Do Economic Incentives Affect Pro-Social Activities? The Case of Blood Donations

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Based on joint work with Nicola Lacetera, Robert Slonim and Victor Iajya
Blood donation: A major pro-social activity

- Blood and blood products are a multi-billion international “industry”

- 16 million units of blood collected in the US every year
  - value of time (= $.5B) + cost of blood collection (= $3.5B) → $4B

- Uses: cancer + chronic blood diseases (hemophilia, anemia, SCD: ~50%), surgeries (20%), premature babies, accidents

- Technological advances (e.g., transplants) + population aging increase demand
Blood shortage in DC area reaches critical levels

*Washington Examiner, July 8 2010*

The Washington area is suffering a critical shortage of a crucial blood type as the D.C. Council plays catch-up with Maryland and Virginia to allow 16-year-olds to donate blood with a parent's consent.

“Due to falling blood inventories, the Red Cross is already rationing blood types O-negative, A-negative and B-negative in some areas.

QuimiNet.com  Mueren por falta de sangre 1,300 parturientes

Julio Frenk Mora, secretario de Salud, afirmó que es una "vergüenza nacional" que aproximadamente 1,300 mujeres de las comunidades más remotas del país sigan muriendo cada año por falta de disponibilidad de sangre durante el parto.

Benin: Blood shortage proves deadly - Thursday, October 09, 2008

"That leaves us with a 75 percent coverage rate for the country," said Alassoussi, "At least 25 percent of people [who need blood] are dying needlessly."
Blood donations per 1000 population, 2008
Why Shortages?

• Institutional issues
  • No substitutes
  • Short life of blood (42 days)
  • Time between donations
  • Seasonality, eligibility requirements

• Lack of price
  • Hard to tell when higher/lower need
  • Need for alternative coordination mechanisms

• Transactions by social preferences/norms
  • High-income countries: reliance on unpaid volunteers
  • Low- and middle-income: emergency/replacement
Can economic incentives increase the supply of blood?

**Theory: Ambiguous predictions**

- Standard economics: extrinsic motives add to intrinsic ones
- Titmuss (1971): claims negative impact on quantity and quality of supplied blood
- Benabou-Triole (2006): Crowding out, bad mix of social, psychological motives
- Moll et al. (2006): “biological need” to give: no effects of extrinsic rewards

➢ Ultimately **an empirical question** (Solow 1971, Arrow 1972)
Long-prevailing view: incentives are bad

- WHO, Nuffield Council on Bioethics, many national Blood Banks/blood collection agencies: blood to be collected only from unpaid, volunteer donors
- Three main reasons:
  1. Incentives “crowd out” intrinsic motivation and might lead to fewer donations
  2. Incentives might harm blood safety
  3. Incentives are ethically problematic

Evidence?

• Early evidence supporting the opposition came mainly from *uncontrolled studies* (surveyed in Eastlund 1998; Van der Poel et al. 2002)

• Additional evidence later from surveys, framed and hypothetical experiments (Sanchez et al. 2001; Glynn et al. 2003; Mellström and Johannesson 2008; Lacetera and Macis 2010; Chmielewski et al. 2012)
  • Negative attitudes toward cash and “close-to-cash” rewards
  • Positive attitudes toward “in kind” rewards (e.g. cholesterol test)
  • Positive attitude toward rewards associated with “risky” behaviors (e.g., drug use)

• No systematic attempt to conduct rigorous field-based empirical tests of the effects of incentives to form empirical basis for policy
Table S1: Details on the referenced studies. Green denotes papers where the subjects were not aware of the study and actual blood donations were observed.

<table>
<thead>
<tr>
<th>Study</th>
<th>Method and sample</th>
<th>Subjects aware of study?</th>
<th>Incentive(s)</th>
<th>Outcome variable(s)</th>
<th>Actual donation observed?</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lacetera et al. (JEPP 2010)</td>
<td>Survey, N=467 Italian blood donors</td>
<td>Yes</td>
<td>(Hypothetical) 10 Euros, 10-euro voucher</td>
<td>Willingness to take a health test to determine eligibility to be a blood donor</td>
<td>No</td>
<td>No effect of voucher. Negative effect of cash offer, stronger for women.</td>
</tr>
<tr>
<td>Goette et al. (Transfusion 2009)</td>
<td>Natural field experiment, N=12,268 Red Cross blood donors in Switzerland</td>
<td>No</td>
<td>Cholesterol test</td>
<td>Individual blood donations.</td>
<td>Yes</td>
<td>No effect.</td>
</tr>
<tr>
<td>Layas et al. (Social Sci. &amp; Med., forthcoming)</td>
<td>Natural field experiment, N=17,238 randomly selected subjects in Argentina</td>
<td>No</td>
<td>ARS$20/60/100 (US$5/15/25) supermarket vouchers, t-shirt, newspaper mention</td>
<td>Individual blood donations, ineligible donors, rejected donations.</td>
<td>Yes</td>
<td>Positive effect of ARS$60/100 vouchers. No effect of other incentives.</td>
</tr>
</tbody>
</table>
Field-Experimental Evidence from Argentina

