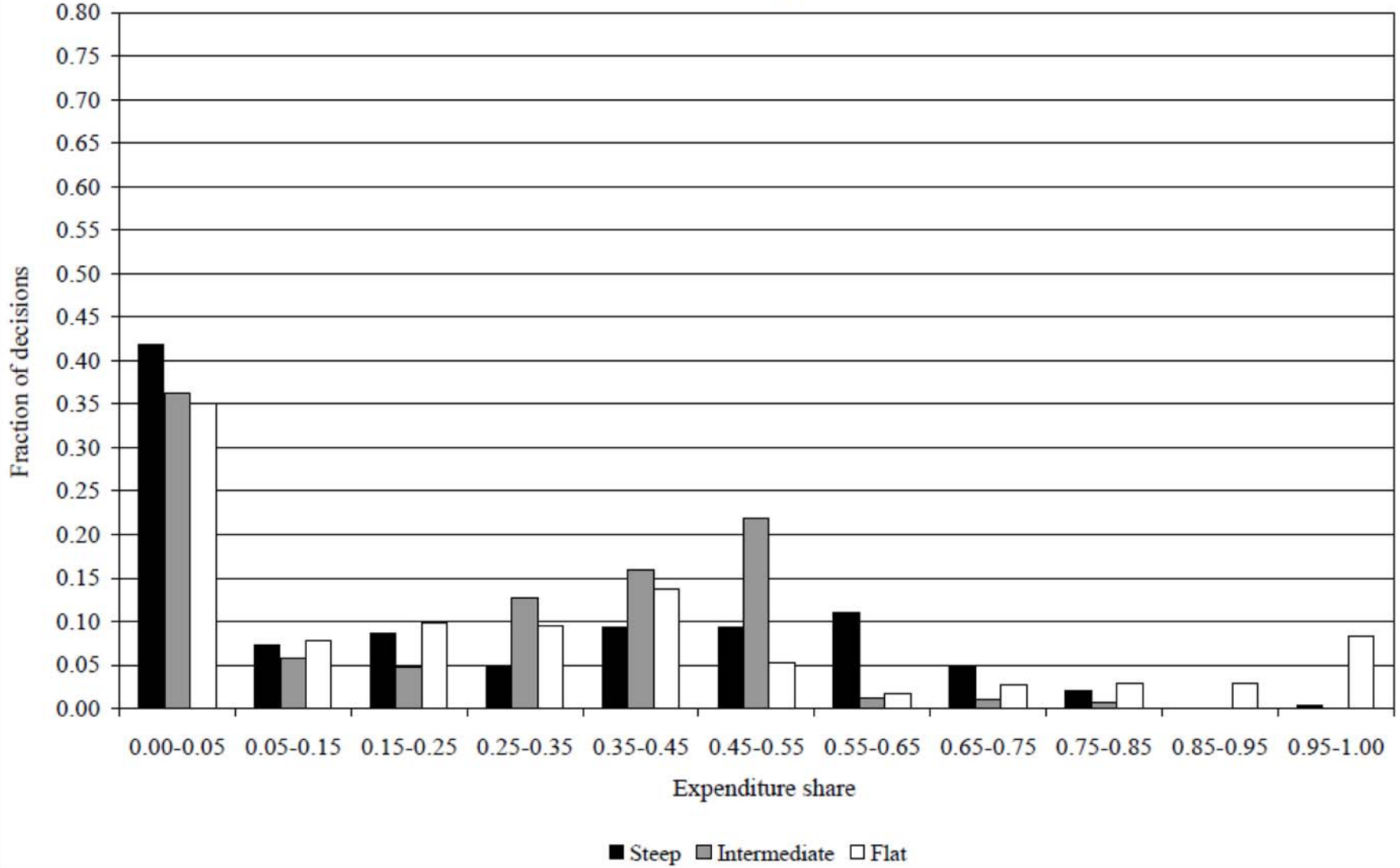


Figure 2C. Decision-level distributions of expenditure on tokens given to *other* by price-ratio tercile

Humanist subjects



- **Rao (2014):** Consider the impact of exposure to students of different social class on preferences
- Remarkable impacts over just 1-2 years of exposure
- Slides courtesy of Gautam

Elite Private Schools in Delhi

Elite private schools are:

- Expensive: Tuition \$500-\$2500/year (25-110% of median annual household income)
  - Public schools are free
- Selective: In my sample, accept $\approx 7\%$ of applicants
  - Strictly regulated admissions criteria
    - Neighborhood
    - Older siblings in same school
    - Parents alumni, parent interview

Policy Innovation

Policy change in Delhi in 2007:

- 20% admissions quota in private schools for poor students
  - Household income cutoff: $2000/year
- Schools which received subsidized land from *state* govt.
  - Over 90% of elite private schools
- No fees for poor children
- No tracking

Variation across classrooms

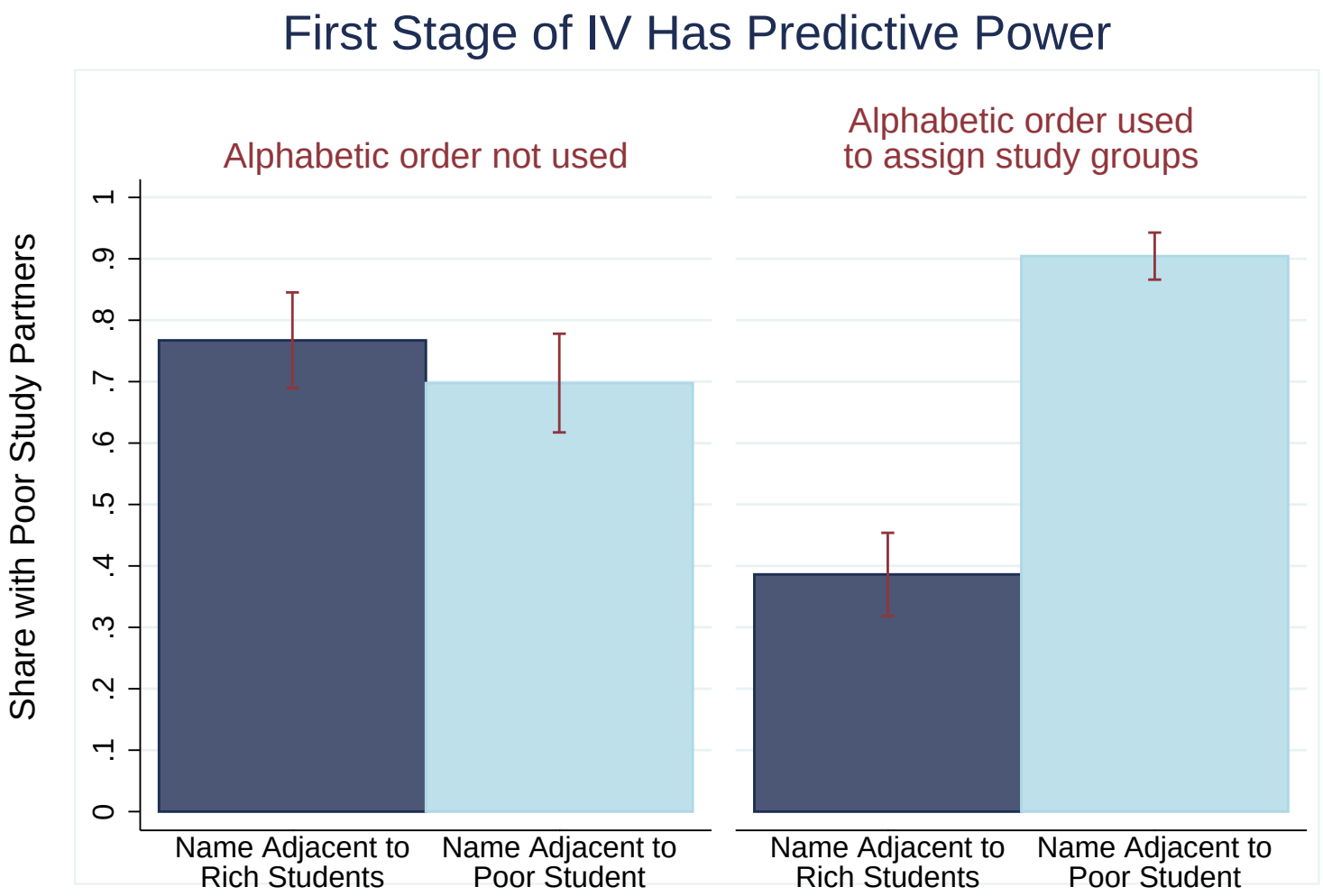
Sample for this paper:

