In this study, we use a large hand-collected sample of environmental information disclosed by Japanese firms over the period 2003-2011 and exploit the Fukushima nuclear disaster as a source of exogenous variation in the demand for environmental information to investigate whether heterogeneity in the pre-accident environmental voluntary disclosure behaviors explain differences in cost of capital changes. In particular we focus on the precision of the information disclosed and the extent to which it is verifiable to proxy for a credible commitment to disclosure and we expect that the precision of environmental disclosure is associated with different costs of capital changes. We find that firms issuing a stand-alone environmental report experience a less severe, although negligible, increase in the cost of capital after the shock relative to non-disclosing firms. We also document that firms disclosing environmental targets are associated with a lower increase in cost of capital relative to non-disclosing firms and to disclosing firms that do not include the target disclosure. The results are robust to a series of additional tests to rule out other plausible alternatives that might explain our results. Taken together, this paper contributes to understanding, in a more insightful and nuanced way, about whether and how capital market participants capture and value disclosure of environmental information.

Keywords: environmental disclosure, cost of capital, exogenous shock, precision of information, commitment to disclosure