“The Effects of Information, Social and Economic Incentives on Voluntary Undirected Blood Donations: Evidence from a Randomized Controlled Trial in Argentina”, V. Iajya, N. Lacetera, M. Macis and R. Slonim (Social Science and Medicine, 2013).
Blood collection in low- and middle-income countries: Emergency/Replacement

- By relatives/friends for individuals in immediate need or to replace blood used in an emergency
- Vast majority (often 100%) of donations
Percentage of voluntary unpaid donations, 2008
Blood collection in low- and middle-income countries: Emergency/Replacement

- By relatives/friends for individuals in immediate need or to replace blood used in an emergency
- Vast majority (often 100%) of donations
- Works for short-term emergencies and in close-knit communities
- Inefficient in cases of chronic and standard needs for blood (e.g., anemia, cancer, pregnancy-related complications, premature babies) and in large urban areas
  - Donors of incompatible blood type are often deferred
Challenge: **Switch from Emergency to Undirected Donations**

- Based on a pool or voluntary, regular donors
  - Guarantees a steady supply of blood, for both emergency and routine needs
  - Easier to monitor donors’ health
  - Donor-recipient incompatibility less of an issue

- Advocated by WHO
  - Emphasis on *unpaid* donors
Challenge: **Switch from Emergency to Undirected Donations**

- Requires a radical shift to a new social norm

  From: *"I give blood to family and friends who need it or to return blood I or they received"*, to: *"I give blood to contribute to a public good"*

- “Overhaul” approaches include
  - changes in the organizational structure of blood collection, creation of national blood systems, massive educational/promotional campaigns
  - complex, costly, often unsuccessful
ILMS 2013: Can individual-level interventions stimulate undirected donations?

1. Information
   • Awareness of advantages of volunteer system

2. Social incentives
   • Appeal to social prestige, public recognition -- Lacetera-Macis 2010 (blood, Italy); Ashraf et al., 2012 (condoms, Zambia).

3. Economic incentives
   • Change cost-benefit calculation -- Goette-Stutzer 2008 (blood, Switzerland); Lacetera-Macis-Slonim (blood, 2012-13 US).
   • Might undermine “intrinsic motivation” and affect donor “quality” and blood safety (Titmuss 1971)
A natural field experiment in Argentina

- Partnership with CMTH (Centro de Medicina Transfusional Y Hematologia) in S.M. de Tucuman
- Sept/Oct 2011
- 18,500 individuals aged 18-65 randomly selected from electoral list
- RCT design; Subjects unaware of study

- Individual-level data:
  - Demographics, family background
  - Health conditions, full results of post-donation blood tests

- Follow donors over time after interventions
  - assess both short-term and long-term effects
A natural field experiment in Argentina:
Background

Argentina
• 12.4 donations per 1,000 persons (Ministerio de Salud, 2010)
• Large regional variation:
  • 14.4/1000 in Buenos Aires region
  • 9/1000 in Tucuman
• 88% emergency/replacement

S.M. de Tucuman and CMTH
• S.M. de Tucuman (pop. 527,607), capital of Tucuman province
• Centro de Medicina Tranfusional y Hematologia, private blood bank, 3220 donations in 2011 (all emergency/replacement)
  • Centrally located in SMdeT
  • about 20% of total donations in SMdeT
  • 100% Emergency/Replacement
A natural field experiment in Argentina: Experimental design

- **Control**: Invitation to give blood voluntarily by a certain date
- **Treatments**:
  1. Invitation + Information about advantages of volunteer system
  2. Invitation + Information + Mention in local newspaper (social recognition)
  3. Invitation + Information + T-Shirt (social recognition + economic value)
  4. Invitation + Information + Supermarket vouchers (purely economic incentive) worth AR$20/AR$60/AR$100
    - Nonrefundable, not redeemable for cash; Not conditional on donation or questionnaire
    - AR$20 ≈ US$4.6 ≈ 1.5 hrs wage
A natural field experiment in Argentina:
Flyer mailed to Control group

