Foulis, Hazell, Mian and Tracey: How Do Interest Rates Affect Consumption? Household Debt and the Role of Asset Prices

Discussion by Lu Liu

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FRBSF Macroeconomics and Monetary Policy Conference

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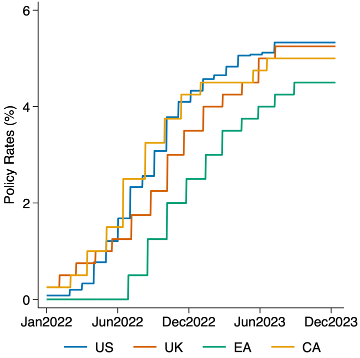
Mortgage Structure Matters For the Macroeconomy

Example: 2022–2023 Tightening Cycle



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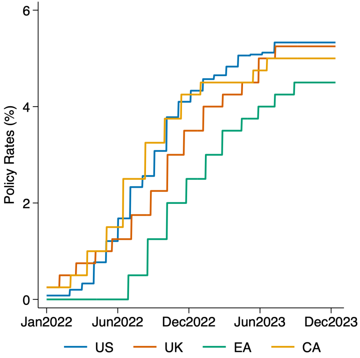
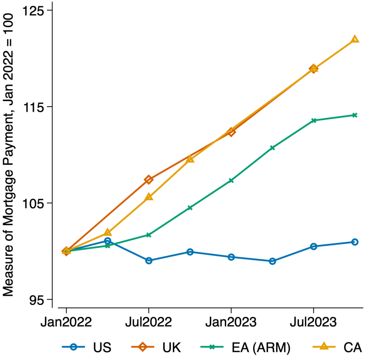
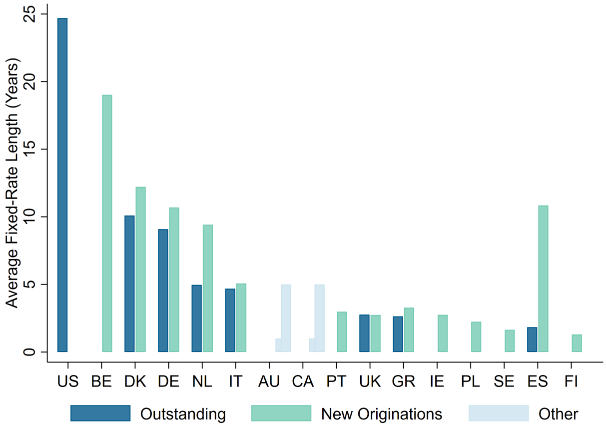


Mortgage Payments Across the World



From Elenev & Liu (2024)

But US is an Outlier: Mortgage Structure Across the World



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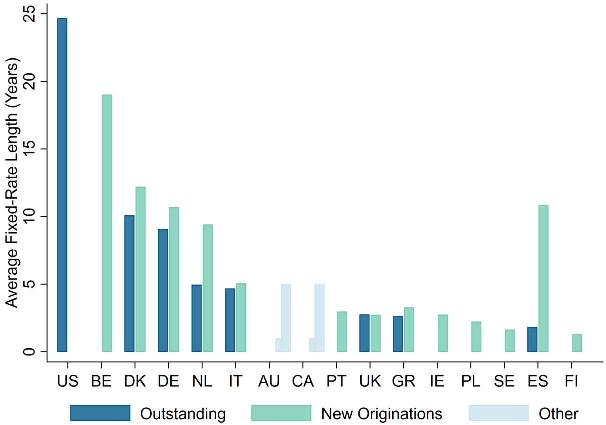

Elenev & Liu (2024)

- UK *representative* of many countries
- Exploit predetermined fixation expiry dates for identification

This Paper

→ Studies causal consumption response to interest rate changes using short-term fixed-rate mortgages in the UK, decompositions for collateral & cash-flow channel

