Green Stewards: Responsible Institutional Investors Foster Green CapEx

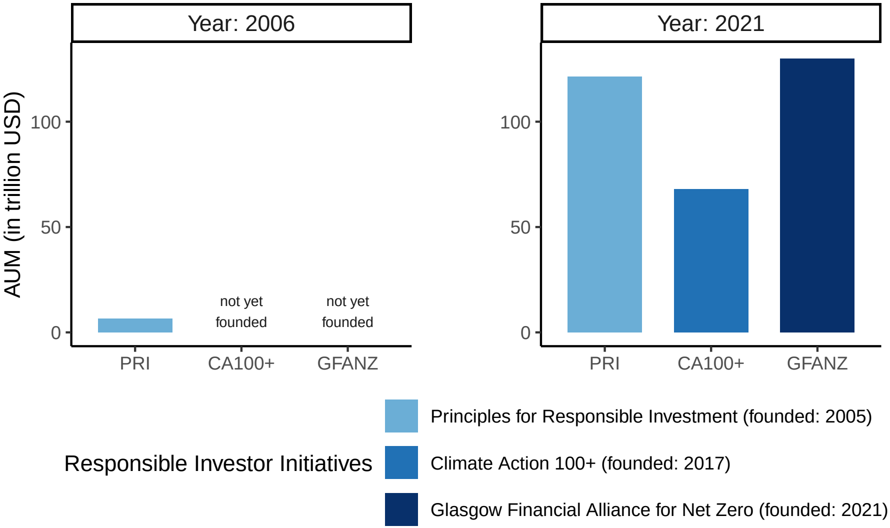
Moritz Wiedemann

Rotterdam School of Management, Erasmus University

October 10, 2024

12th Annual Conference on Risk Governance
at the University of Siegen

Remarkable rise in responsible investing



Yet, opinions on the role of responsible investors are divided

Responsible investors see themselves as critical agents for change

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Responsible investing is criticized for being just greenwashing

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DWS shares slide after greenwashing claims prompt BaFin investigation

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NEW REPORT REVEALS: For 2nd Straight Year, Proxy Voting by Climate Action 100+'s Largest Investor-Signatories Undermines Goals of World's Largest Investor Climate Initiative

Despite US companies failing Climate Action 100+'s own Benchmarks on climate performance and governance, majority of key Climate Action 100+ investor signatories rubber stamped nearly all corporate directors in 2022

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Dubious green funds are rampant in America

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ESG Whistleblower Calls Out Wall Street Greenwashing

By Andrew Browne
October 2, 2021 at 11:45 AM GMT+1

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Finance

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November 2, 2021 2:44 PM GMT · Updated 2 years ago

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Question: Do responsible institutional investors drive firms to increase green capex?

This paper: Do responsible institutional investors drive firms to increase green capex?

1. Novel firm-level measures of responsible investor share & green CapEx
   - **Responsible investors:** Climate Action 100+ (CA100+) signatories
   - **Green CapEx measure:** Green debt
2. Firms with lower responsible ownership decrease future green CapEx
   - European firms' cross-listing in the USA as novel plausibly exogenous change in responsible ownership
   - 5pp lower responsible ownership post cross-listing (2021 average: 33%)
   - 3pp lower likelihood of issuing green debt post cross-listing (2021 average: 5%)

Outline: Two key challenges/ two key contributions

01 How can responsible ownership & green capex be measured?

02 Do responsible investors drive firms to increase green CapEx?

Who counts as a responsible investor?

Responsible investors: Investors who care about global decarbonization

PRI Principles for Responsible Investment

GFANZ Glasgow Financial Alliance for Net Zero

CDP

IIGCC The Institutional Investors Group on Climate Change

Climate Action 100+

GISD Global Investors for Sustainable Development Alliance

Ceres Sustainability is the bottom line.

