Do Investors Care About Corporate Externalities?
Experimental Evidence

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The Question

- Calls for firms to maximize “stakeholder value”
  - Warren (2018), Business Roundtable (2019),...
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\[ \text{Stock price} \neq \text{profits} \]


“social stock exchanges”

indirect evidence in event studies + Hartzman & Sussman (2019)

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- hard to isolate different channels

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Experiment Design and results

- Participants are asked to bid for fictitious stocks:
  - stock pays cash dividend \( \pi - c \) and gives \( c \) to a charity
  - \( Bid_i - (\pi_i - c_i) = \beta c_i \), where \( \beta = \text{“altruistic pass-through”} \)
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- We explore how $\beta$ changes in various conditions:
  - purchase changes firm’s behavior, or not (impact)
  - participants can donate directly (comparative advantage)
  - participants invest on each other’s behalf (moral hazard)
  - firm may donate or not (clear behavior 1)
  - firm donates & takes at the same time (clear behavior 2)

→ We find that:
  - on average, $\beta \approx 0.8$
  - bidding consistent with deontological preferences
  - independent of impact, comparative advantage, delegation
  - clarity matters, but in a simple “additive way”
  - expected charity donation, net charity donation
  - consistent w models cited earlier
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Roadmap

Experiment Description

Results

Conclusion
Roadmap

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Experiment: Overall structure

- recruitment: 1,500 MTurkers in 5 five batches

- participants have to value 3 stocks (in random order)

<table>
<thead>
<tr>
<th>Type</th>
<th>Profit</th>
<th>Charity Donation</th>
<th>Cash Dividend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>$\pi$</td>
<td>0</td>
<td>$\pi$</td>
</tr>
<tr>
<td>Ethical</td>
<td>$\pi$</td>
<td>$c &gt; 0$</td>
<td>$\pi - c$</td>
</tr>
<tr>
<td>Unethical</td>
<td>$\pi$</td>
<td>$c &lt; 0$</td>
<td>$\pi - c$</td>
</tr>
</tbody>
</table>

- valuation measured through BDM bidding mechanism
  1. participant bids $b$
  2. machine draws random $\tilde{p}$
  3. participant wins the auction if $b > \tilde{p}$ and pays $\tilde{p}$

  $\rightarrow$ under risk-neutrality and rational expectations, $b = \text{valuation}$
More detailed description

1. define 2 wallets with initial endowments:
   ▶ the participant’s wallet: $2
   ▶ the charity’s wallet: $1
      ▶ in order to allow for corporate “unethical” behavior
   ▶ participants pick one of 6 charities

2. we then provide as simple example of BDM bidding
   ▶ neutral firm (no spillover to charity wallet)
   ▶ two cases: wins or loses auction vs random price
   ▶ step-by-step explanation of effect on both wallets
3. practice quiz
   ▶ makes sure all consequences are understood
     ▶ also: first live test in lab
     ▶ a pilot survey to clarify exposition based on practice quiz results
   ▶ 2 examples among 4 cases at random:
     ▶ one ethical ($\pi = 1.5, \ c = .4$) and one unethical firm ($\pi = .7, \ c = -.4$)
     ▶ one successful ($1 > .5$), one failed bid ($1 < 2$)
   ▶ need to calculate effect on both wallets
   ▶ cannot proceed until ace the quiz (3 attempts max)
   ▶ pass rate=80% in 2019, 50% in 2020
     ▶ but we obtain identical results in identical conditions
     ▶ also: identical results among 120 MFin students
More detailed description

4. actual experiment: 3 bids
   - neutral / unethical / ethical firms
   - in random order to control priming
   - random profits $\pi \in \{.5, .6, .7, .8, .9, 1\}$; $c \in \{.1, .2, .3, .4, .5\}$

5. end: recap final amounts of both wallets
Six conditions

1. baseline (148, June 2019)

2. impact (152, July 2019)
   ▶ charity wallet affected only if bid goes through
   ▶ practice quiz makes sure this is well understood

3. comparative advantage (148, 8/5/2019)
   ▶ allowed to donate directly at the end

4. moral hazard (155, 8/5/2019)
   ▶ wallet = wallet of next participant in the list

5. clear behavior 1: (339, June-July 2020)
   ▶ positive and negative donation at the same time

6. clear behavior 2: (435, June-July 2020)
   ▶ either positive or negative donation

→ 4,098 rounds of bidding
Roadmap

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Charity Donation is Priced in our Setting

\[ Bid_i - (\pi_i - c_i) = \alpha + \beta \times c_i + \epsilon_i \]

