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Climate conscious investors, carbon disclosures, and efficiency

Executive Summary

Economic theory suggests that carbon taxes would be the most effective tool to address the negative externalities associated with carbon emissions. Yet, the impression that current taxes are insufficient has prompted policymakers and commentators to promote policy action on related fronts—most notably, imposing climate-related disclosure requirements on firms. The rationale is that disclosures allow investors to better price carbon risks and direct funding towards less carbon-intensive firms. This paper develops a theoretical model to examine the notion that carbon disclosure requirements might act as a substitute for carbon taxation in addressing emission externalities. In the model, firms differ in emission intensity, and investors are partly climate-conscious: they (partially) factor in the social costs of emissions when determining firms' cost of capital. Firms may credibly disclose their emission intensity, but at a cost. In equilibrium, only relatively clean firms disclose, while non-disclosing firms are pooled together and financed on the basis of investors' beliefs about the group's average intensity. The study delivers two core insights. First, subsidizing disclosure can lower emissions among non-disclosing firms but raises investment and emissions among newly disclosing firms whose financing costs improve. Aggregate emissions and welfare may rise or fall, depending on parameter values. Thus, promoting disclosures does not guarantee environmental or efficiency gains. Second, if investors fully internalize emission costs—either due to complete climate consciousness or Pigouvian carbon taxation—firms' incentives to disclose become socially excessive. The constrained-efficient outcome would instead require taxing disclosures, not subsidizing them. These results caution against viewing carbon disclosures as a substitute for effective carbon taxation. The study also highlights qualifications. Particularly, disclosures may remain valuable in practice because they provide verifiable measures of emissions necessary for taxation and investor discipline, they strengthen incentives for firms to adopt unobservable abatement technologies, and they mitigate governance frictions and greenwashing risks. Overall, the framework in this study offers a benchmark for evaluating the efficiency effects of climate-related disclosure policies.