Value Investors Drive Environmental Policies.

Distinguishing *Value* from *Values* Investors

- *Values* Investors:
  - Prioritize nonpecuniary objectives over financial returns.
  - High willingness-to-pay to achieve environmental agendas.
- *Value* Investors:
  - Focus on how environmental issues impact firm value and risk-return prospects.
  - Low willingness-to-pay to achieve environmental agendas.

Research Methodology: Tick Size Pilot (TSP)

- Natural Experiment:
  - Increased transaction costs for investors.
  - Disproportionately impacted *value* investors compared to *values* investors.
  - Risk-model-free and orthogonal to firm fundamentals.
- Real Impact of TSP (2016-2018):
  - Liquidity: Decreased by 0.5 SD for treatment firms.
  - Environmental Rating: Dropped by 0.445 points on a 0-10 scale (↓).
  - Emission Levels: Increased by 9.13% (↑).
  - Emission Intensity: Rose by 7.64% (↑).

Mechanism Analysis: "Exit Threat" as the Main Driver

- Investor-Level Evidence:
  - Green institutional investors reduced divesting in response to negative environmental events (↓) during TSP.
- Firm-Level Evidence:
  - Environmental ratings declined (↑) as exit-threat exposure increased (↑).
  - Proxies for exit-threat exposure:
    - Managerial interest in equity prices.
    - Coordination risk among investors.
- "Voice":
  - TSP firms had low environmental activism, evidenced by minimal 13D filings and activist campaigns.

Conclusion

- Among green investors, *value* investors were most likely to respond to the TSP.
- *Value* investors significantly influence corporate environmental policies.

Defining *Value* Investors and *Values* Investors

Green Investors

Value Investors   **Values Investors**

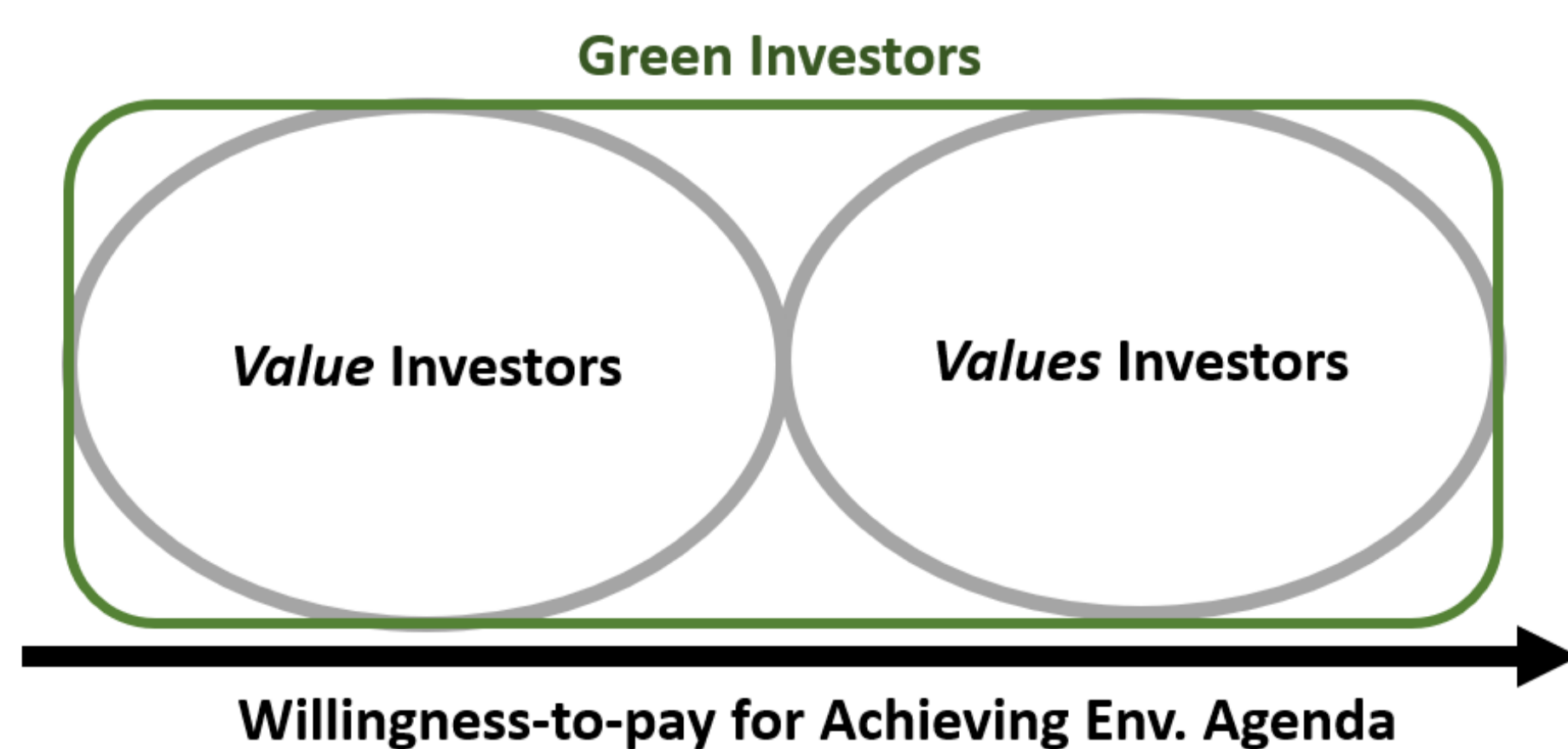**Willingness-to-pay for Achieving Env. Agenda**