- $k = 14$ schools
  - 9 Treatment Schools
  - 2 Delayed Treatment Schools
  - 3 Control Schools
- $n = 2017$ randomly selected students in 14 schools
  - in Grades 2-5
- Over-sample control, delayed treatment schools
  - Treatment schools in same neighborhoods

Variation within classroom (IV strategy)

- 1 hr a day working in small groups of 2-4 students
- Some schools ($k = 7$) use alphabetic order of *first* name to assign study groups.
  - Exogeneous variation in personal interactions
- Other schools ($k = 4$) frequently shuffle groups
  - Only "direct" effect of name

Alphabetic Order Predicts Study Partners

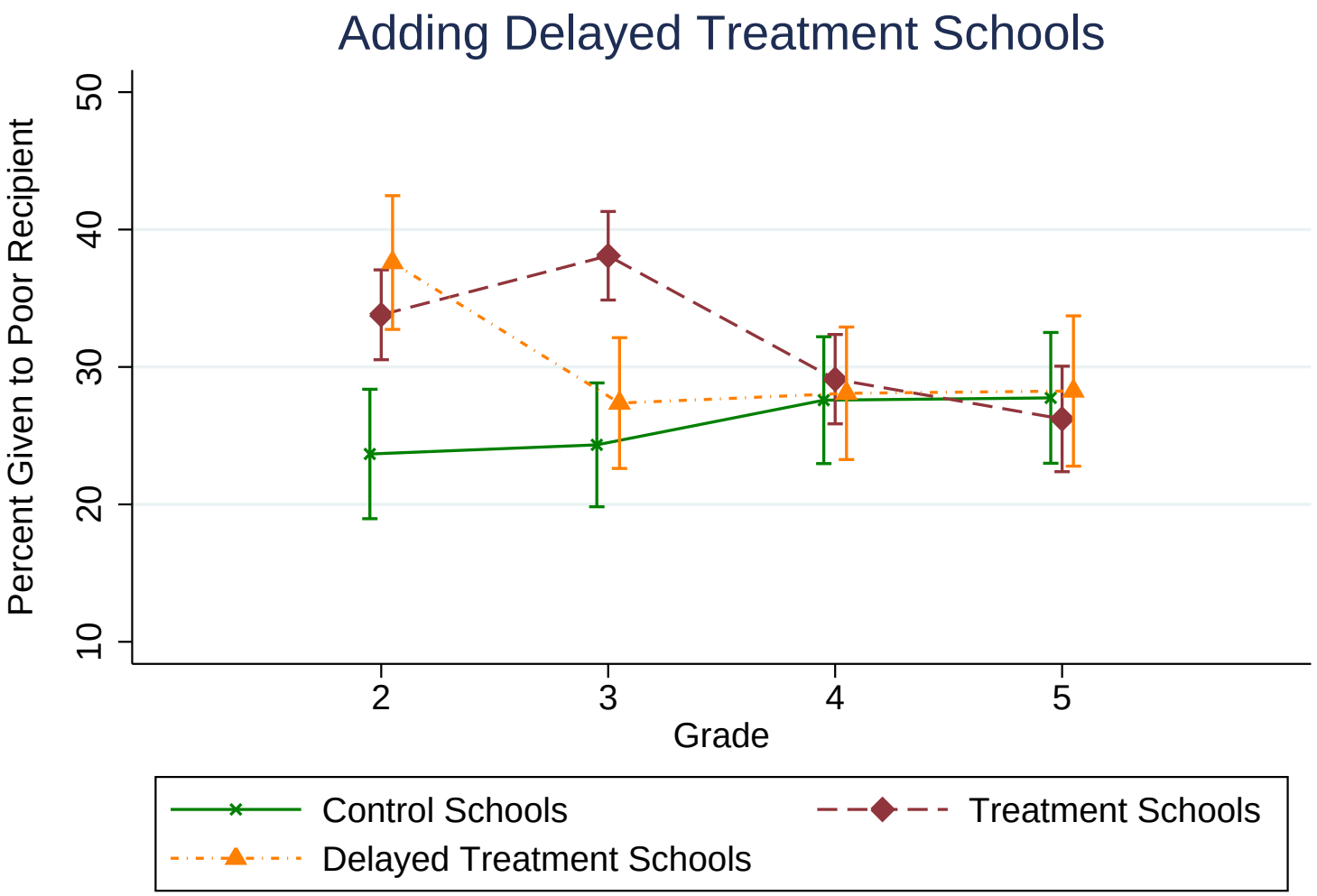


Note: 95% confidence intervals around mean amount given.