- Cash-flow channel: exploit variation in pre-determined mortgage reset timing
- Collateral (not wealth) / asset price channel: exploit variation in regional housing supply elasticity to instrument for house price semi-elasticity to rates η_j

- **Key findings:**

1. 1pp $\downarrow$ in mortgage rates: consumption $\uparrow$ by 3% in the following 6 months
2. Asset price changes explain $\approx 1/2$ of borrowing & consumption response to rate cuts
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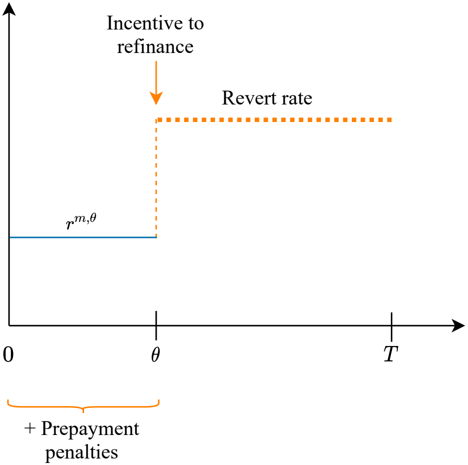
- **Discussion points:**
  1. Institutional background (mortgage contract design) and empirical strategy
  2. Reconciling asset price vs. active/passive results
  3. Positioning in the literature

Typical Mortgage Design (UK Example)



1. Initial fixation period (θ = 2 or 5 years)
   - Automatic reset to revert rate over life of loan (T, typically 30 years)
2. Frequent refinancing over life of loan (every 2 or 5 years)
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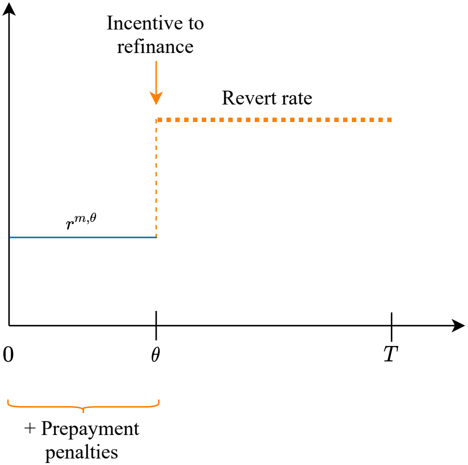

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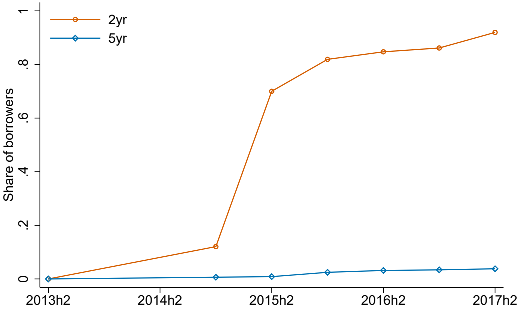
→ Predictable prepayment (most mortgages held on bank balance sheets)

Prepayment Penalty Set to Generate Credible Commitment

→ Dynamic adverse selection with one-sided commitment (e.g. Hendel & Lizzeri, 2002)

Example: Refinance Behavior



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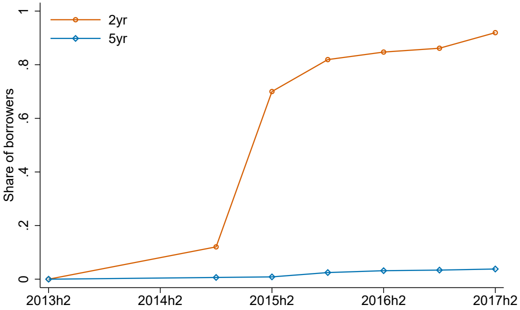
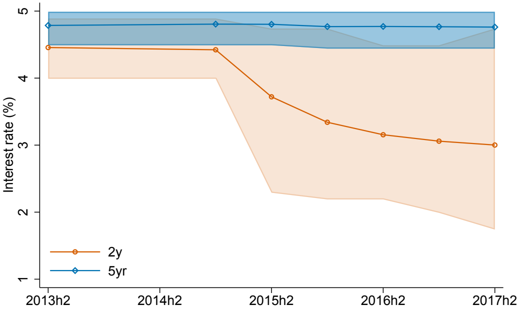