GLOBAL SUSTAINABLE INVESTMENT ALLIANCE

ASIA INVESTOR GROUP ON CLIMATE CHANGE

Investor Group on Climate Change

Coalition for Climate Resilient Investment

Transition Pathway Initiative

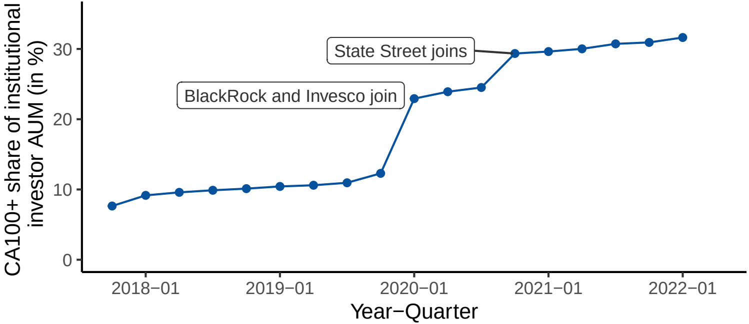
Identifying responsible investors through CA100+ signatories

- Launched in 2017, the Climate Action 100+ initiative is the largest collaborative engagement group for climate change
- CA100+ Objective: *Engage with the world's largest GHG emitters to improve governance on climate change, curb emissions and strengthen climate-related financial disclosure*
- 700 investors with more than $68 trillion in assets under management
- Two types of signatories:
  Investor Participants (64%) & Investor Supporters (36%)
- Investor participants engage with 171 "focus" companies

⇒ Objective and engagement strategy are suggestive of a **real impact mandate**

AUM of CA100+ signatories have grown to a substantial overall share

$$CA100\,SHARE_{ft} = \frac{CA100+\ Institutional\ Ownership_{ft}}{Total\ Institutional\ Ownership_{ft}}$$



- Translates into a firm-level average CA100+ share of 15.4% (std. deviation: 22.1 %)

What qualifies as green capital expenditure?

- Investments in assets that allow reduced carbon emissions
- Firm-level green CapEx cannot be observed globally
- What is a viable alternative?

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- Financial instruments whose proceeds are linked to green projects through the contract clauses
- Instruments covered:
  1. Green bonds/loans
  2. Sustainability-linked bonds/loans
  3. Sustainability bonds/loans
- $\textit{GREENDEBT-DUMMY}_{ft} = 1$ if at least one green debt instrument issued

Green debt is an important funding source of green CapEx

1. Total green debt issuance equivalent to 59% of global green capital expenditures, as estimated by Bloomberg NEF

2. Debt is of first-order importance for financing corporate investment spikes
   Mayer & Sussman (2005), DeAngelo *et al.* (2011), DeAngelo *et al.* (2018), DeAngelo (2022)

3. Robustness measures along the green capital expenditure chain
   - Green patents, taxonomy-based clean investment/ revenue ratios, & emissions
   - Green debt is economically and statistically significantly associated with clean investments for the available subset

Higher responsible ownership allows for greater future green CapEx

$$y_{fjt} = \alpha + \beta\, CA100\, SHARE_{fjt-3} + \gamma X_{fjt-3} + \theta_f + \tau_{jt} + \varepsilon_{fjt}$$

	(1) GREENDEBT-DUMMY $= 1$ if at least one green debt instrument issued	(2) ASINH(GREENDEBT) asinh(Amount raised with green debt in mil. USD)
3YR-LAG CA100 SHARE	0.041***	0.261***
	(0.007)	(0.045)
Controls	yes	yes
Firm F.E.	yes	yes
Industry-Year F.E.	yes	yes
Observations	55206	55206
R2	0.568	0.583

Standard errors are clustered at the firm level.

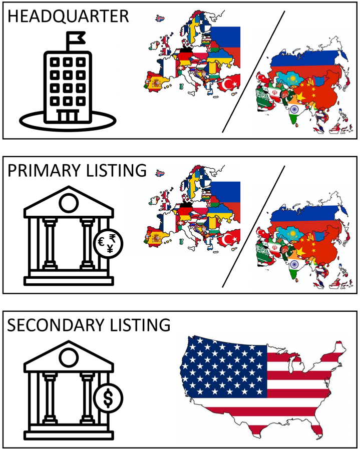
Outline

01 How can responsible ownership & green capex be measured?

02 Do responsible investors drive firms to increase green CapEx?

How do we isolate the causal impact of responsible ownership?