Dictator Games

- Students endowed with 10 Rupees, choose to share $x \in [0, 10]$
  - Can exchange money for candy later (Rs. 1 per piece)
- Vary the identity of the recipient
  - Game 1: **Poor** student in a school for poor children
  - Game 2: **Rich** student in a private (control) school
  - Order randomized
- Name and photographs of school shown to subjects.
  - Debriefing: Subjects understood recipient poor / rich

Dictator Game with Poor Recipient



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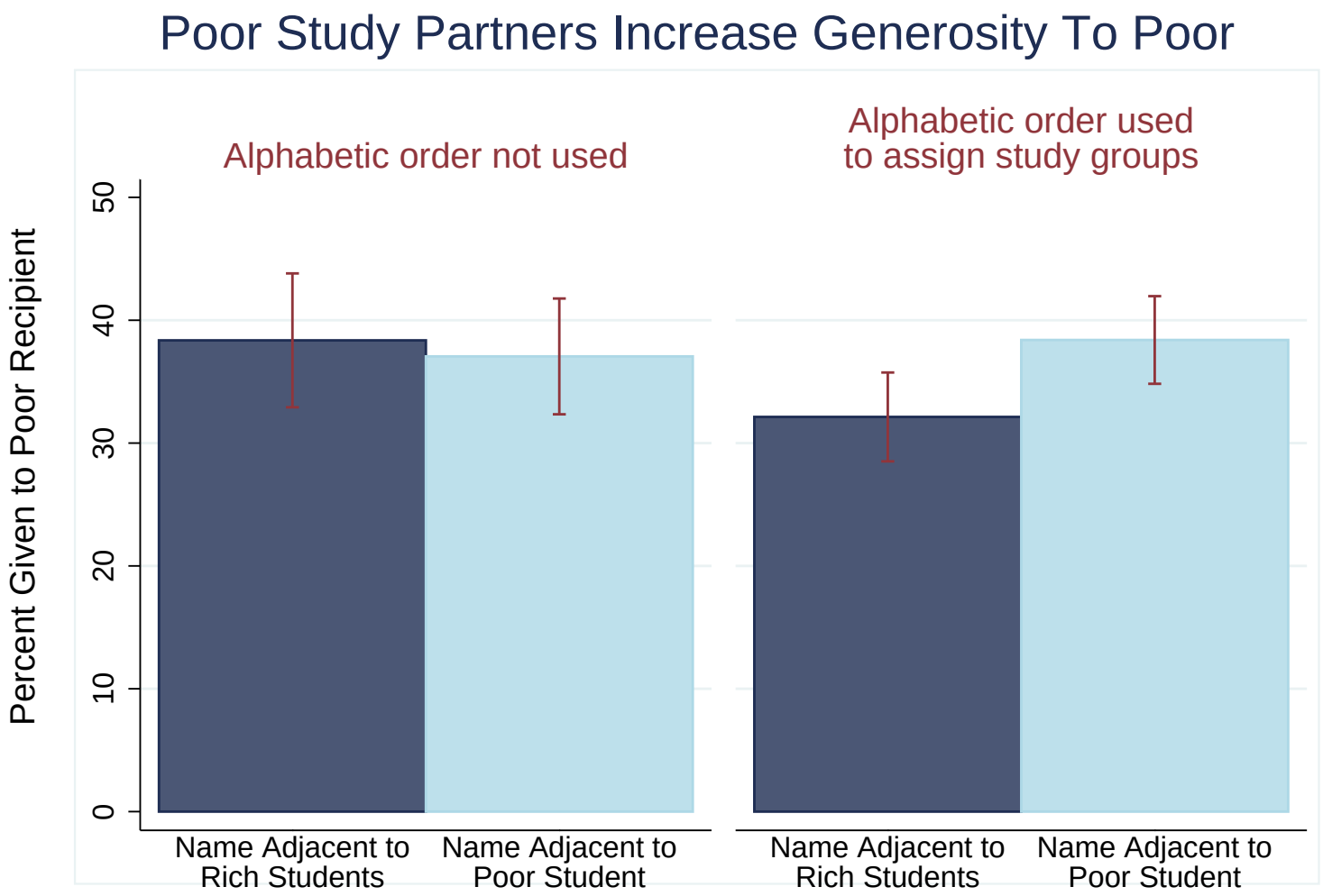
Dictator Game with Poor Recipient

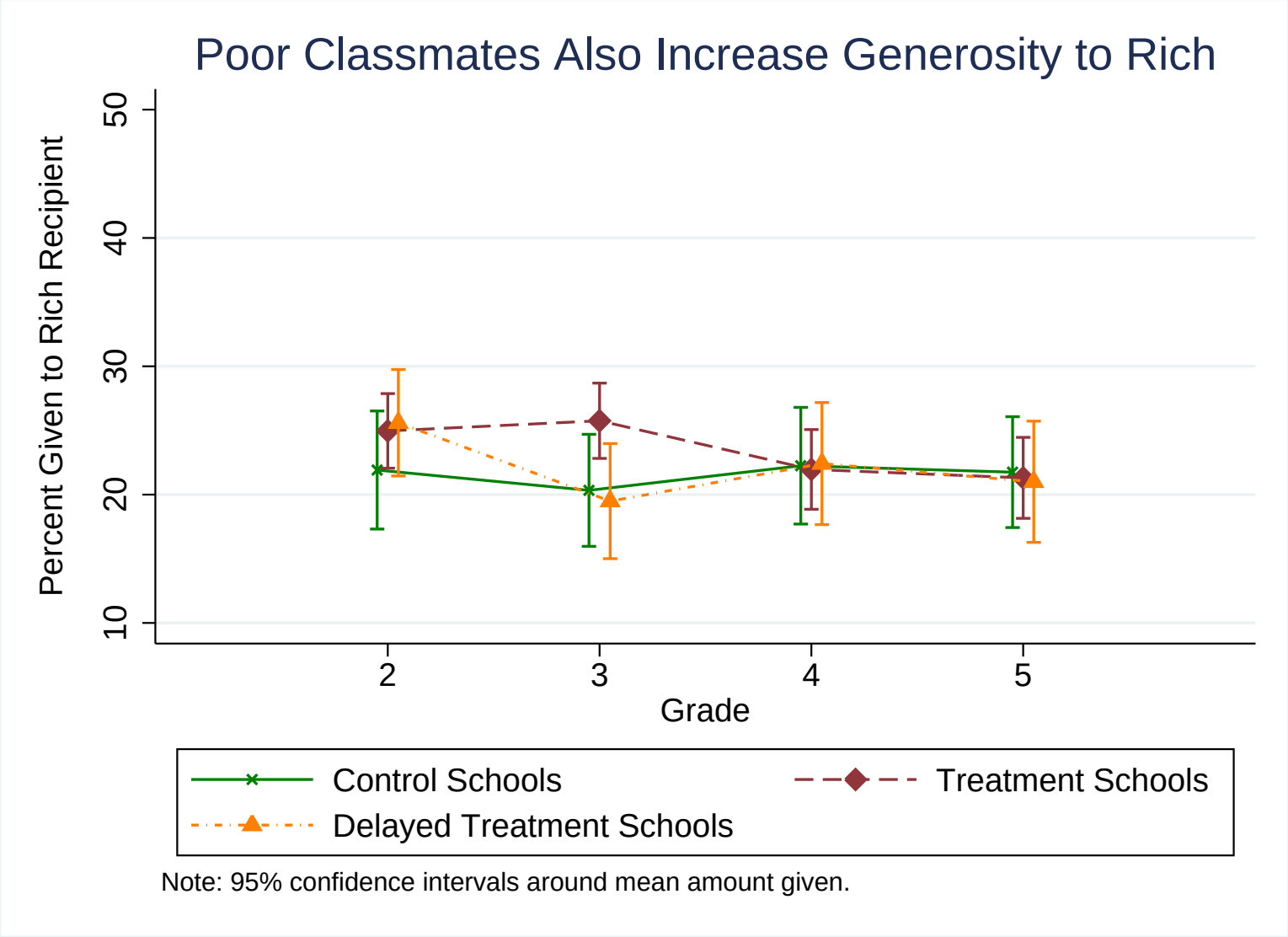


Note: 95% confidence intervals around mean amount given.

