The Economics of Greenwashing Funds

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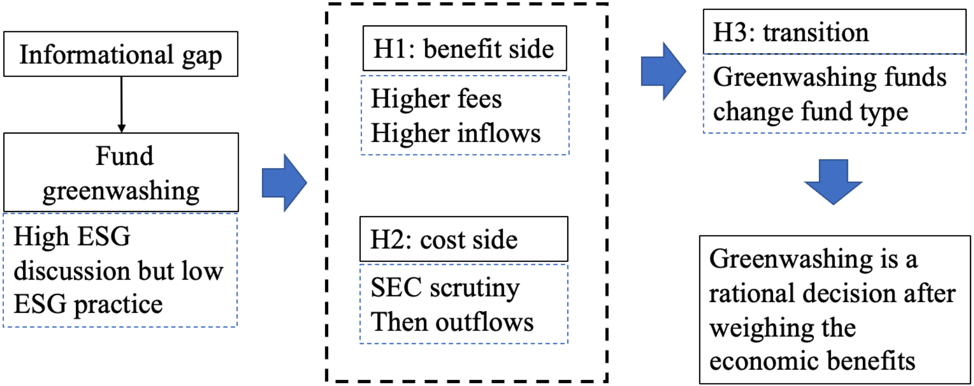
Summary


Informational gap
Fund greenwashing
High ESG discussion but low ESG practice
H1: benefit side
Higher fees
Higher inflows
H2: cost side
SEC scrutiny
Then outflows
H3: transition
Greenwashing funds change fund type
Greenwashing is a rational decision after weighing the economic benefits

Research Question

- What's about the benefits and costs of greenwashing disclosure in mutual funds.

Motivation

- ESG-oriented funds meet growing investor demand.
  - Investors often lack the resources to independently verify ESG-oriented funds.
  - Informational gap creates opportunities for funds to engage in greenwashing, distorting capital allocation and harming social welfare.
- Existing studies lack clarity on the cost-benefit tradeoff of greenwashing funds.
- There is a lack of precise greenwashing identification methods.
- Investigate the benefits and costs of greenwashing from mutual funds’ perspective, leveraging LLMs to measure and analyze ESG-related disclosure behavior.

Contribution

- Literature on disclosures.
  - Prior studies: Return misreporting in hedge funds, deceptive discussions by corporations during conference calls (Cao et al., 2024; Larcker and Zakolyukina, 2012).
  - Extend: Mutual funds strategically misreport ESG information to investors.
- Literature on ESG preferences in fund investments.
  - Prior studies: ESG investment influences investors' fund-selection decisions.
  - Extend: How greenwashing alters investor behavior, fund economics, and regulatory effectiveness.
- Literature on artificial intelligence (AI) in finance.
  - Prior studies: Use LLM to construct firm-level measures of political, climate, and AI-related risks.
  - Detect greenwashing funds.

Hypothesis

- H1: Greenwashing funds charge higher fees and attract greater investor flows than non-greenwashing funds.
  - The benefit of greenwashing: Funds experience higher fees and flows, which directly improve managerial compensation.
- H2: Greenwashing funds are more likely to receive ESG-related SEC comment letters, and then experience significant outflows.
  - The costs of greenwashing: Greenwashing results in heightened compliance costs and potential reputational impacts.
- H3: Greenwashing funds change reduces future green disclosures after SEC scrutiny.
  - Mutual fund greenwashing is a rational decision by fund managers after weighing the economic benefits.

Sample and Method

- Mutual fund shareholder reports from Form N-CSR, which contain managers' narrative discussions as valuable information.
- ESG disclosure:
  - Employ BERT from Google to analyze the ESG discussions in mutual fund reports.
  - Calculate the "ESG discussion ratio" = Number of ESG-related sentences ÷ Total number of sentences in the report.
- ESG practice: Morningstar Sustainability Rating.

