Do Banks Price Nature?

Bank Biodiversity Commitments, Firm Biodiversity Risk, and Loan Contracting

Abstract: Nature-related risks are increasingly recognised as potential sources of financial instability, yet empirical evidence on how these risks are incorporated into bank lending remains limited. This paper examines whether banks' biodiversity commitments influence loan pricing and contract design, and whether these effects depend on borrowers' biodiversity risk exposure. We combine international syndicated loan data with firm-level measures of biodiversity dependence and ecosystem exposure, and construct novel bank-level indicators of biodiversity commitments at the lead-arranger level. We find that biodiversity commitments are associated with systematic changes in lending, but not primarily through higher pricing. While non-committed banks tend to charge higher spreads to biodiversity-exposed firms, this relationship weakens or reverses among committed banks. Instead, committed banks respond more strongly through non-price terms, shortening loan maturities and increasing covenant use for biodiversity-dependent borrowers. These results suggest that biodiversity-committed banks manage nature-related exposure through contract structure rather than spreads alone. Overall, biodiversity commitments translate into meaningful differences in credit allocation and risk management, highlighting banks' role as transmission channels for nature-related financial risk.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ETHICAL APPROVAL

Not applicable.

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Extended Abstract

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1 Background

Climate-related financial risks are increasingly embedded in supervisory and financial stability frameworks (Jung, Engle, and Berner 2025), and a growing literature shows that banks adjust lending in response to climate exposure and environmental commitments (Degryse et al. 2023; Hasan et al. 2025; Laeven and Popov 2023). In contrast, biodiversity and broader nature-related risks remain underexplored, despite mounting evidence that ecosystem degradation poses material risks to firms and financial institutions. Recent studies suggest that firms with higher biodiversity risk face higher borrowing costs (Deng and Lin 2025; Nguyen et al. 2025), yet it remains unclear whether banks' own biodiversity commitments shape how such risks are incorporated into lending decisions.

2 Objective

This paper examines whether banks with biodiversity-related commitments incorporate firm-level biodiversity risk into syndicated loan pricing and contract design. We further test whether borrower biodiversity risk exposure amplifies the lending response of committed banks, thereby linking bank-level sustainability commitments with risk-based credit allocation.

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3 Data and Methodology

We combine international syndicated loan data from the Dealscan database with firm-level measures of biodiversity dependence and ecosystem exposure, following emerging approaches to measuring nature-related financial risk (Garel et al. 2026). We further construct novel bank-level indicators of biodiversity commitments based on participation in international biodiversity and sustainability initiatives and publicly disclosed environmental strategies. These measures are aggregated at the parent-bank and lead-arranger levels, in line with methodologies used in the literature on bank environmental commitments (Degryse et al. 2023).

Empirically, we estimate loan-level regressions with extensive borrower, lender, loan, and macroeconomic controls, alongside rich fixed effects. Identification is strengthened using the staggered adoption of biodiversity commitments across banks in a difference-in-differences framework, following approaches used in the climate-finance literature on bank commitments (Degryse et al. 2023; Li, Jin, and Zhou 2025). To assess risk sensitivity, we interact bank commitment indicators with firm-level biodiversity risk measures.

4 Results

We find that biodiversity-related bank commitments are associated with economically meaningful adjustments in both price and non-price loan terms, but the pattern is not consistent with simple risk penalisation through spreads. In loan pricing, biodiversity dependence is weakly associated with higher spreads among non-committed banks, whereas the interaction between borrower biodiversity risk and bank biodiversity commitment is negative and statistically significant. This implies that, relative to non-committed banks, committed banks do not price biodiversity exposure more expensively; instead, the pricing gradient reverses for biodiversity-exposed borrowers, consistent with a reallocation of credit supply or engagement-oriented lending rather than uniform risk tightening.

In contrast, non-price contract terms reveal clear evidence of risk-sensitive contracting. While committed banks offer longer maturities on average, they shorten maturities substantially as borrower biodiversity dependence increases, as indicated by a large and highly significant negative interaction effect. Covenant design shows a similar conditional pattern: although committed banks have lower baseline covenant incidence, covenant use increases strongly with borrower biodiversity dependence for committed banks, whereas biodiversity dependence has little relation to covenant incidence among non-committed banks. Taken together, these results suggest that biodiversity-committed banks manage nature-related exposure primarily through contract structure, reducing the time horizon of exposure and strengthening control rights rather than relying on higher spreads alone.

Overall, the effects are concentrated among firms with high biodiversity dependence

or ecosystem exposure, aligning with growing evidence that biodiversity risk is financially salient at the borrower level (Deng and Lin 2025; Li, Jin, and Zhou 2025). The findings remain robust across alternative biodiversity risk measures, lender fixed effects, and borrower–lender matching controls, supporting an interpretation of systematic differences in credit pricing and contract design between committed and non-committed banks rather than borrower selection alone.

5 Contributions

This study contributes to the growing literature on environmental risk in finance by extending insights from climate-related bank commitments (Degryse et al. 2023; Hale, Meisenbacher, and Nechio 2024) with emerging work on biodiversity risk pricing (Canipek et al. 2024; Nguyen et al. 2025; Li, Jin, and Zhou 2025). While prior studies document that banks price climate exposure and adjust lending following climate commitments, evidence on biodiversity commitments remains scarce. Existing biodiversity-focused studies primarily examine borrower-level risk and provide limited evidence on how heterogeneity across banks shapes lending outcomes (Deng and Lin 2025).

By explicitly focusing on bank biodiversity commitments and their interaction with firm-level biodiversity risk, this study advances understanding of whether biodiversity-related commitments translate into substantive changes in credit supply or remain largely symbolic. The analysis directly addresses concerns about green signalling versus genuine risk pricing and extends the literature by highlighting the role of banks as transmission channels of nature-related financial risk.

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