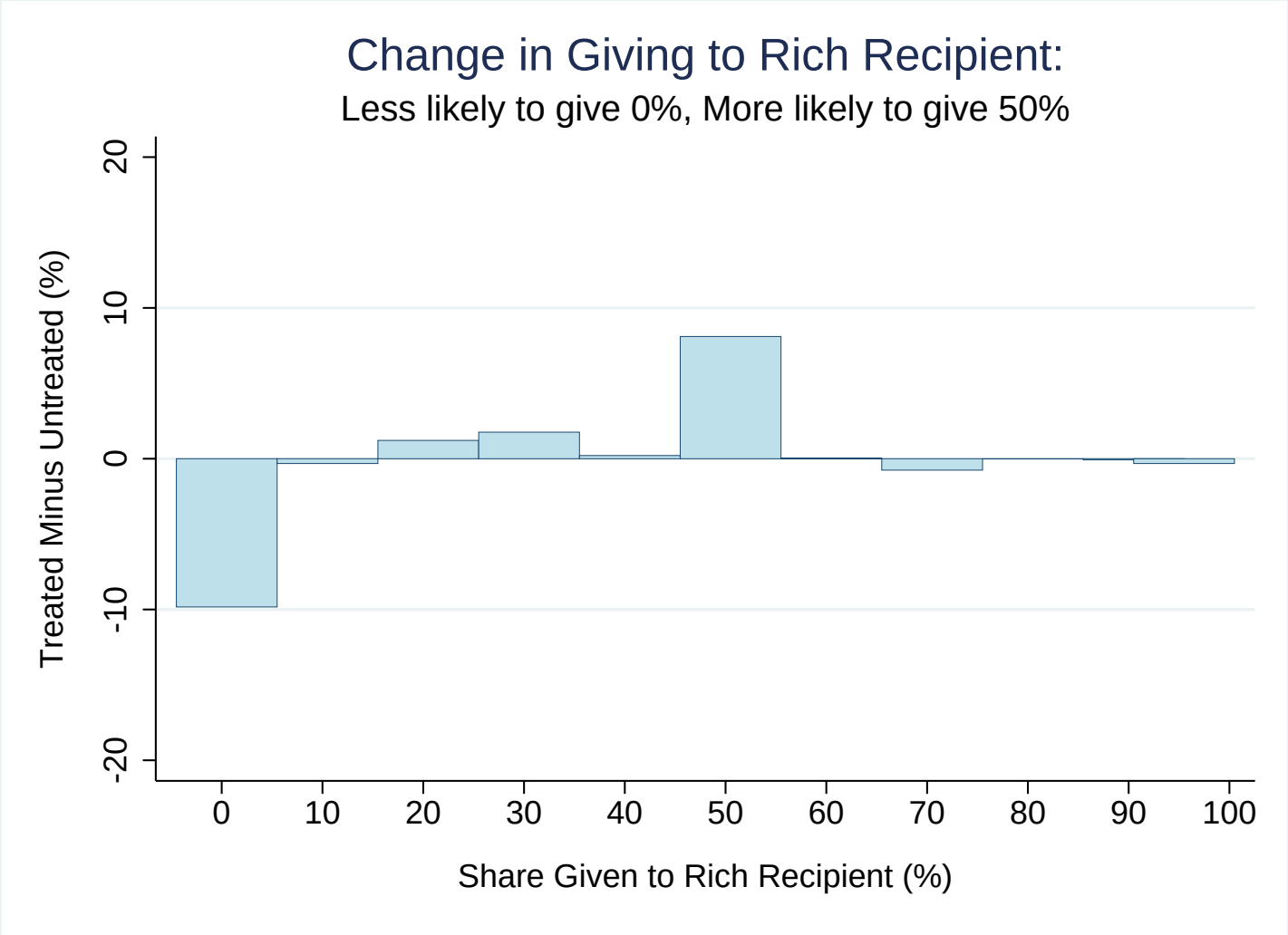
Dictator Game with Poor Recipient - Regressions

	Dependent Variable: Share Given to Poor Recipient in Dictator Game (%)			
	(1)	(2)	(3)	(4)
Specification:	DiD	DiD	IV	DiD+IV
Sample:	Full Sample	Younger Sibs	Treated Class	Full Sample
Treated Classroom	12.22***	12.95***		8.747**
	(1.901)	(2.274)		(3.510)
Has Poor Study Partner			7.53**	12.08***
			(3.147)	(4.313)
Controls	Yes	Yes	Yes	Yes
Fixed Effects	School, Grade	School, Grade	Classroom	School, Grade
p-value (CGM)	< 0.01	< 0.01	.	.
Control Mean	27.12	26.75	33.77	27.12
Control SD	27.22	26.53	28.13	27.22
N	2015	1141	677	2015

