

# **Sorting, Choice Premium, and Efficiency in the Collection of Blood Donations: Experimental Proposal**

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Topics in Experimental Economics (Schram/Gërzhani)

# Overview of the Presentation

## 1. Context: Blood Donations

## 2. Literature

- Existing Literature

## 3. Theory

- Theoretical Framework

## 4. Experimental Design

- Experimental Design and Procedures

# The Economic Problem of Eliciting Blood Donations

- ▶ Supply with human blood is a curious **public good problem**
  - ▶ Cannot be generated artificially
  - ▶ Voluntary provision not always enough
  - ▶ Likely increasing demand (demography, medical technology)
- ▶ Traditionally raised concerns with **monetary compensation**
  - ▶ Negative selection
    - ▶ Overtaken by screening technology
  - ▶ Crowding out of non-remunerated, voluntary donations
    - ▶ Open empirical question
- ▶ Heavy-handed **regulation**
  - ▶ WHO and EU recommendations against payment
  - ▶ Almost all countries: Either fully voluntary or incentivized systems
  - ▶ Germany: Exception that allows cash payments

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  - ▶ Imperfect substitutability between own giving and everyone else's
- ▶ Benabou and Tirole *AER* 2006
  - ▶ First theoretical framework that explains crowding out due to remuneration, interaction with image concerns (including warm-glow)
- ▶ Ariely et al. *AER* 2009
  - ▶ Test in the lab the effect of social image on intensity of donation through a real effort task



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  - ▶ Test in the lab the effect of social image on intensity of donation through a real effort task

- ▶ We adapt the remuneration scheme from Benabou and Tirole (2006) to fit the blood collection market
- ▶ Utility from donating becomes

$$U(a, \tilde{y}) = (v_a[B - y] + v_y y)a - C(a) + \tilde{x}[\gamma_a E(v_a | a, \tilde{y}) - \gamma_y E(v_y | a, \tilde{y})]$$

- ▶ Image indifferent agents ( $\tilde{x} = 0$ ) donate if and only if

$$(v_a B + (v_y - v_a)y) - c \geq 0$$

and turn-in the money for  $v_a > v_y$

- ▶ Image driven agents ( $\tilde{x} \rightarrow \infty$ ) only care about reputation and mimic the most altruistic agents who donate for free
- ▶ With limited observability of actions, average cost of collection goes down, but the effect on participation is ambiguous

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# Trait d'Union

From theory to experiment

- ▶ Starting point: German case
  - ▶ Unclear if transaction costs or **sorting**
- ▶ Appeal to image concern to induce sorting in two cases
- ▶ Public action case: **social image**
  - ▶ Theoretical prediction: ↓ average cost of collection, ↑ participation
- ▶ Private action case: **self image**
  - ▶ Theoretical prediction: ↓ average cost of collection, ↑↓ participation
- ▶ In addition to efficiency gain, we suspect a “choice premium”
  - ▶ Comes from related literature in economics and neuroscience
  - ▶ Not included in theoretical model

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# Design and Experimental Procedures

- ▶ Explored empirical analysis, but hit data constraints
- ▶ Aim to reproduce in the lab three aspects of donation problem
  1. Value of public good must increase in effort exerted
  2. Monetary incentives can decrease the value of donations
  3. Social or self-image implications
- ▶ Real-effort task: Pressing two adjacent keys on keyboard
- ▶ Actual donation to charity, e.g. Red Cross
- ▶ Conduct pilot (or experiment itself?) on Amazon Mechanical Turk

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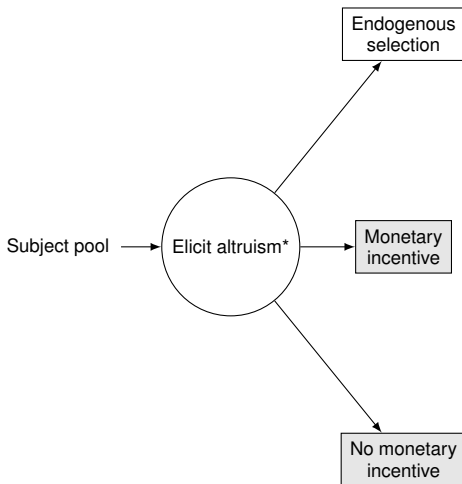
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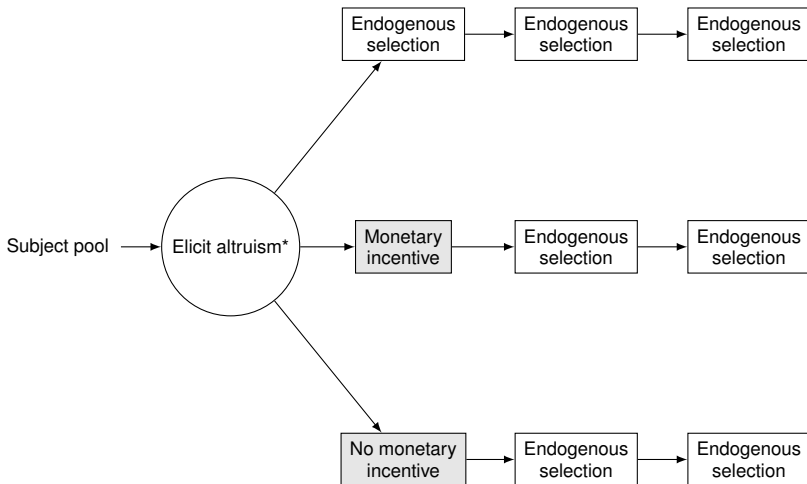
- ▶ Explored empirical analysis, but hit data constraints
- ▶ Aim to reproduce in the lab three aspects of donation problem
  1. Value of public good must increase in effort exerted
  2. Monetary incentives can decrease the value of donations
  3. Social or self-image implications
- ▶ Real-effort task: Pressing two adjacent keys on keyboard
- ▶ Actual donation to charity, e.g. Red Cross
- ▶ Conduct pilot (or experiment itself?) on Amazon Mechanical Turk



# Experimental Design: Public Action



# Experimental Design: Private Action



# Next Steps, Challenges, and Questions

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- ▶ Participation
  - ▶ Probably want to introduce explicit outside option
- ▶ Policy implications
  - ▶ In absence of transaction costs (cf. German case), do we have external validity?
  - ▶ Potential cost savings in a market of circa 360m EUR

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