BANCO DE ESPAÑA
Eurosistema

CLIMATE RISK, BANK LENDING AND MONETARY POLICY

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DISCUSSION BY: SERGIO MAYORDOMO

THIS PAPER

- Research question/answers
  - Do **banks price climate risk**?
    - Yes — they account for both current and future exposure
    - The effect is stronger for banks that have publicly committed to environmentally responsible lending policies
  - **New climate risk-taking channel of monetary policy?**
    - Restrictive monetary policy increases lending costs and reduces credit more sharply for high-emission firms…
    - … while firms committed to decarbonization face milder effects

COMMENTS

1. **Climate risk and loan spreads**
2. Climate risk, monetary policy and loan spreads
3. Climate risk, monetary policy and loan amounts
4. Further comments

CLIMATE RISK AND LOAN PRICING (I)
Firm and bank choices: Emissions and climate commitments

- Information on **emissions** is voluntary and in many cases it is an estimation
- **Firm target** is a firm choice
  - Information on investments aimed at reducing carbon emissions
- **Bank committing** to "environmentally responsible lending policies" is a bank choice
  - Sastry et al (2025) find no evidence of reduced financed emissions through engagement and highlight the **limits of voluntary commitments for decarbonization**
- Common weakness in the literature
  - Exploit shocks affecting specific countries or different external pressures affecting firms or banks
    - ESG orientation of board members
  - Consider vendor estimated information?

CLIMATE RISK AND LOAN PRICING (II)
Role of relationship lending: emissions vs commitment

- The absolute value of the effect associated to **Target** is approximately 7 times larger than that of **Carbon** emissions (Table 2 with ILST: 1 bp vs 6.7 bp)
  - Banks appear to **reward firms for setting climate targets,** especially when they are brown firms (double interaction: carbon × target)
- This may reflect banks' **reluctance to charge higher rates to existing clients**
  - *As noted by **Aguila et al. (2024):**"…. the prioritization of long-term relationships with their clients […] implies that **banks do not want to get rid of their existing dirty clients**, trying instead to **work with them towards a transition path** (and so keep them as clients)"*
  - Banks may charge higher rates to discourage onboarding **new brown firms**