Dictator Game with Rich Recipient



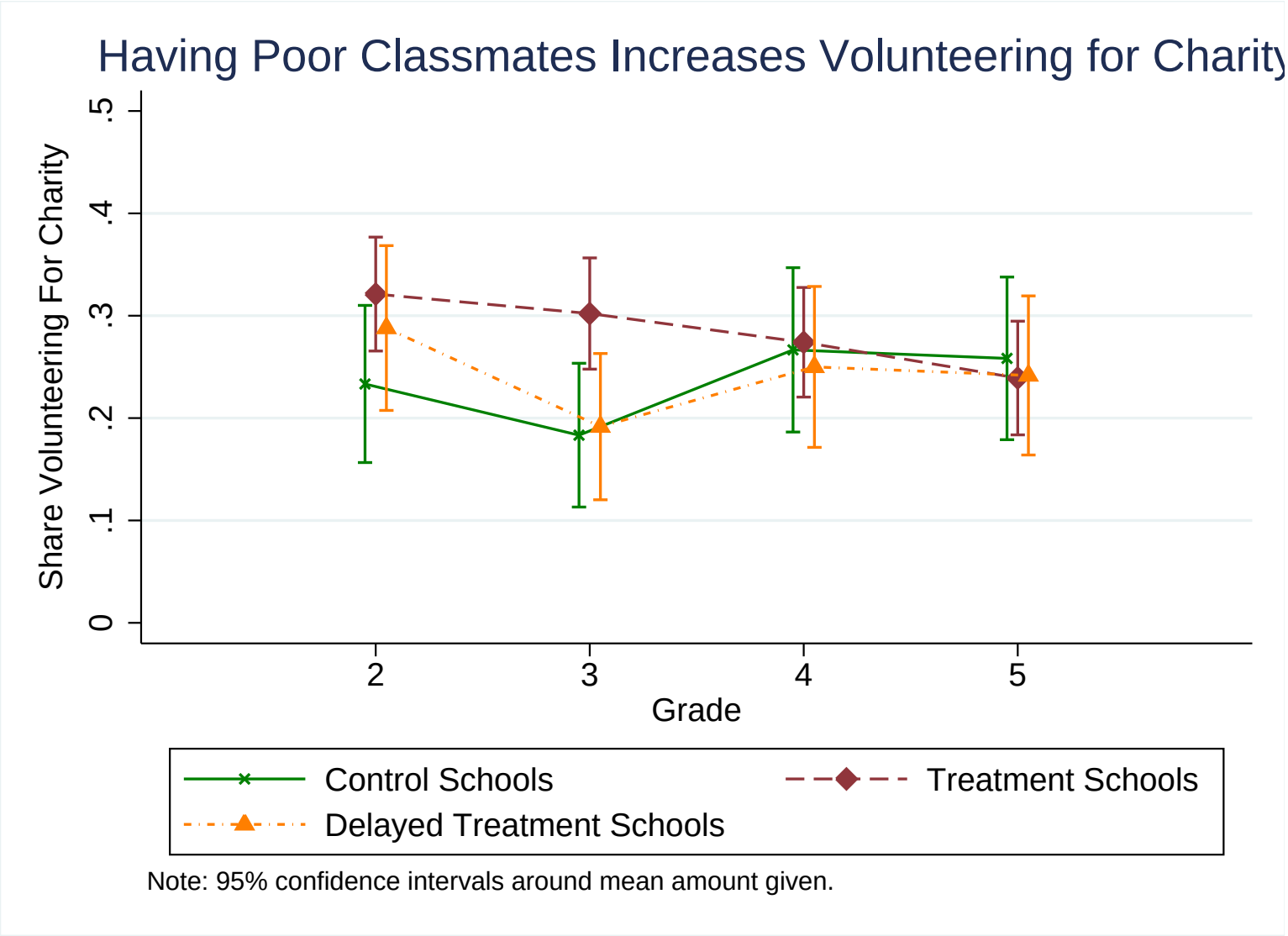
Changes in amounts given to rich recipients



Volunteering for charity

- Schools offer volunteer opportunity for charities
  - Spend two weekend afternoons in school to help fundraise for a children's NGO
- Participation is strictly voluntary
  - Only 28% of students participate
- Administrative data on attendance

Volunteering for charity



Field experiment on team selection

- Subjects are students from two elite private schools
  - One treatment school, one control school
  - We invite *athletic* poor students from a public school
- Students must choose teammates to run relay race
  - Tradeoff ability vs. social similarity
- $n = 342$

Team Selection Experiment Design

Stage 1: Randomization

- Randomized to sessions with varying stakes
  - Rs. 50, Rs. 200 or Rs. 500 per student for winning team
    - Rs. 500 ($10) approx. one month's pocket money
  - Variation in "price" of discrimination
- Brief mixing to judge socioeconomic status

Team Selection Experiment Design

Stage 2: Ability revelation and team selection

- Observe a 2-person race
  - Usually one poor and one rich student
    - Neither is from your school
  - Uniforms make school identifiable
- Pick which of the two runners you want as your partner
- Discrimination Picking the slower runner

Team Selection Experiment Design

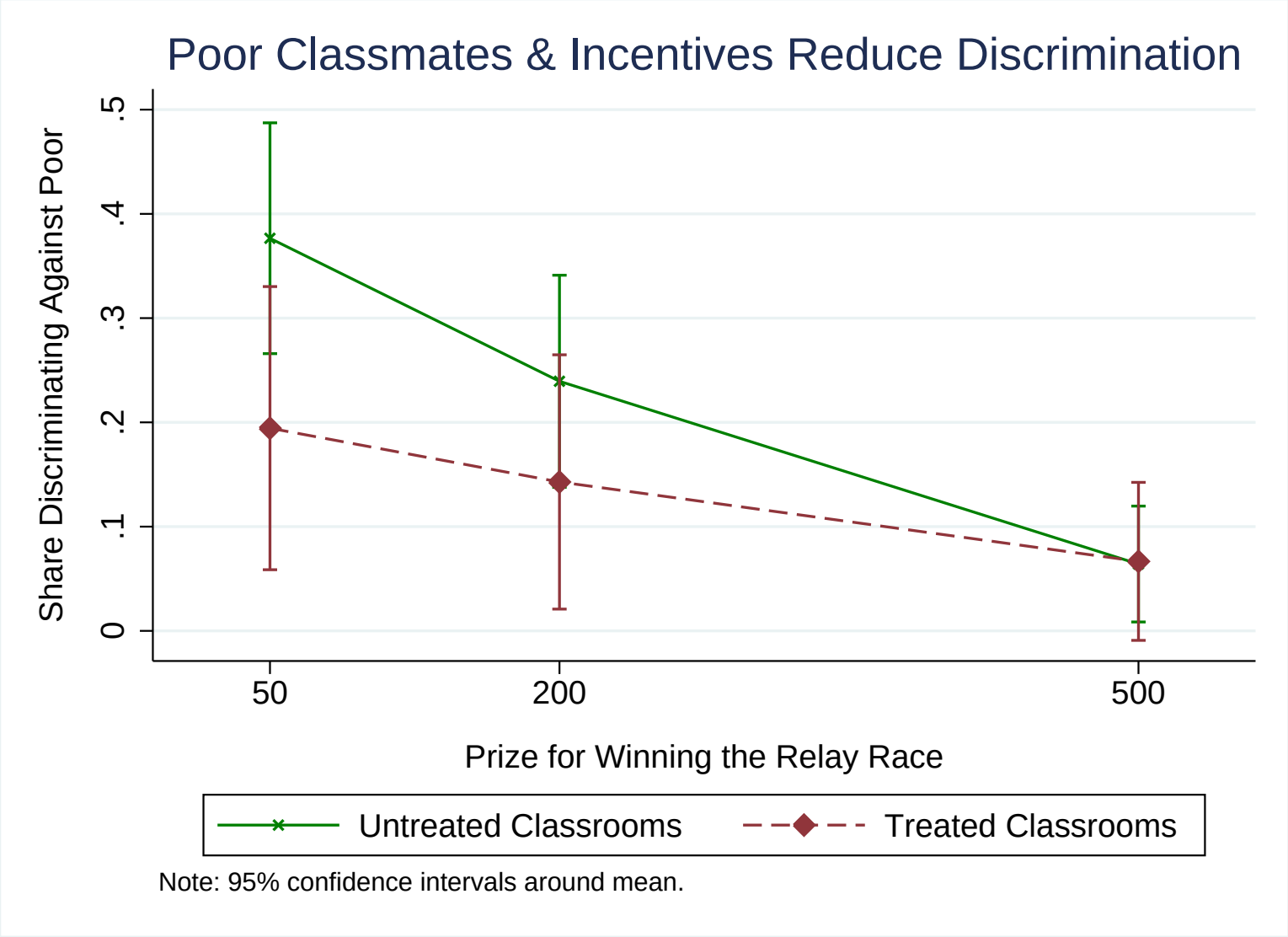
Stage 3: Choice implementation and relay race

