Facing Unequal Barriers to Recover: Exploring Redistribution Preferences in the Face of Lending Discrimination

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Outline

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  - White neighborhoods received roughly twice as much per person in small-business loans compared with Black neighborhoods (Delis, Fringuellotti and Ongena, 2021)

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  - Perception of agency and procedural equality crowd out the demand for redistribution (Akbaş, Ariely and Yuksel, 2019)
- **Lending Discrimination**
  - Lack of agency
  - Effort levels vs. Efficiency
  - Support for redistribution by society formation
  - Poor privileged vs. Rich underprivileged

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- Assumptions:
  - $F(\theta_i, s_h)$ first-order stochastically dominates $F(\theta_i, s_l)$
  - $F(\theta_i, s_i)$ is increasing in θ_i.

Theory - Timing

The game timing is:

1. Agents observe s_i and s_{-i} and receive a private signal a_i about their ability. They update θ_i
2. Agents vote and choose the level of redistribution in society
3. Agents exert effort and receive income
4. Agents decide whether to allocate money to charity or not

Theory - Financial Payoffs

- The financial payoff of each agent before the charity is given by:

$$\Pi_i^{Before} = (1-\tau)\pi_i + \frac{\tau \sum_{i=1}^{3} \pi_i}{3}$$

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- Furthermore, the financial payoff of each agent after the charity is given by:

$$\Pi_i^{After} = \begin{cases} \Pi_i^{Before} - \kappa_i & \text{if} \quad \min(\Pi_j) \neq \Pi_i \\ \Pi_i^{Before} + \sum \kappa_{-i} & \text{if} \quad \min(\Pi_j) = \Pi_i \end{cases}$$

  - κ_i is a charity transfer from agent i to the poorest agent
  - κ_{-i} is a charity transfer from agents $-i$ to the poorest agent i

Social Preferences

- Each agent also faces a fairness disutility rising from income disparity among the whole society and within its social group as defined by its status:

$$\psi_i = -\alpha_i(\Pi_i^{After} - \min_{s_j=s_i}(\Pi_j^{After}))^2 - \beta_i(\Pi_i^{After} - \min(\Pi_j)^{After})^2$$

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Expectations and Hypotheses

- **Backward Induction**

- In Phase 4, each agent maximizes their utility by setting κ_i.
  - In a society where each individual has positive α and β, the charity will flow from the affluent members of society to the least advantaged, leading to the following theoretical predictions:

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- In Phase 3, the action of agents is non-strategic; they always exert a unit of effort and receive their income

  H2: *Agents exert effort regardless of their types, the society formation, and the chosen redistribution policy.*

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  H3B: *Agents with high-status type vote for the less redistribution.*
  H3C: *When others have low-status types, agents vote for the less redistribution.*

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- **Round Structure.** A round is composed of 7 experimental working days (we will call it "day")
  - After the first two days with real effort tasks, players will hold a forward-looking vote on redistribution schemes
  - Players will complete real-effort tasks for five more days under the new redistribution scheme.
  - Players will decide whether they would like to give charity to the poorest player anonymously

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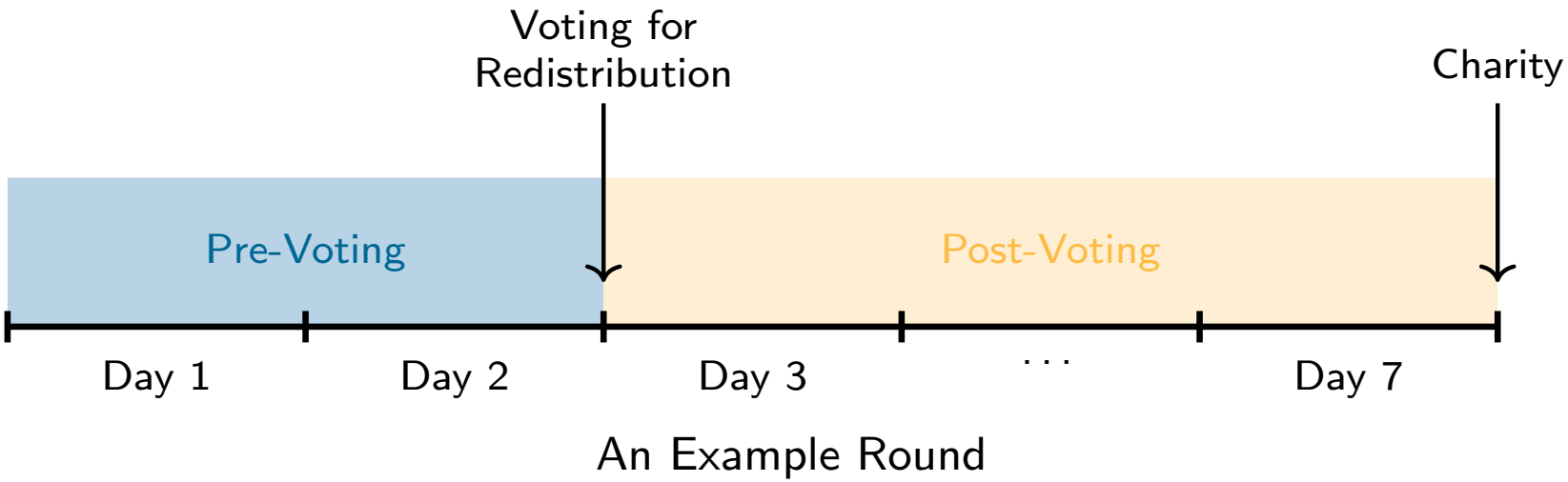

