CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

BANK DIVESTMENT AND GREEN INNOVATION – ZHEN YE

Discussion, Cédric Schneider

Cédric Schneider
Department of Economics

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Summary

- **Objective:** Examine the impact of banks commitment to sustainability on borrowing firms' green innovation.
- **Method:** Analyze the effect of reduced credit to firms with high carbon emissions (brown firms).
- **Source of negative credit shocks**: Banks' commitments to carbon neutrality through the Science Based Targets Initiative (SBTi).
- **Findings for brown firms**: Reduction in credit leads to fewer green patents filed.
- **Findings for non-brown firms**: Increased filing of green patents after banks' commitments.
- **Quality and value of green patents**: Decline observed for both brown and non-brown firms.
- **Unintended consequence**: Bank divestment from brown firms reduces high-quality green innovation.

Strengths of the paper

- The paper addresses an **important and timely topic** of how bank divestment affects green innovation,
- The paper uses a novel **identification strategy** based on banks’ staggered commitments to SBTi
- The paper constructs **a rich dataset of green innovations** by U.S. public firms, using a measure of a patent’s relevance to address climate challenges based on text algorithms.
- The paper provides evidence for various **channels and mechanisms behind the main results**, such as financial constraints, credit reallocation, inventor mobility, patent value, originality, generality, and relevance.

Comments (1)

- Modelling the banking sector more explicitely would help undrstand the results:

$$\max_{P,G} \Pi = [\underbrace{s(1+G)\theta}_{\text{Increase in environmental friendliness}} - P] \times (P - c^P) + G \times [-c^G \underbrace{+ \alpha\lambda}_{\text{Cost of added sustainability}}(s(1+G) - \bar{s})]$$

- α : bank’s taste for sustainability

Comments (2)

- Identification: results rely on the ”commitment” to be exogenous

- Is it possible that firms cease they relationship with the ”committed” banks and start a lending relationship with a ”non-committed” bank?

- Most of the banks seems to be foreign (non-US) banks, how important are they in the overall portfolio of the firms

Comments (3)

- There are 2 dimensions of sustainability:

  Innovation (green vs non- green patents), technology (brown vs non-brown firms)

- What is the interplay between technology and innovation?

- Would the banks commitment have an effect on the firms' carbon emissions?

Other comments

- $Y_{it} = exp[\gamma_i + \delta_t + \beta \text{Committed}_{it} + \text{Controls}_{it} + \epsilon_{it}]$, Should be $E[Y_{it} \mid X_{it}] = \exp(\ldots)$
- The Poisson model can be used even if the outcome isn't a count variable (see Wooldridge)
- The Generality and originality measures are biased downward because they are constructed from shares based on count data where the number of counts is small. Hall suggests a correction: https://eml.berkeley.edu/~bhhall/papers/BHH05_hhibias.pdf
- It would be interesting to see the results for incumbent firms and entrants!
- In most regressions R&D is negatively related to patents. That is an odd result