- Students randomly picked to have their choices implemented
  - Plausible deniability provided
- Relay races held and prizes distributed as promised

Stage 4: Social interaction

- Must spend 2 hours playing with teammates
  - board games, sports, playground
- Was pre-announced

A quasi-demand curve for discrimination

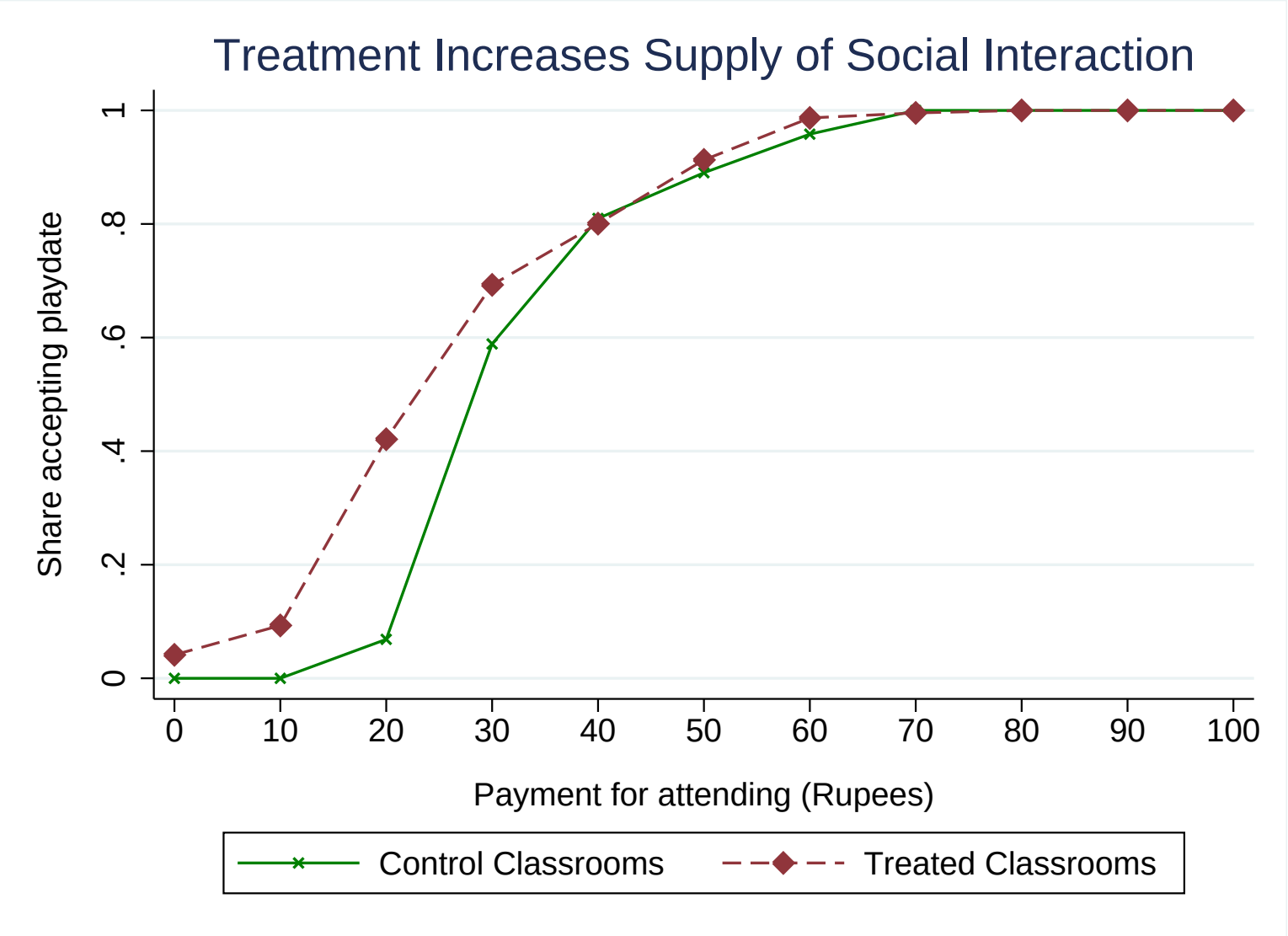


Willingness to Play Experiment

Invite students to a "play date" at poor school

- Opportunity to make new friends in neighborhood
- Elicit incentivized Willingness To Accept to attend
  - Using simple BDM mechanism
  - Students require payments to attend

Increase in supply of social interactions



Play Date Tables

What part of the treatment is crucial?

- Personal interactions explain a lot of the overall effect
  - 70% of the change in "willingness to play"
  - 38% of the increase in giving to the poor
- Likely an underestimate of importance of interaction

Mechanisms

What's the mechanism? My speculation:

1. Interacting with poor children changes fairness notions
   - Makes students care more about equality of payoffs
   - Changes in preferences vs. norms / social image
2. Familiarity breeds fondness $\rightarrow$ discrimination $\downarrow$, socializing $\uparrow$
   - Change in prefs due to "mere-exposure"
   - Changes in beliefs
     - No effects on beliefs about niceness, intelligence, hard work.

Policy Relevance

- India-wide roll-out of this policy beginning in 2013-14
  - 400 million children under age 15
  - 30% of Indian students already attend private schools
  - Could have large-scale effects on social behaviors
    - Note unrepresentative sample

4 Social Preferences Wave I: Warm Glow and Charitable Giving

- **Andreoni (2004).** Excellent survey of the theory and evidence
- Stylized facts:
  - US Giving large: 1.5 to 2.1 percent GDP
  - Most giving by individuals (Table 1)

Table 1
Sources of Private Philanthropy, 2002

Source of gifts	Billions of dollars	Percent of total
Individuals	183.7	76.3
Foundations	26.9	11.2
Bequests	18.1	7.5
Corporations	12.2	5.1
Total for all Sources	240.9	100

Source: Giving USA, 2003

- – Giving fairly constant over time (Figure 1)