Figure 1. Value investors diff from Values investors based in their willingness-to-pay to achieve their environmental agenda.

Overview of the Tick Size Pilot (TSP)

- Scope and Criteria:
  - Randomly selected 2,399 stocks meeting the following criteria:
    - Price of at least $1.50, volume-weighted average price of $2+, and ≤1 million average daily trading volume during a measurement period. Market capitalization below $3 billion and closing price above $2 on August 31, 2016.
- Experimental Design:
  - Stocks were randomly assigned to two groups:
    - Treatment Group (1,200 stocks): Tick size increased from 1¢ to 5¢.
    - Control Group (1,199 stocks): Tick size remained at 1¢.
  - TSP ran from October 31, 2016, to September 30, 2018
- Impact on Liquidity:
  - Treatment firms' liquidity reduced by 0.5 SD compared to control firms (Albuquerque, Song, and Yao 2020)

TSP Reduces Env. Performance

$$env_{i,t+1} = \beta_1 TREAT_i \times POST_t + C_{i,t} + Firm_i + Quarter_{t+1} + \epsilon_{i,t+1} \quad (1)$$
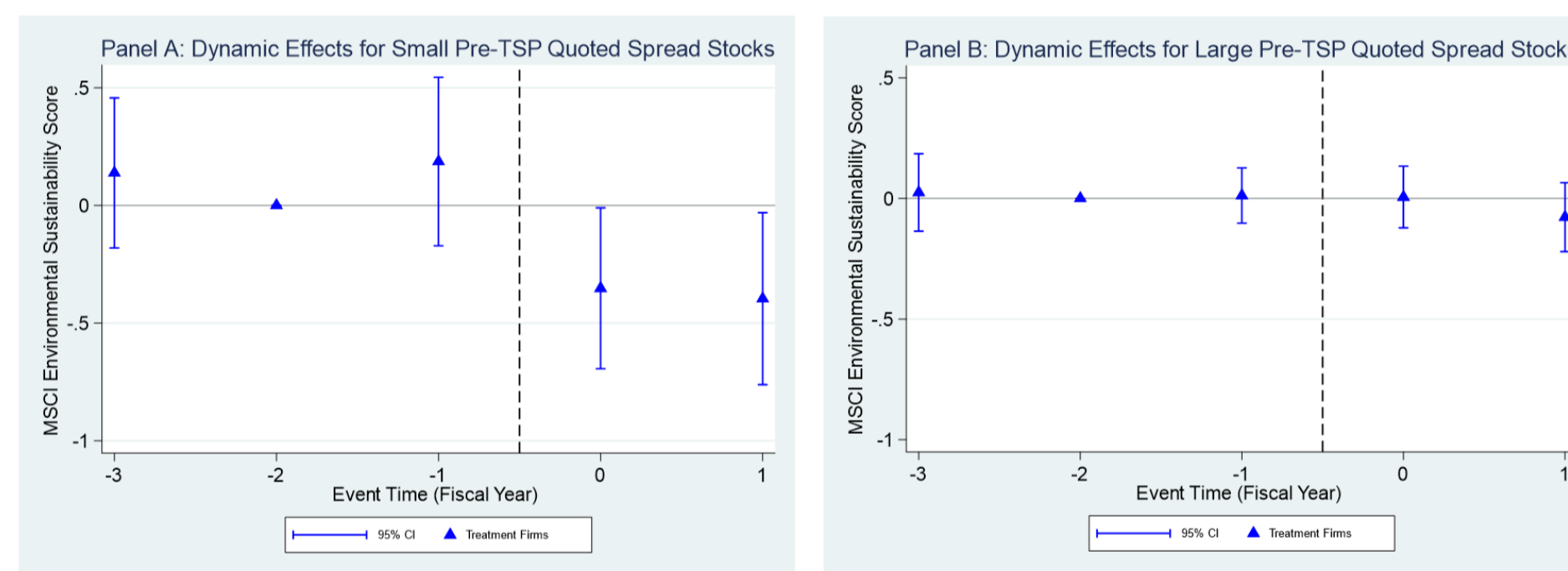
The negative impact of TSP on environmental ratings was most pronounced for stocks with a smaller pre-TSP quoted spread, for which the TSP imposes a more binding constraint for liquidity.

