We investigate whether and how bank financing can contribute to reaching global climate objectives.

The transition to a carbon-neutral economy requires environmental consciousness of firms and banks. OECD estimates that $1.2 trillion is required up to 2030 to meet climate and development objectives.

The Paris Agreement (2016) aims to limit the increase in average global temperatures within $1.5$ to $2.0^\circ C$ compared to the pre-industrial level. This is consistent with the impact of increased awareness of the importance of climate transition risks.

In this paper, we investigate whether and how environmental consciousness (greenness for short) of firms and banks is reflected in the pricing of bank (syndicated) credit.

We find that green firms enjoy cheaper loans, however, only when borrowing from green banks, and primarily after the Paris Agreement (after 2015).

Thus, we find that environmental attitudes matter when “green meets green”.

First, we develop a stylized theoretical model to show that the green-meets-green effect emerges in equilibrium as the result of the third-degree price discrimination with regard to firms’ greenness when public awareness of climate transition risk is sufficiently high.

Second, we provide evidence of a significant green-meets-green effect in loan spreads. This finding is consistent with our theoretical model in which green banks have incentives to offer more favorable terms to green firms.

Data and Proxies for Green Banks and Firms

- Carbon Disclosure Project (CDP): e.g., Kleimeier and Velts, 2016, Ben-David et al., 2020.
  - Data on ~6000 firms’ CO2 emissions at the country of incorporation and in each country where a firm has operations.
  - Provides info on firms that decline to participate or not answering the questionnaire.
  - Firm is classified as “Green” if it discloses info to CDP.

  - “Partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development”.
  - BN Principles for Responsible Banking: “aims to transform the banking industry to enable it to play a leading role in achieving [goals of the Paris Climate Agreement].”
  - About 160 members (leading banks).
  - Bank is classified as “Green” if it is a member of UNEP FI.

- LPC DealScan: All-in-Spread-Drawn (in bps) and loan-level controls.

- Compustat Global and North America, Orbis Global and Bank Focus: firm- and lender-level controls.

### Table 1: Green Meets Green and Loan Spreads

<table>
<thead>
<tr>
<th>All-in-Spread-Drawn</th>
<th>Loan average level (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Before Paris</td>
<td>(2) After Paris</td>
</tr>
<tr>
<td>FGreen</td>
<td>5.084</td>
</tr>
<tr>
<td>(4.386)</td>
<td>(3.763)</td>
</tr>
<tr>
<td>BGreen</td>
<td>40.826***</td>
</tr>
<tr>
<td>(6.925)</td>
<td>(9.816)</td>
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<tr>
<td>FGreen x BGreen</td>
<td>-17.788</td>
</tr>
<tr>
<td>(12.033)</td>
<td>(9.260)</td>
</tr>
</tbody>
</table>

### Table 2: Green Meets Green with Paris Sample Split

<table>
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</tbody>
</table>

### Results

- **Theoretical** impact: The GM effect, and thus climate risk-based price discrimination, should really arise when public awareness of climate transition risk is sufficiently high.

- **Conjecture**: The Paris Agreement, as the world’s first comprehensive climate agreement, raised public awareness of climate-related risks and increased the soft commitment of policy-makers to a stricter enforcement of climate policy.

- **Split the sample into before and after the Paris Agreement**: loans with the origination date preceding December 12, 2015 are “Before Paris” and all other loans are “After Paris”.

### Additional (Robustness) Tests

- **Matching Estimator**: Condition treatment (GM) on loan, firm and lender observables in order to find statistical twins.

- **Oster-test for Omitted Variable Bias**: Assess coefficient-sensitivity to unobservable omitted variables.

- **Heckman Selection Model**: Sample selection bias caused by participation in (i) the CDP survey and (ii) UNEP FI alliance.

- **IV Approach**: To account for Reverse Causality: identification of green-meets-green after the Paris Climate Accord could be biased due to endogenous matching between the firm and a green bank. Instrumental variables: pre-Paris green lender choice for post-Paris green lender choice.

- **Financial Borrowers**: no green-meets-green discount, either before or after the Paris Accord.

### Conclusion

Environmental attitudes matter when “Green Meets Green”.

- **Employing data on syndicated loans over the period 2011–2019**, we find that firms showing environmental consciousness (i.e., green firms) enjoy more favorable terms of about 50bps compared to brown firms when borrowing from a green bank.

- **This green-meets-green effect is observed after the Paris Agreement consistent with the impact of increased awareness of the importance of climate transition risks**.

- **This finding is consistent with our theoretical model in which green banks have incentives to pursue third-degree price discrimination between green firms and other firms when public awareness of climate transition risk is sufficiently high**.

### References

- Kleimeier and Velts, 2016
- Ben-David et al., 2020
- Falca et al., 2019
- Delis et al., 2020
- UNEP FI members among the lead arrangers in the loans syndicate
- Kleimeier and Viehs, 2018
- Ben-David et al., 2020