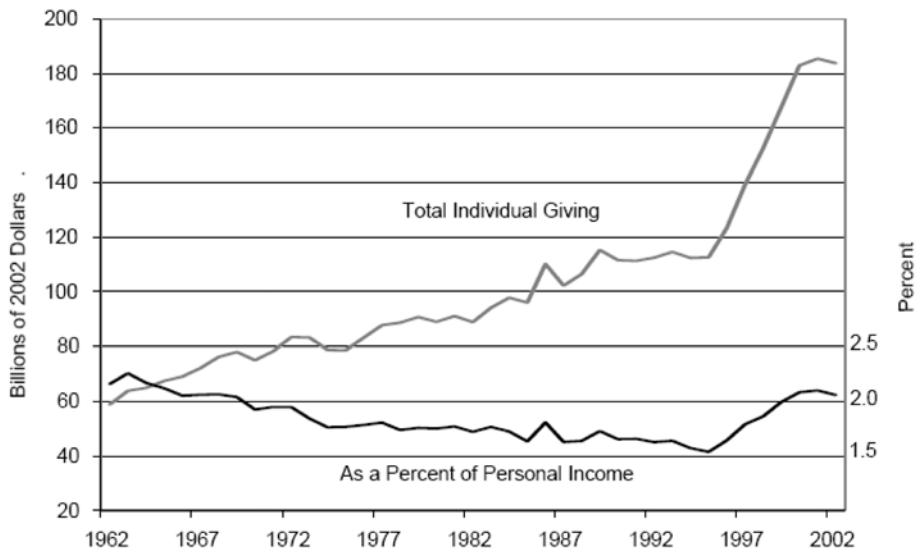


Figure 1: Trends in Individual Giving.
Source: Giving USA 2003.

- Charitable giving important phenomenon – How do we understand it?

- **Model 1.** Pure altruism: Model utility of Self giving g_s

$$u\left(w_s - g_s\right) + \alpha f\left(G_{-s} + g_s\right)$$

where G_{-s} is giving by others, $f\left(\right)$ is production function of charity

- F.o.c.

$$-u'\left(w - g_s^*\right) + \alpha f'\left(G_{-s} + g_s^*\right) = 0$$

- How would giving change if giving by others (or by government) increases?

$$\frac{\partial g_s^*}{\partial G_{-s}} = -\frac{\alpha f''\left(G_{-s} + g_s^*\right)}{u''\left(w - g_s\right) + \alpha f''\left(G_{-s} + g_s^*\right)} \approx 1$$

- Prediction of strong crowd out of giving

- If government spends on income of needy group, corresponding almost one-on-one decrease in giving

- Evidence of crowding out: Limited crowd-out

- Problem (ii): Model predicts giving to one highest-value charity—Instead we observe dispersion across charities

- Problem (iii): In-person or phone requests for giving raise much more than impersonal requests (mail)

- **Andreoni (1994)**: Warm-Glow or Impure altruism.
  - Utility

$$u\left(w_s - g_s\right) + v\left(g_s\right)$$

  - Agent gets warm glow utility $v\left(g_s\right)$ directly from giving
  - Utility $v\left(g_s\right)$ sharply concave
- Predicts:
  - Possibly no crowd-out
  - Small giving to several charities if $v\left(g\right)$ is charity specific

5 Social Preferences Wave II: Inequity Aversion and Reciprocity

- **Charness-Rabin (QJE, 2002)**
- Simplified model of preferences of s (self) when interacting with o (other):

$$\begin{aligned}(1-\rho)\pi_s + \rho\pi_o \text{ if } \pi_s &> \pi_o \\ (1-\sigma)\pi_s + \sigma\pi_o \text{ if } \pi_s &< \pi_o.\end{aligned}$$

- Captures:
  - selfishness ($\rho = \sigma = 0$)
  - baseline altruism (if $\rho = \sigma > 0$)
  - full altruism ($\rho = \sigma = 1/2$)
  - differentially so if ahead or behind ($\rho > \sigma$)
  - inequity aversion (**Fehr-Schmidt QJE, 1999,** $\rho > 0 > \sigma$)

- Dictator Game. Have \$10 and have to decide how to share
- **Forsythe et al. (GEB, 1994)**: sixty percent of subjects transfers a positive amount.
- Transfer \$5 if

$$\begin{aligned} \rho 5 + (1-\rho)5 &= 5 \geq \rho 0 + (1-\rho)10 \text{ –>} \rho \geq 1/2 \text{ and} \\ \sigma 5 + (1-\sigma)5 &\geq \sigma 10 + (1-\sigma)0 \text{ –> } \sigma \leq 1/2 \end{aligned}$$

- Transfer \$5 if

$$\begin{aligned} \rho &\geq .5 \text{ –> Prefer giving \$5 to giving \$0} \\ .5 &\geq \sigma \text{ –> Prefer giving \$5 to giving \$10} \end{aligned}$$

- Dictator game behavior consistent with inequity aversion
- Number of other experiments also consistent (including gift exchange)

- Taking this to field data? Hard
- Issue 1:
  - Person s with disposable income M_s meets needy person o with income $M_o < M_s$
  - Person s decides on donation D
  - Assume parameters $\rho \geq .5 \geq \sigma$
  - This implies $\pi_s^* = \pi_s^*$ –> $M_o - D^* = M_s + D^*$ –> $D^* = (M_s - M_o)/2$
  - Wealthy person transfers half of wealth difference!
  - Clearly counterfactual

- Issue 2.
  - Lab: n subjects, with n small
  - Field: Millions of needy people. Public good problem
- Issue 3.
  - Lab: Forced interaction.
  - Field: Sorting – can get around, or look for, occasions to give

- In addition to payoff-based social preferences, intentions likely to matter
  - ρ and σ higher when s treated nicely by o
  - Model intentions of o
  - Positive reciprocity: Respond to being treated nicely
  - Negative reciprocity: Respond to being treated unfairly
  - More evidence of the latter in lab experiments

6 Workplace Effort: Inequity Aversion

- **Social Comparisons in the Workplace**
  - Workers compare to co-workers
  - Get some utility from being paid more than others
  - Get high disutility from being paid less then others (inequity aversion)
  - –> Wage compression
- Is there evidence of this?

- **Card-Mas-Moretti-Saez (AER 2012)**
  - Study of job satisfaction for UC employees
  - Examine the impact of salary comparisons
- UC is ideal setting:
  - Salaries are public
  - But not as easy to access
  - Sacramento Bee posted them online
- Design:
  - Email survey to staff at various University of California Campuses
  - Field experiment on content of survey

- Mention to some, but not others, the website of the Sacramento Bee: "*Are you aware of the web site created by the Sacramento Bee newspaper that lists salaries for all State of California employees? (The website is located at www.sacbee.com/statepay, or can be found by entering the following keywords in a search engine: Sacramento Bee salary database).*"
- Counting on human curiosity for first stage...
- Follow-up survey to measure job satisfaction and interest in moving to other job
- Impact on stated job satisfaction and reported intention to look for new job

