Impact of Corporate Climate Disclosure Regulation on Emissions

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Intro and Motivation

- Recently, there has been a growing trend of regulatory bodies mandating companies to disclose their carbon emissions
  - EU regulation Corporate Sustainability Reporting Directive (CSRD) goes into effect in 2023
  - SEC currently considering disclosure requirements
- Goal of this project is to assess the impact of disclosure regulation on corporate emissions
- Specifically, I exploit a 2013 UK requirement which mandated publicly-listed firms to disclose emissions

Research Design

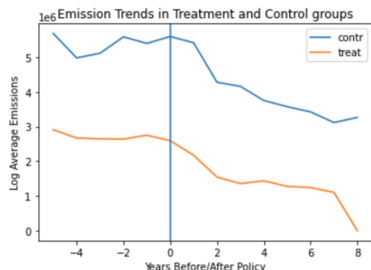
- Using difference-in-difference using 2013 UK policy
  - **Treatment group**: firms subject to disclosure requirement (these are firms incorporated in UK and publicly-listed on London Stock Exchange (LSE))
  - **Control group**:firms on any European stock exchange not subject to regulation (neither incorporated in the UK nor listed on LSE
- Used yearly emissions data from Refinitiv ESG, which contains firm-level emission data from 2009 - 2022
  - Matched firms with their primary stock exchange and cross-referenced with firms listed on the London Stock Exchange
  - Only included firms who had emissions data in all years between 2009 and 2018

Regression 1

- Replicating regression to see impact on emissions before and after policy put in place (Jouvenot, Krueger, 2020)
- $logemissions_{it} = \beta_1 * Treat_i + \beta_2 * Post_t + \beta_3 * Treat_i * Post_t + \alpha_t + \phi_i + \epsilon_{it}$
    - β_3 represents causal impact of disclosure requirement policy assuming parallel trends hold between control and treatment firms in pre-period

Regression 1: Results

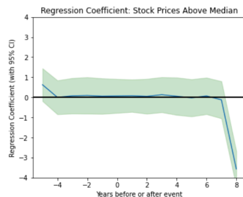
- β_3 estimate: -0.112
- $P > |z| = 0.000$
- Firms in treatment reduced emissions by 11.2% relative to those not impacted by treatment



Regression 2

- **Motivation**: Is there heterogeneity in firms' response to policy? Are some firms more likely to reduce emissions as a result of disclosure requirements than others?
- $logemissions_{it} = \beta_1 * Treat_i + \beta_2 * Post_t + \beta_3 * Stock_i t + \beta_4 * Treat_i * Post_t + \beta_5 * Treat_i * Stock_i t + \beta_6 * Stock_i t * Post_t + \beta_7 * Treat_i * Post_t * Stock_i t + \alpha_t + \phi_i + \epsilon_{it}$
  - β_7 represents triple difference estimate of difference in emission reductions of highly valued firms relative to lowly valued firms

Regression 2: Results



- β_3 estimate: -0.202
- $P > |z| = 0.065$
- Highly valued firms in treatment reduced emissions by 20.2% relative to lowly valued firms in treatment

Conclusions

- Policy seems to have lead to emission reductions
  - before final presentation next fri will add comparison btwn this and other emission reducing policies
- Difficult to assess how if highly valued firms respond differently to this regulation than lowly valued firms
- Difference in investor, public attitudes towards corporate climate responsibility may lead to different results if implemented in US