- **Negative responsible ownerhsip shock:** European/ Asian headquartered firms' cross-listing in the United States
- **Source of variation:** American institutional investors are on average less sustainable
- **Identification assumption:** Firm's decision to cross-list does not affect or reflect relative green investment opportuniteis other than through responsible investors



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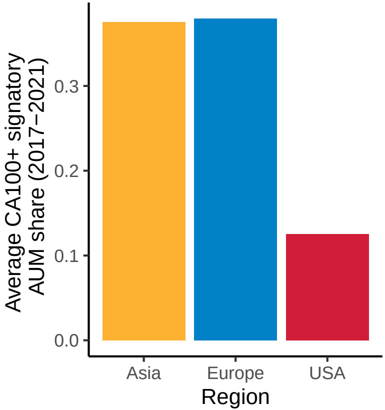

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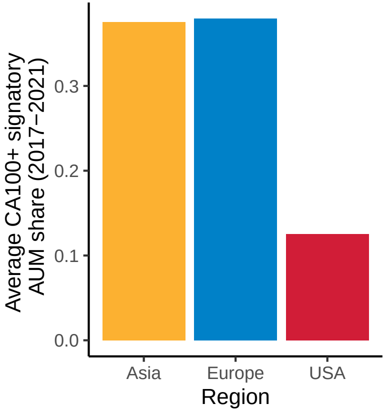


RSM Erasmus University

Responsible investor pressure is not a major cross-listing driver

1. Sophisticated knowledge required for responsible investor pressure to be a decision factor
   - Awareness of regional investor preference difference
   - Belief in persistence of difference
2. No evidence in managements' statements and cross-listing theory
   - Stated motivations are unrelated to responsible ownership/ green CapEx
   - Theory highlights bonding, market segmentation and take-over defense motives
3. No evidence in data
   - No recent cross-listing tilt towards emission-intensive industries
   - Responsible ownership and firm "greeness" are not associated with cross-listings

$\Rightarrow$ Change in responsible ownership is an unexpected cross-listing by-product

Staggered differences-in-difference with matching

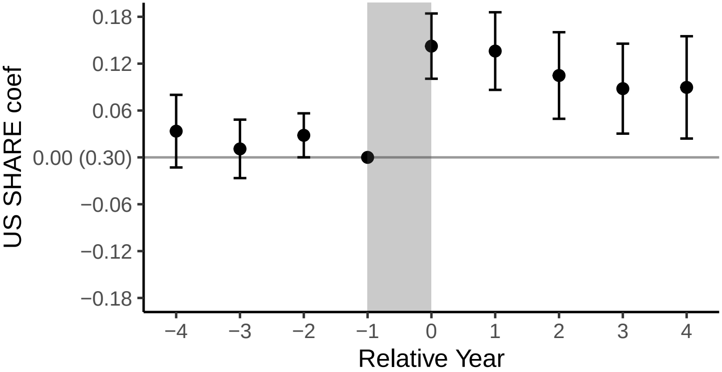
- Control sample is based on matching the 3 nearest neighbours with replacement
  - Exact-matching on region (Asia or Europe) and 2-digit SIC industry
  - Propensity score matching on ex-ante characteristics LOGSIZE, INVEST/A, ROE and LEVERAGE

- Sun & Abraham (2021) interaction-weighted estimator:

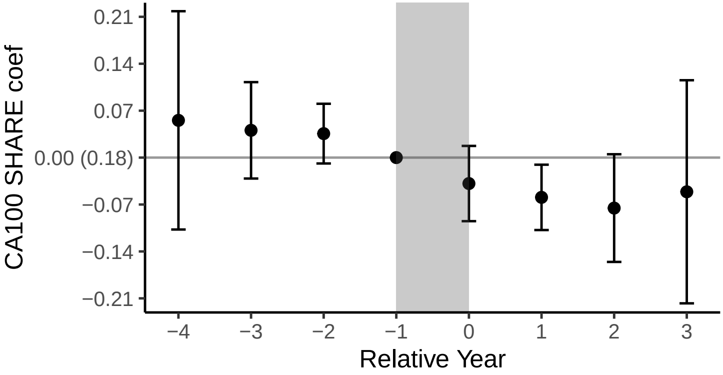
$$y_{ft} = \alpha + \sum_{e \in \{2007, 2008, \dots, 2021\}} \sum_{l=-15, \neq -1}^{15} \delta_{e,l} \mathbf{1}\{E_f = e\} RT_{ft}^{\ell} + \gamma X_{ft-1} + \theta_f + \tau_t + \varepsilon_{ft}$$

  - RT_{ft}^{ℓ} are relative period indicators of the cross-listing year of Asian/European firms
  - $\mathbf{1}\{E_i = e\}$ are cohort specific indicators
  - Time period varies depending on data, at most 2006 to 2022