An Example Round

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- Lastly both KLEEs and KANDINSKYs will have a group-level quiz with group chat to strengthen the social identity

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- Underprivileged agents will face a costlier loan if they fail to meet the daily required budget at the end of the day

$$\$0 < k_i^P < k_i^U < \$1$$

  - the cost of loans (k_i) for participant i
  - the cost of loans for privileged members (k_i^P)
  - the cost of loans for underprivileged participants (k_i^U):

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  - If failure to meet the required budget $\rightarrow$ FAILURE $\rightarrow$ 0 earnings for that round and must take a loan to meet their required budget:

$$\pi_{i,t} = 0 \quad \Big| \quad \mathtt{I}[Failure_{i,t} = 1]$$

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$$B_{i,t+1} = B_{i,t} + k_i \quad \Big| \quad \mathtt{I}[Failure_{i,t} = 1]$$

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- Participants will be asked their incentivized guesses about average income and other players' strategies
- A simple majority will choose the tax scheme, and the chosen scheme will be public information

Charity Component

- At the end of the seventh day, players will be told their net earnings before charity (π_i^{Before}).

$$\pi_i^{Before} = \underbrace{\left(\sum_{t=1}^{2} \pi_{i,t}\right)}_{Pre-Voting\ \ Earnings} + \underbrace{(1-\tau)\left(\sum_{t=3}^{7} \pi_{i,t}\right) + \left((\tau/3)\sum_{i=1}^{3}\sum_{t=3}^{7} \pi_{i,t}\right)}_{Post-Voting\ \ Earnings}$$

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- Furthermore, the financial payoff of each agent after the charity is given by:

$$\underbrace{\pi_i^{After}}_{After\ \ Charity\ \ Earnings} = \begin{cases} \pi_i^{Before} - \kappa_i & \text{if} \quad \min(\pi_j) \neq \pi_i \\ \pi_i^{Before} + \sum \kappa_{-i} & \text{if} \quad \min(\pi_j) = \pi_i \end{cases}$$

Outline

Estimation Strategy

- Hypotheses (H1A and H1B), we will use the ordinary least squares with the following model:

$$\sum_{j}^{j \neq i} \kappa_{i,j} = \beta_0 + \beta_1 \cdot \sum_{j}^{3} (\Pi_i - \Pi_j)^2 + \alpha_1 \cdot \sum_{j}^{s_j = s_i} (\Pi_i - \Pi_j)^2 + e_i$$

where the nulls are $H^0_{2A} : \beta_1 \leq 0$ and $H^0_{2B} : \alpha_1 \leq 0$ and alternative hypotheses are $H^1_{2A} : \beta_1 > 0$ and $H^1_{2B} : \alpha > 0$.

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- Hypotheses (H3A) pose a methodological challenge since elicited beliefs about expected utility above the mean at the end (γ_i) will depend on individual ability and effort, where the former is unobserved

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- Hypotheses (H3A) pose a methodological challenge since elicited beliefs about expected utility above the mean at the end (γ_i) will depend on individual ability and effort, where the former is unobserved

  - A two-stage least squares (2SLS) regression analysis with block randomized task difficulty to overcome this challenge

$$\gamma_i = b_0 + b_1 \sum_{r=1}^{R} \mathrm{I}[task_r = Difficult] + b_2 \sum_{t=1}^{2} \pi_{i,t} + b_3 \Big(\mathrm{I}[s_i = s_H] \Big) + \nu_i$$

  - Exploiting the random variation in difficulty, we will instrument for ability. After fitting $\hat{\gamma}_i$ for individual i, we will conduct the following second stages:

$$\mathrm{I}[\tau_i = 0.4] = c_0 + c_1 \hat{\gamma}_i + c_2 \sum_{t=1}^{2} \pi_{i,t} + c_3 \Big(\mathrm{I}[s_i = s_H] \Big) + \epsilon_i$$

    where the null is $H_{3A}^0 : c_1 \geq 0$ and alternative hypothesis are $H_{3A}^1 : c_1 < 0$

References

Thank you for your attention!

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