**Please come and donate blood**

**Invitation to donate by a certain date**

**CMTH address, contact info, etc.**

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Donate voluntarily once a year or more. Blood can be obtained only from donations from human donors. Donating blood does not carry any risk of infections. All the materials used is sterilized and one-use only, therefore the risk to contract diseases is nonexistent. Before your donation you will be asked to fill a questionnaire. This will be done in a private and confidential way to protect the privacy of both the donor and the recipient. Please consider donating as soon as possible.
T0-T1 (T2-T6): “We invite you to donate by September 23 (October 14)”

T1-T6: “Today, blood collection is Argentina is based on emergency/replacement donations. This leads to frequent shortages with serious consequences for many patients, which puts health and some time life at risk. Change our culture, let’s do prevention”

T2: You will receive a T-shirt
T3: Your name will be mentioned on “La Gaceta”
T4 (T5, T6): You will receive a coupon for AR$20 (60, 100)

All conditions: “Please come to donate blood”

All conditions: “Donations can be made at the Centro de Medicina Transfusional y Hematología [address], Tue to Fri, 7:30am-12:30pm. Please come to the center or call [phone number] to set an appointment”

T2 (T3): You will receive a T-shirt with the logo “Giving blood is giving life” (You will be mentioned in the newspaper “La Gaceta”) by presenting this flyer when you donate, before September 23.

T4 (T5, T6): You will receive a voucher for AR$20 (60, 100) for the supermarket chain VEA-Jumbo by presenting this flyer when you donate before September 23.

All conditions:
- Donate voluntarily one or more times per year
- Blood can be obtained only from human donations
- Giving blood does not give infections. All material is sterile and disposable, with no risk of contracting disease
- Before your donation, you will be asked to fill a questionnaire. This will be private and confidential to protect the privacy of the donor as well as the recipients
- Please consider donating as soon as possible”
Comparison of Argentina, San Miguel de Tucuman and the study sample (ages 18-65)

<table>
<thead>
<tr>
<th></th>
<th>Argentina</th>
<th>San Miguel de Tucuman</th>
<th>Study Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>51.1%</td>
<td>52.5%</td>
<td>53.5%</td>
</tr>
<tr>
<td>Age (average)</td>
<td>38.1</td>
<td>37.6</td>
<td>38.5</td>
</tr>
<tr>
<td>18-29</td>
<td>32.8%</td>
<td>34.8%</td>
<td>29.9%</td>
</tr>
<tr>
<td>30-41</td>
<td>28.2%</td>
<td>27.6%</td>
<td>30.2%</td>
</tr>
<tr>
<td>42-53</td>
<td>21.6%</td>
<td>20.3%</td>
<td>21.9%</td>
</tr>
<tr>
<td>54-65</td>
<td>17.5%</td>
<td>17.3%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3.7%</td>
<td>3.9%</td>
<td>NA</td>
</tr>
<tr>
<td>Primary</td>
<td>42.2%</td>
<td>46.9%</td>
<td></td>
</tr>
<tr>
<td>Some high school</td>
<td>20.9%</td>
<td>19.0%</td>
<td></td>
</tr>
<tr>
<td>Completed High School</td>
<td>16.2%</td>
<td>13.6%</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>8.2%</td>
<td>9.3%</td>
<td></td>
</tr>
<tr>
<td>Completed College</td>
<td>8.7%</td>
<td>7.4%</td>
<td></td>
</tr>
<tr>
<td>Monthly income</td>
<td></td>
<td></td>
<td>NA</td>
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<tr>
<td>No income</td>
<td>41.6%</td>
<td>45.0%</td>
<td></td>
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<tr>
<td>&lt;ARS1,500</td>
<td>21.8%</td>
<td>25.6%</td>
<td></td>
</tr>
<tr>
<td>ARS1,500-ARS2,500</td>
<td>13.1%</td>
<td>13.8%</td>
<td></td>
</tr>
<tr>
<td>ARS2,500-ARS5,000</td>
<td>17.4%</td>
<td>10.7%</td>
<td></td>
</tr>
<tr>
<td>&gt;ARS5,000</td>
<td>5.8%</td>
<td>5.0%</td>
<td></td>
</tr>
<tr>
<td>N. donations/1000 pop.</td>
<td>12.4</td>
<td>9.0</td>
<td>NA</td>
</tr>
<tr>
<td>% emergency/replacement</td>
<td>88.0%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Randomization checks