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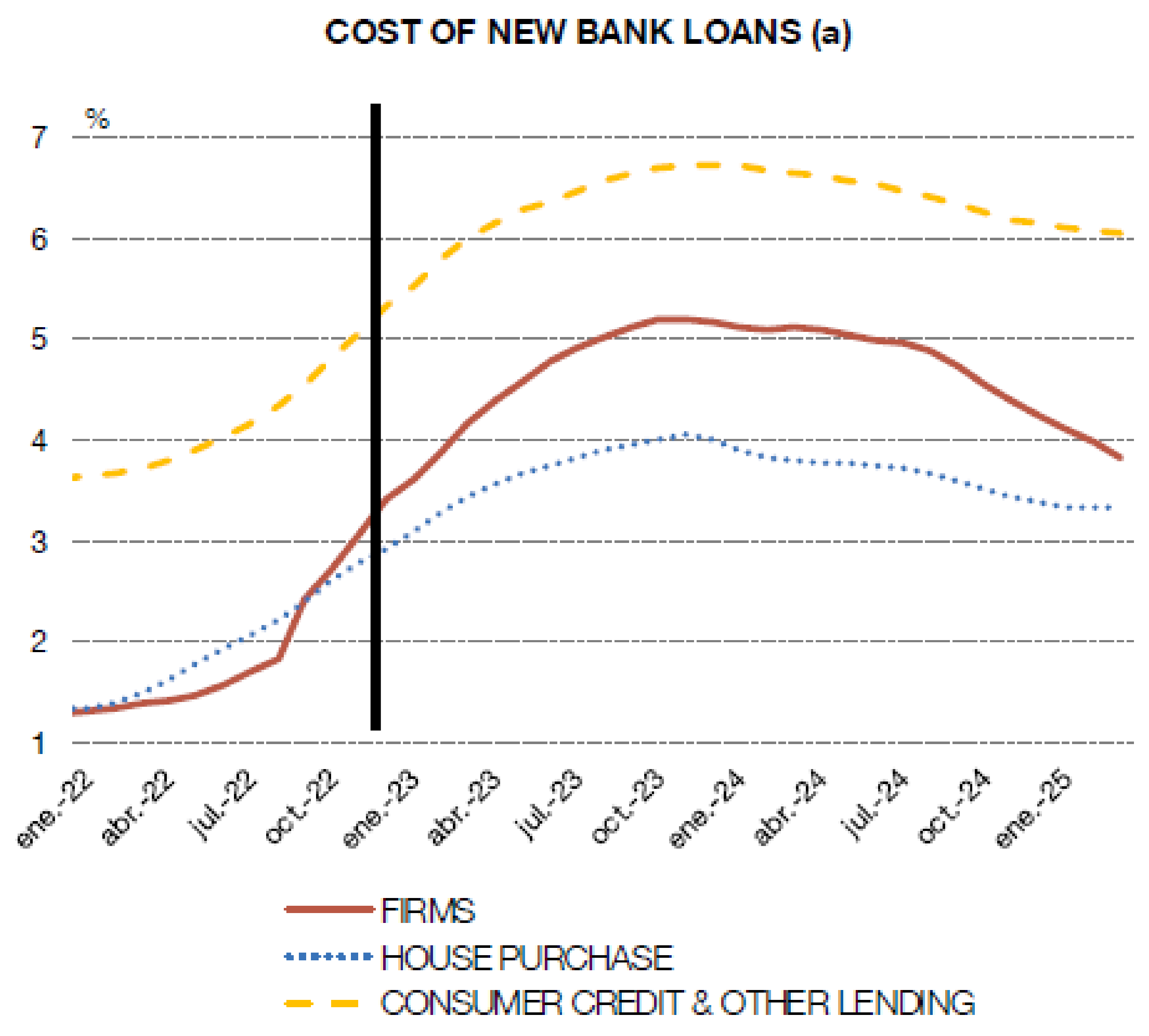
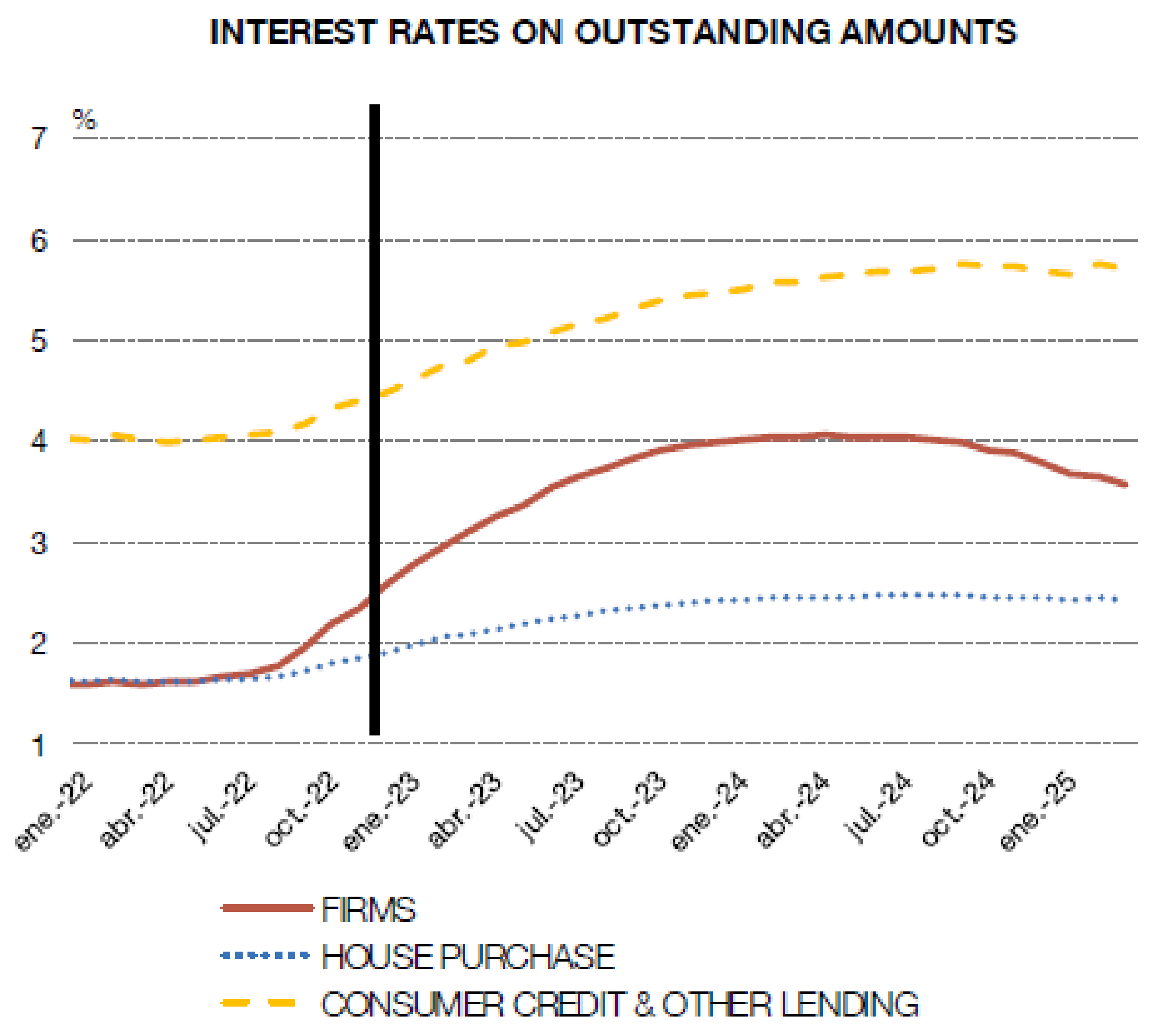
CLIMATE RISK, MONETARY POLICY AND LOAN SPREADS (I)
Data aggregation and sample period (I)

