Do investors care about biodiversity?

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1. What are the research questions ?

• How to use a valid indicator to quantify a firm's negative impact on biodiversity?

• Is the CBF priced by investors in the international stock market?

• What economic mechanisms drive the potential relationship between CBF and stock returns?

2. Why are the research questions interesting?

•Biodiversity finance understudied.Exploring how financial markets price biodiversity risks fills a vital academic void.// CBF and its pricing provides actionable tools for investors to assess risks and for regulators to design policies .// Helps stakeholders avoid "trade-offs" between the two crises(Biodiversity protection&climate actions), by isolating biodiversity risks from carbon risks.

3. **What is the paper's contribution?**

• Developing a science-based CBF metric, making it a reliable tool for future research.// Uncovering the pricing of biodiversity risks.Biodiversity footprint premium emerges after major policy events.// Identifying the transition risk premium channel.Confirms that the CBF-return relationship is driven by biodiversity transition risk premiums.

4. **What hypotheses are tested in the paper? List them explicitly.**

• H1: The corporate biodiversity footprint (CBF) is unrelated to the cross-section of stock returns .

• H2: After major policy events, a positive relationship emerges between CBF and stock returns.

• H3: Mechanism hypotheses.Three competing mechanisms are tested:Investor preference shift/Unexpected cash flow shock/Biodiversity transition risk premium

• H4: The biodiversity footprint premium is larger in countries with low biodiversity protection .

(a) Do these hypotheses follow from and answer the research questions? • Yes.

(b) Do these hypotheses follow from theory or are they otherwise adequately developed? • Yes.These hypotheses have solid theoretical and literature foundations.

5. Sample: comment on the appropriateness of the sample selection procedures.

• The sample period (2018–2022) is short, but the authors justify this by noting that major biodiversity policies and CBF data are only available in this window.

6. Dependent and independent variables: comment on the appropriateness of variable definition and measurement.

• CBF relies on sector averages for some calculations, but the authors note this is unavoidable with current data and confirm results hold for intensity measures.

7. Regression/prediction model specification: comment on the appropriateness of the regression/ prediction model specification.

• Standard errors are double-clustered at the year-month and firm levels or country levels, addresses serial correlation and cross-sectional correlation, ensuring unbiased statistical inference.

8. What difficulties arise in drawing inferences from the empirical work?

• Omitted variable bias// Short sample period// Difficulty in identifying the mechanism.

9. Describe at least one publishable and feasible extension of this research.

• Split scope 3 CBF into "upstream" "midstream" and "downstream"CBF.Examine whether investors price biodiversity risks differently across layers.// Construct a "Biodiversity Disclosure Quality Index" to test whether high-quality disclosure reduces the CBF premium.

Biodiversity Risk

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1. What are the research questions ?

• How to construct and validate scientific measures of aggregate biodiversity risk and firm/industry-level exposure to such risk?

•Whether and to what extent have biodiversity risks been reflected in equity prices? How do these pricing effects compare with those of climate risks?

• Do market participants perceive the current pricing of biodiversity risks in major financial markets as adequate?

2. Why are the research questions interesting?

• Biodiversity risk lacks systematic quantitative research. Address this gap by exploring biodiversity risk's unique impact on assets.// Helps investors, regulators, and firms manage risks.// Clarifying differences between biodiversity and climate risks avoids conflating two interconnected but distinct risks, ensuring more accurate risk assessment and hedging.

3. **What is the paper's contribution?**

• Develops an aggregate biodiversity risk index and four firm/industry-level exposure measures, all publicly available to spur follow-up research.// Finds that biodiversity risks are partially priced in U.S. equities.// Distinguishing biodiversity from climate risk.

4. **What hypotheses are tested in the paper? List them explicitly.**

• H1: Aggregate biodiversity risk can be quantified using a news-based index, and index will spike around major events. // H2: Biodiversity risk exposures vary substantially across industries, with sectors dependent on ecosystem services having higher exposures than non-dependent sectors. // H3: Biodiversity risk is partially priced in equity markets.// H4: Biodiversity risk is distinct from climate risk. // H5: Current pricing of biodiversity risks in financial markets is inadequate.

(a) Do these hypotheses follow from and answer the research questions? • Yes.

(b) Do these hypotheses follow from theory or are they otherwise adequately developed? • Yes.These hypotheses have solid theoretical and literature foundations.

5. Sample: comment on the appropriateness of the sample selection procedures.

• The U.S.-centric sample may limit generalizability to emerging markets; survey response rate (4.5%) is comparable to finance surveys (7.5%) but still low.

6. Dependent and independent variables: comment on the appropriateness of variable definition and measurement.

• All variables are meaningfully correlated, confirming consistency. Limitation: 10-K and CDP data rely on voluntary/mandatory disclosure, which may be incomplete for small firms.

7. Regression/prediction model specification: comment on the appropriateness of the regression/ prediction model specification.

• The model does not explicitly estimate risk premia, but it's a reasonable trade-off for testing pricing existence.

8. What difficulties arise in drawing inferences from the empirical work?

• Endogeneity concerns//Introduce noise.// Short time series// Voluntary disclosure bias.

9. Describe at least one publishable and feasible extension of this research.

·Analyze the relationship between global ESG funds' position changes and corporate stock price fluctuations, to test if ESG funds act as price discoverers in biodiversity risk pricing.