- Electoral lists provided info on: gender, age, electoral college (neighborhood of residence)
- All balanced across experimental conditions

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>mean</th>
<th>18-29</th>
<th>30-41</th>
<th>42-53</th>
<th>54-65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation N</td>
<td>1,206</td>
<td>1,294</td>
<td>38.3</td>
<td>764</td>
<td>771</td>
<td>517</td>
<td>448</td>
</tr>
<tr>
<td>%</td>
<td>48.24</td>
<td>51.76</td>
<td>30.56</td>
<td>30.84</td>
<td>20.68</td>
<td>17.92</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>1,186</td>
<td>1,314</td>
<td>38.3</td>
<td>762</td>
<td>768</td>
<td>538</td>
<td>432</td>
</tr>
<tr>
<td></td>
<td>47.44</td>
<td>52.56</td>
<td>30.48</td>
<td>30.72</td>
<td>21.52</td>
<td>17.28</td>
<td></td>
</tr>
<tr>
<td>T-Shirt</td>
<td>1,195</td>
<td>1,305</td>
<td>38.3</td>
<td>766</td>
<td>742</td>
<td>539</td>
<td>453</td>
</tr>
<tr>
<td></td>
<td>47.8</td>
<td>52.2</td>
<td>30.64</td>
<td>29.68</td>
<td>21.56</td>
<td>18.12</td>
<td></td>
</tr>
<tr>
<td>Newspaper mention</td>
<td>1,123</td>
<td>1,377</td>
<td>38.9</td>
<td>722</td>
<td>735</td>
<td>580</td>
<td>463</td>
</tr>
<tr>
<td></td>
<td>44.92</td>
<td>55.08</td>
<td>28.88</td>
<td>29.4</td>
<td>23.2</td>
<td>18.52</td>
<td></td>
</tr>
<tr>
<td>AR$20 Voucher</td>
<td>1,150</td>
<td>1,350</td>
<td>38.6</td>
<td>728</td>
<td>772</td>
<td>562</td>
<td>438</td>
</tr>
<tr>
<td></td>
<td>46</td>
<td>54</td>
<td>29.12</td>
<td>30.88</td>
<td>22.48</td>
<td>17.52</td>
<td></td>
</tr>
<tr>
<td>AR$60 Voucher</td>
<td>1,129</td>
<td>1,371</td>
<td>38.6</td>
<td>741</td>
<td>762</td>
<td>570</td>
<td>427</td>
</tr>
<tr>
<td></td>
<td>45.16</td>
<td>54.84</td>
<td>29.64</td>
<td>30.48</td>
<td>22.8</td>
<td>17.08</td>
<td></td>
</tr>
<tr>
<td>AR$100 Voucher</td>
<td>1,620</td>
<td>1,880</td>
<td>38.7</td>
<td>1,052</td>
<td>1,028</td>
<td>742</td>
<td>678</td>
</tr>
<tr>
<td></td>
<td>46.29</td>
<td>53.71</td>
<td>30.06</td>
<td>29.37</td>
<td>21.2</td>
<td>19.37</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8,609</td>
<td>9,891</td>
<td>38.5</td>
<td>5,535</td>
<td>5,578</td>
<td>4,048</td>
<td>3,339</td>
</tr>
<tr>
<td></td>
<td>46.54</td>
<td>53.46</td>
<td>29.92</td>
<td>30.15</td>
<td>21.88</td>
<td>18.05</td>
<td></td>
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<tr>
<td>Chi2 (p-value)</td>
<td>10.25 (0.115)</td>
<td></td>
<td>17.37 (0.498)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
N=18,500 individuals, aged 18-65, randomly drawn from the electoral lists of SM de Tucuman. Within this set, random allocation to treatments below.