Table 4: Effect of Information Treatment on Measures of Job Satisfaction

	Satisfaction Index (10 point scale)			Reports Very likely to Look for New Job (Yes = 1)			Dissatisfied and Likely Looking for a New Job (Yes = 1)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treated individual	-2.0	–	–	1.0	–	–	2.0	–	–
	(2.2)			(1.2)			(1.1)		
I. Treated individual with earnings ≤ median pay in unit	–	-6.3	–	–	4.3	–	–	5.2	–
		(2.9)			(1.8)			(1.8)	
II. Treated individual with earnings > median pay in unit	–	2.0	2.2	–	-2.0	-2.0	–	-0.9	-0.9
		(2.6)	(2.6)		(1.6)	(1.6)		(1.3)	(1.3)
II-I	–	8.3	–	–	-6.3	–	–	-6.1	–
		(3.5)			(2.4)			(2.1)	
Treated × earnings in first quartile in pay unit	–	–	-15.0	–	–	8.0	–	–	8.1
			(4.0)			(2.6)			(2.4)
Treated × earnings in second quartile in pay unit	–	–	1.9	–	–	0.8	–	–	2.5
			(3.9)			(2.5)			(2.3)
P-value for exclusion of treatment effects	0.36	0.05	0.00	0.85	0.03	0.01	0.08	0.01	0.00
Mean of the dependent variable in the control group [standard deviation]		274.2			21.9			12.9	
		[66.1]			[41.4]			[33.5]	

Notes: All models are estimated by OLS. All coefficients and means are multiplied by one hundred. Standard errors, clustered by campus/department, are in parentheses (818 clusters for all models). "Earnings" refers to total UC payments in 2007. Pay unit refers to the respondent's department or administrative unit. Median pay is computed seperately for faculty and staff. The satisfaction index is the average of responses for the questions: "How satisfied are you with your wage/salary on this job?", "How satisfied are you with your job?", and "Do you agree or disagree that your wage is set fairly in relation to others in your department/unit?". Responses to each of these questions are on a 1-4 scale and are ordered so that higher values indicate greater satisfaction. The variable "Dissatisfied and Likely Looking for a New Job" is 1 if the respondent is below the median value of the satisfaction index and reports being "very likely" to make an effort to find a new job. See text and Appendix Table A3 for further details on the construction of the dependent variables. In addition to the explanatory variables presented in the table, all models include controls for campus × (staff/faculty), a cubic in earnings, and main effects. The sample size is 6,411.

7 Methodology: Field Experiments

- Field Experiments combine advantages of field studies and natural experiments:
  - Field setting (External Validity)
  - Randomization (Internal Validity)
- Common in Development, Public, Psychology and Economics, Labor
- Uncommon in IO (except for Demand estimation), Corporate Finance, Asset Pricing, Macro
- Difficulties: large sample (costly) and getting approval for implementation

- Definition 1. Card, DellaVigna, and Malmendier (*JEP* 2011) '*Randomized allocation to treatment and control groups for study purposes in a field setting*'
  - Excludes studies with no randomization (Bandiera et al., 2005 and on)
  - Includes social experiments run by the government
  - Includes experiments run by firms (Ausubel, 1999)
  - Excludes incidental randomization (i.e., lottery winnings, or Vietnam draft number)

- Definition 2. Harrison and List (*JEL* 2004): Broader definition, does not emphasize randomized allocation
  - But then how to separate from natural experiments?
  - Emphasis on laboratory versus field: 4 groups
    1. *(Conventional) Laboratory Experiment*
    2. *Artefactual Laboratory Experiment.* This is laboratory experiment in the field (i.e., on non-students)
    3. *Framed Field Experiment.* Experiment in the field with natural setting, but people aware of experimental treatments
    4. *Natural Field Experiment.* Experiment in the field, subjects unaware of manipulations

- What to do if planning a field experiment?
- **Advice 1.** Read how-to manuals and previous field experiments: **Duflo-Glennerster-Kremer (NBER, 2006)**
  - * Great discussion of practical issues: Compliance, Sample Size,...
    * Discussion of statistical issue, such as power tests
    * Targeted toward development

- **Advice 2.** Choose what type of Experiment
  - *Large-Scale Experiment.* Example: Bandiera et al. (2005)
    - More common in Development
    - Convince company or organization (World Bank, Government)
    - Need substantial funding
    - Example among students:
      - Damon Jones: field experiment on tax preparers
      - However (also Damon): H&R Block experiment fell through after 1-year plans
      - Safeway (research center at Stanford, Kristin Kiesel in charge)

- *Small-Scale Experiment.* Example: Falk (2008)
  - More common in Psychology and Economics
  - Need to convince non-profit or small company
  - Limited funds needed – often company will pay
  - Example among students:
    - Dan Acland: projection bias and gym attendance
    - Vinci Chow: commitment devices for on-line computer game play
    - Pete Fishman: small video store randomized advertising

- **Advice 3.** Need two components:
  1. Interesting economic setting:
     - Charity, Gym, Village in Kenya
     - Does Video Games matter? Yes, increasingly so
  2. Economic model to test
     - Examples: Self-control, reciprocity, incentives
     - Avoid pure data-finding experiments
     - Insurance. If you can, pick a case where 'either' result is interesting
     - Best scenario: Do a field experiment tied to a model to infer parameters

- **Advice 4.** Keep in mind three key issues
  - *Power calculations.* Will your sample size be enough?
    - Crucial to do ex ante to avoid wasting time and money
    - Simple case:
      - Assume outcome binary variable, dep.variable is share p doing 1 (Ex: giving to charity, taking up comm. device)
      - Standard error will be $\sqrt{p(1-p)/n}$
      - Example: $p = .5$, s.e. is .05 with $n = 100$, .025 with $n = 400$
  - *Pilots.* So many things can go wrong – try to do small pilot
    - Use to spot problems in implementation
    - Do not overinfer results from pilot (sample too small)

- *Human Subjects* approval
  - At Berkeley, takes about 2 months
  - More about this later

- **Advice 5.** Do a lot of work before going to the field!
  - Power studies – YES
  - But also: *Model*
    - To the extent possible, write down model
    - Do Monte Carlo of data
    - Estimate model on Monte Carlo data
    - Which parameters are identified?
    - Use that to refine design
    - Gift exchange design (DLMR above): one year before going to the field
  - Also, *Registration*: see Ted's talk today

- **Advice 6.** Other practical issues:
  - Keep in mind *implementation* of randomization
    - Example: Cross Designs hard to implement correctly
    - Example: **Green-Gerber (APSR, 2001)** on voter turnout:
      - cross-randomize phone calls, mailings, in-person visits
      - Hard to implement –> Lead to loss of randomization
    - OK if just computerized implementation (ex: loan offers)
  - Monitor what happens in the field *continuously*
  - Build in *data redundancy* to catch errors or implementation problems
    - 'Did you see a flyer on the door?' in DellaVigna-List-Malmendier (2009)

- **Advice 7.** Start looking soon for funding. Some options:
  - * Russel Sage Small Grant Program: $7,500 (two to three months wait, once-in-career) (http://www.russellsage.org/research/behavioral-economics)
    * RSF-Sloan group on Behavioral Household finance: $10,000 awards for research (ie, Justin Gallagher)
    * NSF dissertation improvement grant website (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13453)
    * IBER: $1,000 administered quickly (one week or so)
    * Look at CVs of assistant professors in your field or job market students (Jonas' advice)
    * Ask your advisor –> May know of some funding sources

8 Next Lecture

- Social Preferences
- Social Pressure
- Non-Standard Beliefs
- Overconfidence