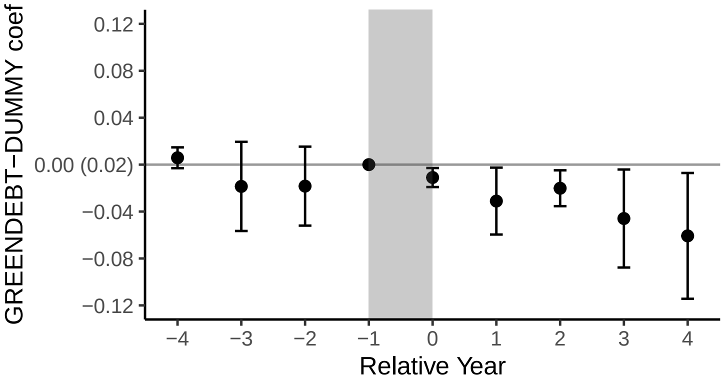
Step 1: Higher American investor share post cross-listing in the US



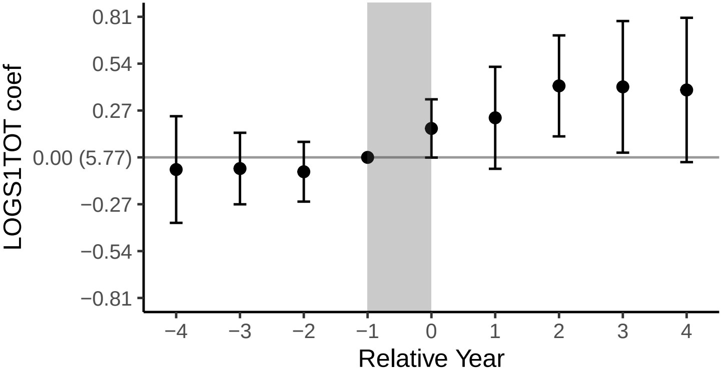
Step 2: Lower sustainable investor share post cross-listing in the US



Step 3: Less likely to issue green debt post cross-listing in the US



Step 3b: Higher emissions post cross-listing in the US



Mechanism: How do responsible investors affect firms' green CapEx?

Responsible investors can impact firms through two main channels:

1. Exit: Larger sustainable investment sector lowers cost of capital for green projects
   Heinkel *et al.* (2001), Berk & Van Binsbergen (2022), De Angelis *et al.* (2022), Becht *et al.* (2023b), Cenedese *et al.* (2023)

2. Voice: Responsible investors engage with management and push for green CapEx
   Gollier & Pouget (2014), Chowdhry *et al.* (2019), Dimson *et al.* (2021), Hoepner *et al.* (2021), Broccardo *et al.* (2022), Oehmke & Opp (2022), Bauer *et al.* (2023), Becht *et al.* (2023a), Gryglewicz *et al.* (2023)

Voice: Responsible investors engage with management

1. Do we observe more ESG engagements for responsible investors?
   - Principles for Responsible Investment survey evidence:
     CA100+ signatories report more engagements than non-CA100+ signatories
2. Do investors implement governance tools to direct management?
   - Responsible ownership associated with stricter environmental governance
     (e.g. decarbonization targets, CSO, sustainability-linked compensation)
3. Does the effect concentrate on firms with the biggest opportunity for impact?
   - Engagement is costly $\rightarrow$ investors should focus effort on most important subset
   - CA100+ share and green debt correlation stronger for the highest emitters

Conclusion:
Responsible investors push firms towards a proactive net-zero transition

Risk governance helps management to identify and set the right priorities

Enel S.p.A.

- $\varnothing_{2018:2021}$ CA100+ Share $= 27.4\%$
- Successful responsible investor impact

enel

November 09, 2022

Enel recognized as the first company to fully align disclosures

Carola van Lamoen, Head of Sustainable Investing at Robeco, said: "*We commend Enel for meeting all the Net Zero Benchmark disclosure criteria and demonstrating leadership through its climate goals and strategy. This is a proud achievement of our long-standing engagement with Enel, which started in 2018 under the Climate Action 100+ initiative. Enel has been very responsive to our concerns and feedback throughout our dialogue. Year on year, we welcomed new steps taken in line with*

Berkshire Hathaway Inc.

- $\varnothing_{2018:2021}$ CA100+ Share $= 13.7\%$
- No responsible investor impact

Berkshire Hathaway remains lowly rated on climate action

Buffett in same category as Saudi Aramco and China's largest carmaker on emissions plans

Camilla Hodgson MARCH 30 2022

Berkshire did not respond to a request for comment, but Buffett has consistently rejected the push by investors to disclose the group's climate risk.