T0: Invitation
Allocated: 2,500
Received intervention: 2,360

T1: Invitation + Information
Allocated: 2,500
Received intervention: 2,366

T2: T1 + Social recognition: t-shirt
Allocated: 2,500
Received intervention: 2,248

T3: T1 + Social recognition: newspaper mention
Allocated: 2,500
Received intervention: 2,411

T4: T1 + ARS20 Voucher
Allocated: 2,500
Received intervention: 2,253

T5: T1 + ARS60 Voucher
Allocated: 2,500
Received intervention: 2,336

T6: T1 + ARS100 Voucher
Allocated: 3,500
Received intervention: 3,264

Unable to reach (n=1,262) due to logistical reasons (e.g., the person had moved, the person was deceased)

Outcomes:
• Blood donor turnout at CMTH – number and share of analyzed
• Actual donations performed – number and share of analyzed
• Usable donations – number and share of analyzed
• Reasons for unsuccessful blood collection: ineligibility, walking away before donating, blood testing positive for infectious diseases – number and share of analyzed
Turnout and Productive Units
as % of subjects contacted
### Turnout and Productive Units
as % of subjects contacted

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>[1] Individuals presenting to donate</th>
<th>[2] Productive units of blood collected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>P-value</td>
</tr>
<tr>
<td>Info-Control</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>AR$60-Info</td>
<td>0.43***</td>
<td>0.001</td>
</tr>
<tr>
<td>AR$100-Info</td>
<td>0.83***</td>
<td>0.000</td>
</tr>
<tr>
<td>AR$100-AR$60</td>
<td>0.40*</td>
<td>0.093</td>
</tr>
</tbody>
</table>

P-values are from Fisher exact tests for differences in proportions (subjects presenting or productive units as % of contacted) between experimental conditions.
Additional turnout effects

- **Indirect effects**: the voucher offers attracted people who we had not mailed flyers to:
  - AR$60: 0.09% ($p>0.2$) increase in turnout and usable donations per delivered flyer
  - AR$100: 0.31% ($p=0.007$) increase in turnout and 0.25% ($p=0.024$) increase in usable donations per delivered flyer

- **Total effects**, combining direct and indirect effects:
  - AR$60: 0.51% ($p<0.001$) turnout, 0.43% ($p=0.001$) usable units
  - AR$100: 1.13% ($p<0.001$) turnout, 0.98% ($p<0.001$) usable units

- Size comparable to effects of direct mailings soliciting monetary donations to charities (0.5%-2.5%)

- Caveat: observations are not independent (e.g., some subjects came together)
Effects on donor “quality” and blood safety

- Adverse selection from incentives?
- Outcomes:
  - % walkouts (present at the blood bank but decide not to donate)
  - % ineligible for medical reasons
  - % of blood units discarded after blood test
    - HIV, Hep, STDs, Chagas, ...
- Can’t compare with control group
  → Compare with emergency/replacement donations in 2011
Donor “quality” and blood safety

<table>
<thead>
<tr>
<th>Turnout</th>
<th>% walkouts</th>
<th>% ineligible</th>
<th>Units collected</th>
<th>% discarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voucher</td>
<td>37</td>
<td>5.41</td>
<td>5.41</td>
<td>33</td>
</tr>
<tr>
<td>Emergency/Replacement</td>
<td>3,220</td>
<td>1.74</td>
<td>5.59</td>
<td>2,974</td>
</tr>
<tr>
<td>Difference (Voucher-E/R)</td>
<td>3.67* (0.140)</td>
<td>-0.18 (0.658)</td>
<td>-1.01 (0.698)</td>
<td></td>
</tr>
</tbody>
</table>

Panel A: Presenting among subjects in the sample

<table>
<thead>
<tr>
<th>Turnout</th>
<th>% walkouts</th>
<th>% ineligible</th>
<th>Units collected</th>
<th>% discarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voucher</td>
<td>49</td>
<td>6.12</td>
<td>4.08</td>
<td>44</td>
</tr>
<tr>
<td>Emergency/Replacement</td>
<td>3,220</td>
<td>1.74</td>
<td>5.58</td>
<td>2,974</td>
</tr>
<tr>
<td>Difference (Voucher-E/R)</td>
<td>4.38* (0.057)</td>
<td>-1.50 (0.480)</td>
<td>0.51 (0.698)</td>
<td></td>
</tr>
</tbody>
</table>

Panel B: All individuals presenting to donate
## Cost per productive unit collected

<table>
<thead>
<tr>
<th></th>
<th>AR$60 voucher</th>
<th>AR$100 voucher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AR$ cost of printing+mailing</td>
<td>$4,500.00</td>
</tr>
<tr>
<td>2</td>
<td>Individuals presenting</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>AR$ cost of providing incentives</td>
<td>$720.00</td>
</tr>
<tr>
<td>4</td>
<td>Total AR$ cost</td>
<td>$5,220.00</td>
</tr>
<tr>
<td>5</td>
<td>Productive units collected</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>AR$ cost per unit collected</td>
<td>$522.0</td>
</tr>
<tr>
<td></td>
<td>US$</td>
<td><strong>US$120</strong></td>
</tr>
</tbody>
</table>

