



Yale SCHOOL OF
MANAGEMENT

DATA GAPS AND NEEDS FOR SUSTAINABLE FINANCE RESEARCH

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DATA GAPS AND DATA NEEDS

- Where do “data gaps” come from?
- Data gaps
 - For investors
 - For researchers and policymakers
- Short-term solutions



WHERE DO DATA GAPS COME FROM?

1. **Complexity** of the problem involving climate risks and the economic response
2. **Incentives:** disclosures tend to be punished by markets (Bolton and Kacperczyk 2020) and targeted by regulators
 - Would not expect them to happen voluntarily
 - “Greewashing” (biased reporting) and “Leakage” (shift polluting activities out of the firm)
3. **Unclear target:** often unclear what “climate risks” even are, which affects what data gets produced
 - E.g., ESG scores widely disagree because it’s not clear what they are supposed to measure
4. **Uninformative markets:** we often can rely on markets to learn information, but in this all are symmetrically uninformed
 - Markets still useful, e.g. to learn long-term discount rates (Giglio et al. 2015)



DATA GAPS FOR INVESTORS

- Most fundamental question **for investors** is: which companies gain and lose from climate risks (transition / physical)?
 - I.e.: risk exposures
- Where are the largest **data gaps** in figuring them out?
 - Current emissions (especially Scope 3, which may affect firms via regulation and input/output)
 - Future emissions (endogenous to future regulation and the path of climate)
 - Other sources of exposures to risks (depend on business and industry, huge variation)
 - Access to data from integrated climate models (e.g., projections, scenarios that can speak to specific firms exposures)
 - Technology and R&D that can shield companies from climate risks



DATA GAPS FOR RESEARCHERS

- Task is harder for researchers and policymakers: need to go beyond the firm level and also think about general equilibrium effects and optimal policy
- Additional data gaps relevant for researchers/policymakers:
 1. Investor motivations
 - Why do investors care about climate risks?
 - Ethical consideration vs. risk-hedging considerations
 2. Anticipate firms' response to climate policies (e.g., relocation)
 3. Allocation of emissions across the network (Scope 1 vs. 2/3)
 4. Systemic risk implications (e.g., interaction of financial externalities and climate exposures)



SHORT-TERM SOLUTIONS

1. Standardization

- Coordinate on measures of climate exposures (targets)

2. Information production requirements

- Mandate disclosures

3. Verification of information

- Private or public

4. International cooperation

- Harmonize data reporting/collection across countries
- Prevent leakage

5. Better integration/access to data from physical climate models