- **Dependent variable**: Monthly interest spread charged by banks on their loans relative to the contemporaneous duration-matched risk-free rate (i.e., no loan level data)
  - **Measurement**: Weighted average (by loan size) of interest rates across different credit instruments issued by the bank
- Loans may differ in characteristics across firms and countries, introducing a **composition effect**
  - Use data on **individual loans at origination…**
  - … if not, **control for average characteristics of the loan portfolio**, such as: Residual maturity and loan age (term premium in loan spreads), % of fixed vs. floating rate loans, % of loans with collateral

CLIMATE RISK, MONETARY POLICY AND LOAN SPREADS (I)
Data aggregation and sample period (II)

- Sample period ends in Dec22. Extend it to capture additional tightening—and the onset of easing?
- The cost of the outstanding credit adjust slowly. Impact may be more substantial than it appears





CLIMATE RISK, MONETARY POLICY AND LOAN SPREADS (III)
Climate risk-taking channel of monetary policy

- Contractionary MP induces banks to increase **monitoring efforts** on emissions and cut lending to high-emission firms
    - They are **large/listed corporations** and both emissions and targets are public
    - Why more emission monitoring efforts during a tightening?
- Contractionary MP also induces less **risk taking**
    - Brown firms are not necessarily riskier (Neagu et al, 2024)
    - **Credit and climate risks** should be more explicitly separated
        - Compare firms with similar credit risk but differing emissions or climate commitments using industry-location-size-risk-time fixed effects
- Why would transition risk materialize more in MP tightening periods? Reputational risk?

CLIMATE RISK, MONETARY POLICY AND LOAN SPREADS (IV)
Additional comments

- A **significant share of loans**—58% and 44% for those with maturities over one year—are **at floating rates** in the euro area
  - Observed spread dynamics may reflect **pre-tightening loan agreements** rather than direct responses to MP shocks.
- Restrictive MP could **slow down investments aimed at reducing carbon emissions**
  - What about considering the triple interaction MP shock x Carbon x Target to understand whether the effects associate to a tightening of MP can be mitigated when there is firm commitment to reduce carbon footprint
- I would like to know more about the **role of committed banks on the transmission of MP** to high emitters and firms with targets
  - Through the interaction of the committed banks dummy

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CLIMATE RISK, MONETARY POLICY AND LOAN AMOUNTS
Effect on loan quantities

- **Lending to carbon emitters** declines across all banks, with the sharpest reductions from committed ones
  - **Align findings** with loan spread analyses and BLS evidence—non-committed banks show greater credit tightening
  - Differences with Sastry et al. (2025) and Giannetti et al. (2023)
- Monetary policy has **no immediate impact** on loan volumes—**effects emerge gradually** (within a year)
  - No firm-level controls are included—does loan size correlate with firm characteristics?
  - What about the extensive margin—are new lending relationships affected?
- Is credit being **reallocated toward firms with targets**—particularly by committed banks?
  - Do carbon emitters face reduced lending, or are they able to switch lenders?

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FURTHER COMMENTS

- Your dataset may offer unique **insights into the mixed findings in existing banking literature**
  - Potential biases introduced by the use of **syndicated loans**
- Provide additional details on the **characteristics of the firms and banks** included in the analyses.
- Clarify the structure of bank fixed effects: Are they applied at the **headquarter or subsidiary level**?
- **PD at the bank-firm level**
  - This information is only available for IRB banks. Does the sample just consist of IRB bank?
  - More difficult to disentangle climate and credit risk?
- **Robustness** using the policy or interbank rates
  - **Expected increases in policy rates** might also affect the **cost of financing**
  - Better understanding on the **economic effects**

Thanks for your attention