1: AR$1.8 (printing + mailing)*N. of individuals contacted.
3: N. of individuals presenting*AR$ value of voucher.
6: Total AR$ cost / N. of productive units collected.
(Additional processing costs excluded)

### Benefits? Multiple metrics

- **Reimbursement rate per unit:** AR$450
- **Uses:** e.g. 7 blood units for brain surgery, hip replacement, cancer treatment / week
Summary of ILMS 2013

- **Effect of information, social and economic incentives on voluntary, undirected donations**
  - Unique study in setting where emergency/replacement supply is the norm
  - Natural field experiment, subjects unaware of study
  - Detailed information on donor quality, blood safety; post-donation information

- **Findings**
  - No response to information
  - No response to t-shirt, public recognition (≠ Italy, US)
  - Positive and large response to economic incentives (= Italy, US, Switzerland)
    - Increasing in the amount of the reward
    - Direct + Indirect effects
  - No evidence of adverse consequences on blood quality (as in Goette and Stutzer 2008; Lacetera, Macis and Slonim 2012)
Summary of recent evidence
(Lacetera-Macis-Slonim, *Science* 2013)

• Consistent results from field-based (observational & experimental) studies from different countries and contexts
• 18 of 19 distinct incentive items increased blood donations (only exception: cholesterol test)
• Effects increased with the $ amount of the reward
• Where data available (for 15 of the items), no negative effects on safety
• There were spillovers effects
• Spatial displacement and short-term shifts in timing of donations, consistent with “standard” effect of incentives
• No long-term effects
• Financial costs generally low, esp. as compared to benefits: ~$30-$50 for one extra unit for vouchers/ gift cards (~$300 for day off)
Stark difference in findings related to methodology

• Hypothetical surveys + lab/framed experiments vs. field-studies (observational + experimental) Why the hypothetical-actual gap?

1. Subjects facing hypothetical scenarios might focus on seeing themselves in a positive perspective (Vaillant 1977)
2. Subjects aware of being observed/studied may feel scrutinized and thus give what they perceive as the “right” answer (Levitt-List 2007, List 2008)
• Lab vs. Field active subject of study and debate (List-Levitt 2011, Falk-Heckman 2009, Camerer 2011, Kessler-Vesterlund 2011, etc. etc.)
• Demand and social desirability effects more likely in contexts with established social norms, expectations (Camerer 2011)
• External validity of lab experiments particularly tricky when underlying question has strong policy relevance (Camerer 2011)

• NB: Not an overall critique of surveys and lab experiments! (Falk-Heckman 2009, Camerer 2011, Kessler-Vesterlund 2011) But need for caution in cases where conditions above are verified (as is clearly the case with incentives for blood donations ).
Design and institutional details (likely) matter

1. **Rewards were not presented as “payment”**
   - Perceived as “tokens of gratitude”?
   - However, acted as *incentives*

2. **Rewards were not cash**
   - Prohibited or limited in many countries; cannot be studied (or would be perceived as highly unusual)
   - Still, vast range of *economic* rewards do increase supply

3. **Rewards were not conditional on making a successful donation**
   - Provided for showing up to donate
   - Standard practice by many blood banks and collection agencies (e.g. ARC)
   - Removes incentives for people to provide false information in order to donate and obtain the reward

4. **One-time (or occasional) rewards, not regime shift**
   - Cannot infer the effect of offering rewards “all the time”
   - Rewards can increase donations where/when needed
Evidence and ethical concerns

Ethical concerns of course also have implications for policy as societies choose which norms to abide by:

- Not inconsistent with the need for collecting reliable (field-based) evidence
- Better informed ethical decisions are better ethical decisions
- Evidence may contribute to relax ethical oppositions and arguments in some cases, but not in others where certain transactions are still “repugnant” (Roth 2007)
  - E.g., Flynn v. Holder for bone marrow compensation
- If “corrosion” of morals from incentivizing blood donation, need to compare its costs to benefits from greater blood supply
  - Can carefully designed incentive systems resolve these dilemmas (e.g. ARC)?
Field-based evidence on effect of incentives on blood supply counters conventional wisdom and prevailing academic and policy view: incentives do increase blood donations without negative effects on donor type, blood safety

- Consistent for different incentives items, and in different institutional settings
- Further indirect effects (spillovers, spatial/time displacement) consistent with “standard” incentive effects

Analysis of actual blood donation behavior, in *actual* institutional contexts, seems particular important in the case of blood donations

- Stated preferences, artefactual/framed/hypothetical environments might lead to social desirability bias, demand effects

Need for more contextual, field-based analyses

- Repeated incentives; Cash vs. in-kind; Other settings, esp. developing countries

Interplay between moral values and empirical evidence
Thank you!

