

Do Investors Care About Corporate Externalities? Experimental Evidence

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- ▶ Yet, if shareholders are altruistic, this could affect prices
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 - ▶ Heinkel et al. (2001), Zivin and Small (2005), Pastor&Stambaugh (2019), Pedersen&al (2019)
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This paper: Why and how are investors’ social concerns priced?

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 - ▶ Testing these hypotheses is hard in the field
 - ▶ prices conflate profit-reducing & profit-increasing CSR
 - ▶ hard to isolate different channels
- We run a large-scale experiment on \approx 1,500 MTurkers

Experiment Design and results

- ▶ Participants are asked to bid for fictitious stocks:
 - ▶ stock pays cash dividend $\pi - c$ and gives c to a charity
 - ▶ $Bid_j - (\pi_j - c_j) = \beta c_j$, where $\beta =$ “altruistic pass-through”

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- ▶ We explore how β 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)
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→ We find that:

- ▶ on average, $\beta \approx .8$
- ▶ 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

Roadmap

Experiment Description

Results

Conclusion

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Experiment: Overall structure

- ▶ recruitment: 1,500 MTurkers in 5 five batches
- ▶ participants have to value 3 stocks (in random order)

Type	Profit	Charity Donation	Cash Dividend
Neutral	π	0	π
Ethical	π	$c > 0$	$\pi - c$
Unethical	π	$c < 0$	$\pi - c$

- ▶ 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}

→ 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

More detailed description

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

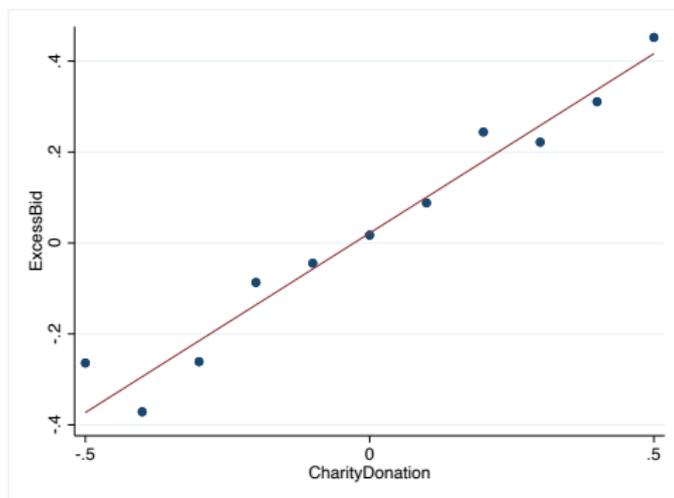
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Charity Donation is Priced in our Setting

$$\underbrace{Bid_j - (\pi_j - c_j)}_{\text{Excess bid}} = \alpha + \underbrace{\beta}_{\text{pass-through}} \times \underbrace{c_j}_{\text{Charity donation}} + \epsilon_j$$



→ $\alpha = 0.02^{**}$, $\beta = .79^{***}$

→ investors price charity donation symmetrically

impact does not affect pricing

$$\underbrace{Bid_j - (\pi_j - c_j)}_{\text{Excess bid}} = \alpha + \beta \times \underbrace{c_j}_{\text{Charity donation}} + \epsilon_j$$

	Excess Bid	Excess Bid	P-value
CharityValue	0.797*** (0.072)	0.893*** (0.073)	0.347
Constant	-0.070*** (0.026)	-0.036 (0.025)	
Condition	Baseline	Impact Investing	
N	393	372	

- ▶ in second condition: charity receives c only if bid is successful
- ▶ no difference \rightarrow Value alignment $>$ Impact investing
- ▶ remember: participants understand the difference (quiz)

comparative advantage to donate has no effect

	(1)	(2)
	ExcessBid	ExcessBid
CharityDonation	0.645*** (0.0756)	0.797*** (0.0719)
Constant	0.00442 (0.0268)	-0.0705*** (0.0259)
Condition	Baseline	Donation
Observations	342	393

- ▶ 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

	(1)	(2)
	ExcessBid	ExcessBid
CharityDonation	0.645*** (0.0756)	0.797*** (0.0814)
Constant	0.00442 (0.0268)	0.0322 (0.0296)
Condition	Baseline	Delegation
Observations	342	336

- ▶ 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 $p = 1/2$

$$\underbrace{Bid_i - (\pi_i - c_i)}_{\text{Excess bid}} = \alpha + \beta \times \underbrace{\frac{1}{2}(c_{i1} + c_{i2})}_{\text{Expected donation}} + \epsilon_i$$

	(1)	(2)
	ExcessBid	ExcessBid
CharityDonation	0.602*** (0.0775)	0.512*** (0.119)
Constant	0.0701** (0.0282)	0.159*** (0.0332)
Condition	Baseline	uncertainty
Observations	372	435

→ Participants price expected donation like certain

ambiguity affects pricing

- ▶ col 1: baseline with plain donation c_j
- ▶ col 2: ambiguous donation, both $c_{j1} \geq 0$ and $c_{j2} \leq 0$

$$\underbrace{Bid_j - (\pi_j - c_j)}_{\text{Excess bid}} = \alpha + \beta \times \underbrace{(c_{j1} + c_{j2})}_{\text{Net donation}} + \epsilon_j$$

	(1)	(2)
	ExcessBid	ExcessBid
CharityDonation	0.602*** (0.0775)	0.455*** (0.130)
Constant	0.0701** (0.0282)	0.0702** (0.0343)
Condition	Baseline	Ambiguity
Observations	372	339

→ Participants price net donation like plain

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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-pecuniary benefits of stocks

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