Classification of Greenwashing Funds

- A “greenwashing” fund has an above-median ESG discussion but a below-median sustainability rating. 36%
- A “walk-and-talk” fund exhibits both an above-median ESG discussion and an above-median sustainability rating. 17%
- “Ad-indifferent” actively invests in ESG securities but maintains a conservative level of ESG discussion in its disclosures. 15%
- “Non-ESG” funds have below-median ESG discussion and below-median sustainability ratings. 32%

H1: Greenwashing increases fees and investor flows

$$Fee(Flow)_{i,t+1} = \beta\,\text{Greenwashing}_{i,t} + \gamma^{\top}\mathbf{Controls}_{i,t} + \text{FE} + \varepsilon_{i,t} \quad (1)$$

Dependent variable	Fee_{t+1}			
	(1)	(2)	(3)	(4)
Greenwashing	3.330***	2.097***	2.144***	2.118***
	(3.32)	(3.07)	(3.08)	(3.03)

Dependent variable	$Flow_{t+1}$			
	(1)	(2)	(3)	(4)
Greenwashing	0.310**	0.164**	0.213***	0.146**
	(2.79)	(2.32)	(2.91)	(2.21)

H2: Greenwashing funds are more likely to receive SEC comment letters

- Comment letter is an indicator variable equal to one if a fund receives an ESG-related comment letter from the SEC and zero otherwise.

$$\text{CommentLetter}_{i,t+1:t+T} = \beta\,\text{Greenwashing}_{i,t} + \gamma\,\text{Controls}_{i,t} + \text{FE} + S_{i,t+1:t+T} \qquad (2)$$

Dependent variable	Comment Letter at $t+1$		Comment Letter in $t+1$ to $t+6$	
	(1)	(2)	(3)	(4)
Greenwashing	0.675**	0.817**	0.870***	0.963***
	(2.40)	(2.65)	(3.65)	(3.72)

H2: Greenwashing funds experience significant outflows after receiving SEC comment letters

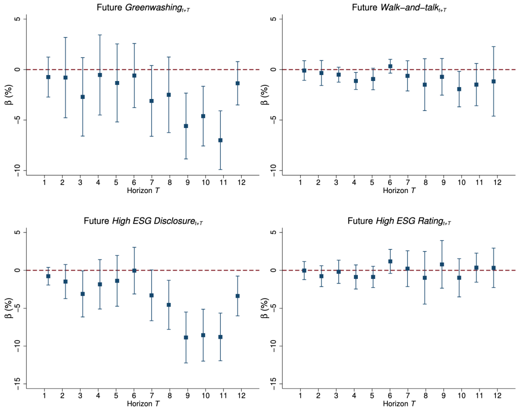
- High-flow funds: High investor attention, active capital inflows/outflows.
- Low-flow funds: Investors are mostly "inert investors".
- $Flow_{i,t+1:t+T}$: Cumulative net fund flows from month t+1 to month t+T.

$$\text{Flow}_{i,t+1:t+T} = \beta\,\text{Greenwashing}_{i,t} \times \text{CommentLetter}_{i,t} + \gamma\,\text{Controls}_{i,t} + \text{FE} + \varepsilon_{i,t+1:t+T} \quad (3)$$

	Funds with high $\lvert Flow_t \rvert$		Funds with low $\lvert Flow_t \rvert$	
Dependent variable = $Flow_{i,t+1\to t+T}$	$Flow_{t+1}$	$Flow_{t+1\to t+6}$	$Flow_{t+1}$	$Flow_{t+1\to t+6}$
	(1)	(2)	(3)	(4)
Greenwashing × Comment Letter	-1.749**	-5.772**	-0.051	3.211
	(-2.65)	(-2.77)	(-0.23)	(1.06)

H3: Transition after receiving comment letters

- Greenwashing funds will cut ESG disclosures rather than improve ESG practices.



Ideas

- Greenwashing: Using generative AI to automatically detect and quantify fund greenwashing by analyzing disclosures, holdings, and ESG-related news.
  - 1. Does the fund overstate its ESG investment? (Yes/No)
  - 2. Greenwashing score from 0 (none) to 1 (high).
  - 3. Short explanation.
- Consequence of greenwashing
  - adaptive climate change capacity