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Effect of ARC-provided incentive items (LMS, AEJ 2012)

- ~20% turnout increase at blood drive if incentives are offered
- Effect increases with the $ value of the item
- Controlling for cost of items, no significant effect for incentive dummy - Suggests little symbolic value
- No disproportionate increase in deferrals if incentives - Indicates no negative effect of incentives on blood safety

Controls: year, month, day of the week; length drive (hours); weather on day of drive: rain (inches) and its square, rain intensity (per hour precipitation) and its square, snow fall in 48 hours before drive and its square, temperature dummies (0-36, 36-53, 53-68, 68-75, 75+).

<table>
<thead>
<tr>
<th>Item</th>
<th># Drives offered at</th>
<th>ARC cost</th>
<th>Donors presenting</th>
<th>Share deferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-shirt</td>
<td>2,519</td>
<td>$2.95</td>
<td>6.48***</td>
<td>-0.004**</td>
</tr>
<tr>
<td>Coupon</td>
<td>431</td>
<td>$3.64</td>
<td>6.09***</td>
<td>0.001</td>
</tr>
<tr>
<td>Cedar point ticket (raffle)</td>
<td>258</td>
<td>$1.00 (a)</td>
<td>2.13**</td>
<td>0.005</td>
</tr>
<tr>
<td>Cooler</td>
<td>154</td>
<td>$1.78</td>
<td>2.61***</td>
<td>0.003</td>
</tr>
<tr>
<td>Sweatshirt</td>
<td>125</td>
<td>$6.67</td>
<td>13.23***</td>
<td>-0.021**</td>
</tr>
<tr>
<td>Umbrella</td>
<td>122</td>
<td>$4.58</td>
<td>5.55***</td>
<td>0.002</td>
</tr>
<tr>
<td>Hat</td>
<td>88</td>
<td>$1.94</td>
<td>3.57***</td>
<td>-0.015</td>
</tr>
<tr>
<td>6-pack cooler</td>
<td>78</td>
<td>$9.37</td>
<td>4.33***</td>
<td>0.003</td>
</tr>
<tr>
<td>Blanket</td>
<td>59</td>
<td>$6.33</td>
<td>14.37***</td>
<td>-0.016</td>
</tr>
<tr>
<td>Scarf</td>
<td>59</td>
<td>$2.50</td>
<td>9.05***</td>
<td>0.024*</td>
</tr>
<tr>
<td>Mug</td>
<td>49</td>
<td>$1.42</td>
<td>9.56***</td>
<td>0.007</td>
</tr>
<tr>
<td>Music download card</td>
<td>48</td>
<td>$1.50</td>
<td>5.21**</td>
<td>0.006</td>
</tr>
<tr>
<td>Jacket</td>
<td>44</td>
<td>$9.50</td>
<td>24.80***</td>
<td>-0.02</td>
</tr>
<tr>
<td>Miscellaneous items</td>
<td>165</td>
<td>(b)</td>
<td>4.48***</td>
<td>0.013*</td>
</tr>
<tr>
<td>Host-provided incentive</td>
<td>1,287</td>
<td>(c)</td>
<td>2.08***</td>
<td>0.002</td>
</tr>
</tbody>
</table>

p-value of:
- H0: T-shirt=Sweater 0.000
- H0: Sweather=Jacket 0.000
- H0: T-shirt=Jacket 0.000

Observations | 13,529 | 13,529
R-squared     | 0.23   | 0.04
Effect of a one-day, paid leave of absence in Italy (LM, JLEO 2013)

Observational analysis of 289 Italian blood donors observed in 1985-89 and 2002-06. Incentive is a one-day, paid leave of absence for employees (LM 2013)

Exploit cross sectional as well as within-person variation in labor market status.
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“Long weekend” effect (~25% of employees)
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