Climate risk, responsible banking and securitization

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Introduction

Climate change is the most pressing challenge for the sustainable economic development (WHO, 2014).

Banks are expected to play a significant role in tackling climate change.

Because banks allocate financial resources economywide (Brunnermeier and Landau, 2021; Aracil et al., 2021).

Introduction

Investors' pay much more attention to climate risk mitigation strategies.

Investors consider climate risks when pricing assets (Huynh and Xia, 2021; Huynh et al., 2020; Baldauf et al., 2020).

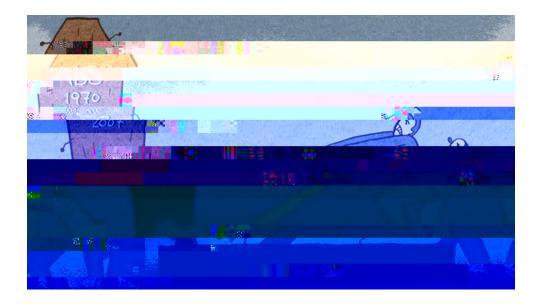
Especially for securities with longer term horizons (Painter, 2020).

Motivation 1

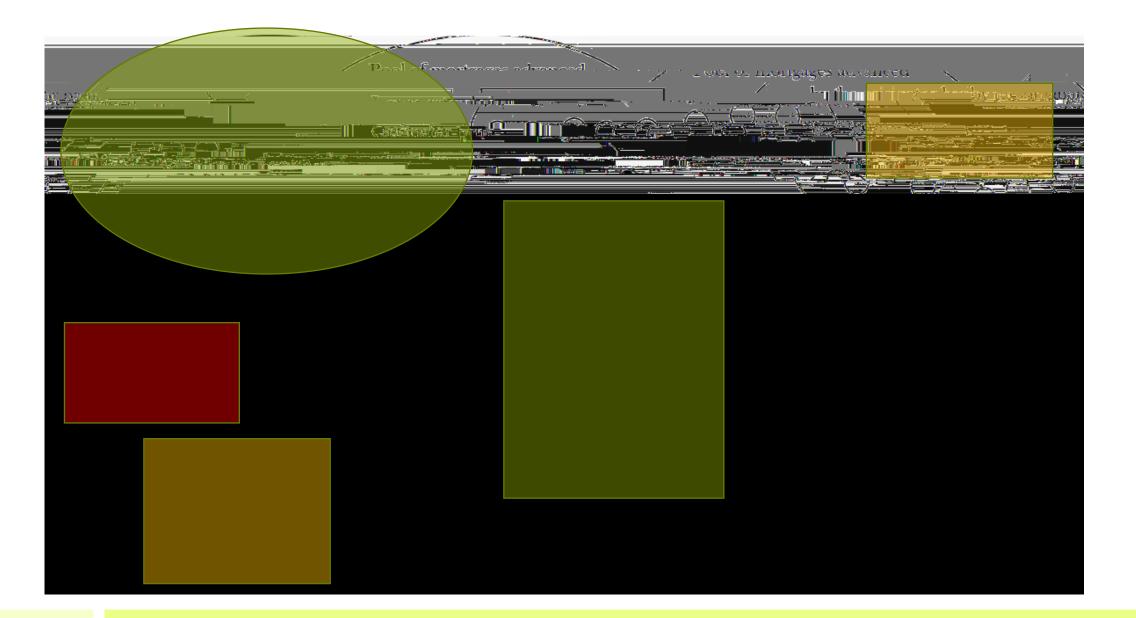
Are banks exposed to climate risk when issuing longterm and complex to evaluate financial instruments?

Focus: Mortgage-backed securities (MBS)





Securitization process



Climate risk and MBS

MBS are long-term instruments supported by pools of mortgages that have very long maturities.

Average maturity for MBS is over 30 years.

Adverse effects of climate change are more likely to materialize in the long-term (Javadi and Masum, 2021).

MBS are exposed to



Climate risk and MBS

Both physical and transition risks are relevant in the context of real-estate collateral.

Physical risk:

Sea leave rise (SLR) as a result of climate change.

SLR leads to price discounts due to concerns about climate change (Baldauf et al., 2020; Keys and Mulder, 2021).

Banks charge higher interest rates for mortgages on properties exposed to greater SLR risk (Nguyen et al., 2022).

Climate risk and MBS

Transitional risk:

Real-estate may be also be impacted as a result of rising costs due to:

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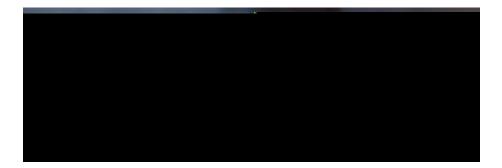


H_1 : MBS which are more exposed to climate risk have higher spreads at issuance

 H_2 : Being a signatory bank of responsibility charters mitigates the negative impact of climate change on MBS spreads at issuance

Contribution

Provide evidence on the link between climate risk and securitization as well as MBS valuation. The integration of climate risk into



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Methodology

Spread = $_0 + _1Climaterisk + 'X +$

Spread: Initial yield spread of MBS at issuance set in basis points over the relevant benchmark interest rate.
Climate risk: ND-GAIN vulnerability index – GDP adjusted
X: Tranche-specific and macro characteristics
Control for country fixed effects in all estimations

Table 1. Definitions of the variables

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Table 8. Regressions after entropy balancing

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Main Conclusions

Investors demand higher returns for MBS from countries with greater exposure to climate risk.

Negative impact of climate risk on MBS returns is lower for responsible banks.

Commitment to

Climate risk, responsible banking and securitization

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