Mechanism: Exit - Investor-Level Evidence

- Exit Model:
  - Management make effort to improve firm value and dissuade blockholders from exiting, which can potentially increase firms' cost of capital and reduce managers' personal wealth
  - Worse liquidity weakens exit threats as blockholders have to dump shares at higher costs, making threats less creible
- Investor-Level Evidence: Enacting (Lifting) TSP reduced (increased) green institutional investors' divesting intensity in response to env. incidents.

Dep. Var.: Portfolio Weight (%)	(1)	(2)	(3)
Incident Event Window:	[0]	[0,1]	[-1,1]
Env. Incident X Green Inst. Investor X Treat X **Enacting** TSP	0.0316**	0.0315**	0.0213*
	(2.059)	(2.363)	(1.745)
Env. Incident X Green Inst. Investor	-0.0260***	-0.0242***	-0.0283***
	(-2.887)	(-3.577)	(-3.409)

Dep. Var.: Portfolio Weight (%)	(1)	(2)	(3)
Incident Event Window:	[0]	[0,1]	[-1,1]
Env. Incident X Green Inst. Investor X Treat X **Lifting** TSP	-0.0494***	-0.0373***	-0.0444***
	(-3.443)	(-2.894)	(-3.816)
Env. Incident X Green Inst. Investor	-0.0384***	-0.0460***	-0.0438***
	(-4.943)	(-6.488)	(-6.025)

Mechanism: Exit - Firm-Level Evidence

- Exit Threat Increases With:
  - Managerial Sensitivity to Stock Prices: Exit threat is stronger when managers are more sensitive to stock prices (*WPS measure*).
  - Investor Coordination Risk: Coordination among investors strengthens governance through "voice" but weakens exit threats.
- Coordination Risk Proxies:
  - Total Clique Ownership: Aggregate ownership by investor cliques.
  - Top Clique Ownership: Ownership by the largest investor clique.
  - Opinion Dispersion on Environmental Issues: Standard deviation of environmental ratings across investors.
- Key Results:
  - The TSP-induced decline in environmental rating is larger for firms with higher exit exposure.
  - Post-TSP, firms with higher exit exposure improved environmental ratings.

Dep Var: Environmental Rating	(1)	(2)	(3)	(4)
Proxies for Exposure to Exit Threat:	WPS	Total Clique Ownership	Top Clique Ownership	Opinion Dispersion on Env. Issues
Treat X **Enacting** TSP X High Exposure	-1.952***	-1.043***	-1.014***	-1.162**
	(-4.916)	(-3.134)	(-3.306)	(-2.259)
Treat X **Enacting** TSP	0.0303	-0.229	-0.219	-0.316**
	(0.192)	(-1.589)	(-1.513)	(-2.462)

Dep Var: Environmental Rating	(1)	(2)	(3)	(4)
Proxies for Exposure to Exit Threat:	WPS	Total Clique Ownership	Top Clique Ownership	Opinion Dispersion on Env. Issues
Treat X **Lifting** TSP X High Exposure	0.412**	0.578**	0.432**	0.454*
	(2.330)	(2.514)	(2.125)	(1.694)
Treat X **Lifting** TSP	-0.349***	-0.158**	-0.152*	-0.0620
	(-3.430)	(-1.967)	(-1.766)	(-0.708)

Mechanism: Voice

- Voice Model:
  - Shareholders use voting rights to influence corporate governance.
  - Better liquidity enhances voice by facilitating block formation and lowering the cost of activism.
- Environmental Activist Campaigns:
  - Only two proposals recorded, both initiated against the same control firm
  - Both failed in shareholder meetings in 2017 and 2018, respectively.
- 13D Filings:
  - 57 filings by green investors; 13 targeted TSP firms, none with small pre-TSP spreads, during 2013–2018

Real Impact of TSP

Dep. Variable:	(1) Emission Level	(2) Emission Intensity	(3) Emission Level	(4) Emission Intensity
Treat X Enacting TSP	0.0913***	0.0764**		
	(3.054)	(2.581)		
Treat X Lifting TSP			-0.0702**	-0.125***
			(-2.337)	(-4.525)