

# Climate Change Impacts on Profit and Loss

Natsumi Aizawa, EY Consulting

Kenichi Ueda, the University of Tokyo\*

July 12, 2024

## Abstract

We create a score measuring firms' risks and opportunities related to climate changes based on the Task Force on Climate-related Financial Disclosures (TCFD) framework, which is recently established. We name the new score as CIPL (Climate change impacts on profit and loss) score. This score is derived from comprehensive climate governance practices reported by firms, including climate-related risk assessments, strategic planning, and implementation of climate change measures. We then investigate how the CIPL score affects stock prices during sudden changes in energy prices. The analysis utilizes event study methodology to capture the immediate market valuation to changes in the energy price. The impact should be the same as the effects from introduction of carbon tax on the energy price. We find the significant effects for a subset of firms, namely sellers of energy-saving products.

JEL Classification Numbers: G14, G38, Q54, Q58

Keywords: Climate change, firm valuation, TCFD

Author's E-Mail Address: [natsumi.aizawa@jp.ey.com](mailto:natsumi.aizawa@jp.ey.com); [uedak@e.u-tokyo.ac.jp](mailto:uedak@e.u-tokyo.ac.jp)

---

<sup>1</sup> The views expressed in this paper are those of the authors and should not be attributed to any institutions that the authors have affiliated with.