

Information, Transition Risk, and Decarbonization

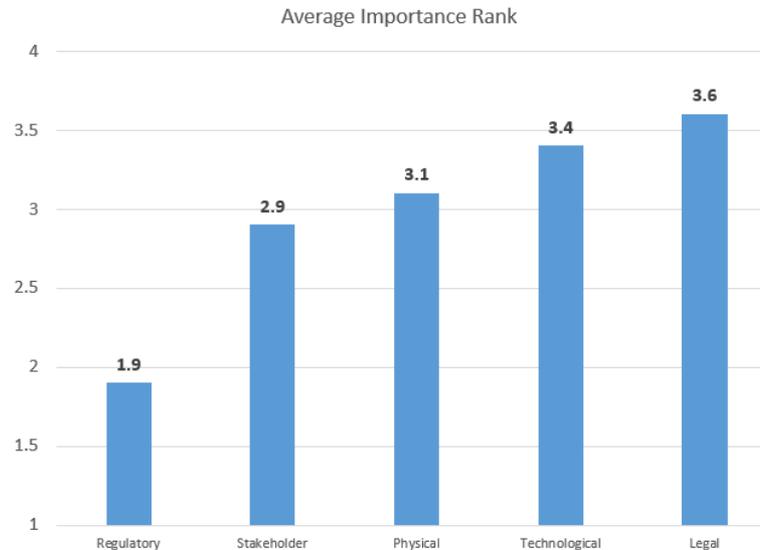
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Concern About Transition Risks

- Investors and banks perceive regulatory transition risk to be material
- Stroebe and Wurgler (JFE, 2021): Survey of financial market participants

“Please rank the general importance of these climate-related risks to typical businesses and investors over the next 5 years”



Risk Management Requires Information

- **Objective:** Identify **winners** and **losers** from a net-zero transition
 - Winners attractive hedging properties (Engle et al., RFS, 2020; Alekseev et al., 2022)
- Firms **negatively** exposed to transition risk (“transition losers”) based on two characteristics
 - Direct carbon emissions (whether formally or indirectly, a transition would impose a cost on carbon emissions).
 - Business models (“**emission complements**”)
 - Commercial real estate investments such as hotels in case ↓Business Travel
- Firms **positively** exposed to transition risk (“transition winners”) based on business model (“**emission substitutes**”)
 - Renewable energy firms
 - Zoom; Tesla

Risk Management Requires Information

- Disclosure of information on **emissions** (Scope 1, 2, and 3) is desirable and should be encouraged.
- Disclosure of transition **risks** based on business model perhaps best implemented via “Risk Factors” section of 10k
- Disclosure of transition **opportunities** via standard investor communication

NB1: SEC to release new disclosure requirements soon

NB2: Even absent legal requirements to disclose such information, investor pressures improve information environment

NB3: Investors also care about physical risk exposures, but different information required (spatial extreme weather models)

Risk Management Requires Information

- **Current emissions vs. Future emissions**
 - Shell (or European IOCs) vs. Exxon (or US IOCs)
- Future emissions disclosed via **climate transition plans**
- **Challenges:**
 - Non-binding / cheap talk
 - Reporting annual progress against pre-specified path
 - Allows investors to tie executive compensation to progress
 - Allows banks to write loan covenants against progress

Systemic Risk Assessment

- Once asset-level risks can be quantified, possible to aggregate up to portfolio level risks.
- Allows regulators to assess systemic risk exposures due to transition risk.
- Unclear if transition will be rapid enough such that we see substantial loan defaults in energy sector over horizon of typical loan length...

Effects on Information on Transition

- When investors/lenders can identify winners and losers from a transition, this is likely going to shift the cost of capital across firms.
- Making it easier to borrow/raise equity for “transition winners” such as renewable energy firms, may directly contribute to successful transition.
- Quantitative importance of such a “cost of capital” channel is an ongoing debate in the literature (see van Benthem et al., 2022)

References

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