Excess bid: pass-through \hspace{1cm} Charity donation

\[ \alpha = 0.02^{**}, \hspace{0.5cm} \beta = .79^{***} \]

\[ \rightarrow \text{investors price charity donation symmetrically} \]
Impact does not affect pricing

\[ \text{Bid}_i - (\pi_i - c_i) = \alpha + \beta \times c_i + \epsilon_i \]

<table>
<thead>
<tr>
<th></th>
<th>Excess Bid</th>
<th>Excess Bid</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CharityValue</td>
<td>0.797***</td>
<td>0.893***</td>
<td>0.347</td>
</tr>
<tr>
<td></td>
<td>(0.072)</td>
<td>(0.073)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.070***</td>
<td>-0.036</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.025)</td>
<td></td>
</tr>
<tr>
<td>Condition Baseline</td>
<td>Baseline</td>
<td>Impact Investing</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>393</td>
<td>372</td>
<td></td>
</tr>
</tbody>
</table>

- In second condition: charity receives \( c \) only if bid is successful
- No difference → Value alignment > Impact investing
- Remember: participants understand the difference (quiz)
comparative advantage to donate has no effect

<table>
<thead>
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</tr>
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<tbody>
<tr>
<td></td>
<td>ExcessBid</td>
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</tr>
<tr>
<td>CharityDonation</td>
<td>0.645***</td>
<td>0.797***</td>
</tr>
<tr>
<td></td>
<td>(0.0756)</td>
<td>(0.0719)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.00442</td>
<td>-0.0705***</td>
</tr>
<tr>
<td></td>
<td>(0.0268)</td>
<td>(0.0259)</td>
</tr>
<tr>
<td>Condition</td>
<td>Baseline</td>
<td>Donation</td>
</tr>
<tr>
<td>Observations</td>
<td>342</td>
<td>393</td>
</tr>
</tbody>
</table>

- Baseline: CSR is only way to donate, allowing donation should ↙ pricing of Charity Value
- but no significant difference here
- Participants do not substitute corporate for personal donation
moral hazard does not drive pricing

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<td>0.00442</td>
<td>0.0322</td>
</tr>
<tr>
<td></td>
<td>(0.0268)</td>
<td>(0.0296)</td>
</tr>
<tr>
<td>Condition</td>
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<td>342</td>
<td>336</td>
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- If doing good with other peoples’ money, delegation should → pricing of Charity Value
- but no significant difference here
- managing other peoples’ money does not make participants bid higher
uncertainty affects pricing

- col 1: baseline with certain donation
- col 2: uncertain donation: \( c_{i1} \geq 0 \) or \( c_{i2} \leq 0 \) with \( p = 1/2 \)

\[
\text{Bid}_i - (\pi_i - c_i) = \alpha + \beta \times \frac{1}{2}(c_{i1} + c_{i2}) + \epsilon_i
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<tr>
<td>CharityDonation</td>
<td>0.602***</td>
<td>0.512***</td>
</tr>
<tr>
<td></td>
<td>(0.0775)</td>
<td>(0.119)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.0701**</td>
<td>0.159***</td>
</tr>
<tr>
<td></td>
<td>(0.0282)</td>
<td>(0.0332)</td>
</tr>
<tr>
<td>Condition</td>
<td>Baseline</td>
<td>uncertainty</td>
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</table>

→ Participants price expected donation like certain
ambiguity affects pricing

- col 1: baseline with plain donation \( c_i \)
- col 2: ambiguous donation, both \( c_{i1} \geq 0 \) and \( c_{i2} \leq 0 \)

\[
\text{Excess bid} = \underbrace{\text{Bid}_i - (\pi_i - c_i)}_{\text{Net donation}} = \alpha + \beta \times (c_{i1} + c_{i2}) + \epsilon_i
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<td></td>
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<td>(0.130)</td>
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<tr>
<td>Constant</td>
<td>0.0701**</td>
<td>0.0702**</td>
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<tr>
<td></td>
<td>(0.0282)</td>
<td>(0.0343)</td>
</tr>
<tr>
<td>Condition</td>
<td>Baseline</td>
<td>Ambiguity</td>
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→ Participants price net donation like plain
Roadmap

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Conclusion
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- in our experiment, corporate donation is 80% priced
  - not due to confusion: we check with quiz
- Such pricing consistent with deontological preferences
  - independent of impact, moral hazard, comparative advantage
- Uncertain, ambiguous CSR is priced additively

- Consequences:
  - Shareholder value maximization incorporates shareholders’ non-monetary preferences
  - possible to extend portfolio theory to non-pecunary benefits of stocks