Binding Despite Large Refi Benefits



Liu (2022)

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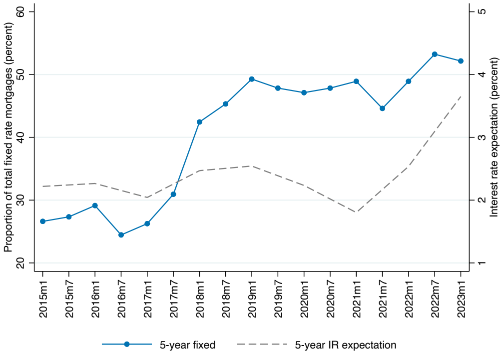
5yr fixed-rate share and 5yr rate expectations



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- High LTV (credit risk) borrowers also choose lower fixation length (Liu 2022)

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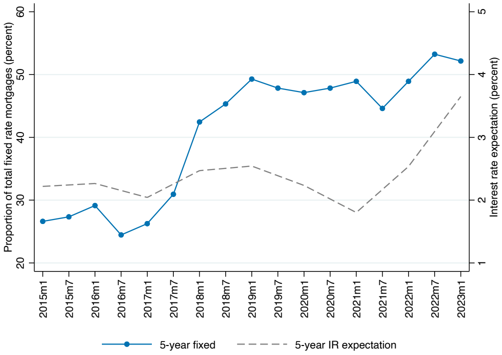

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Comparing Empirical Strategies

	(1) Baseline (Year FE)	(2) Month FE	(3) Deal-length × Yr FE	(4) HH FE
Year FE	✓			✓
Month FE		✓		
Deal-length × Year FE			✓	
Household FE				✓
Age FE	✓	✓	✓	
Variation	Across fixation length, reset within same year (within age group)	Across fixation length, reset in same month (within age group)	Within fixation length, within same year (within age group)	Within HH across reset dates & across fixation length
Exploits agg. Δr & ...	contract choice & timing	contract choice	timing	contract choice & timing (path)

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Suggestions:

- Show balance with respect to realized interest rate changes and other covariates (e.g. Cloyne et al. 2019, or Fonseca–Liu 2024)
- Exploit more granular variation in origination timing: year$\times$quarter or year$\times$halfyear

→ Internal vs. external validity: good to show multiple sources of variation, but highlight different identifying assumptions (for (3) / (4): households cannot perfectly time their loan origination / refi path)

Comment 2: Reconciling Asset Price vs. Active/Passive Results

Recall: Key findings

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- What is the other 1/2 of non-asset price-driven changes to borrowing / consumption but that is mostly active?
  - Refinancing / home equity borrowing unrelated to asset price changes
  - Mortgage spreads, term adjustments (anything that is not the passive rate change)

Interpretation

- HHs behave as if they are constrained (borrow to finance consumption), but "not too constrained" (consumption is not constrained by mortgage payment size but by mortgage borrowing capacity)
- *Some HHs* are collateral-constrained: max. LTV of 90 to 95%, need house prices to go up to borrow more
- *Most HHs*: avg. LTV $\approx$ 50-60%, can lever back up to e.g. 80% (far from collateral constraint)
  - Placebo: do HHs do that even absent rate shocks?
  - Standard substitution: cheaper mortgage credit induces more front-loading of consumption?
  - Do lower rates expand borrowing capacity (via PTI)?
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→ "Mortgages as ATMs": refi/home equity borrowing as active liquidity management (Hurst–Stafford 2004, Chen–Michaux–Roussanov 2019)

→ Δr amplified via collateral (Kiyotaki-Moore financial accelerator) and other effects

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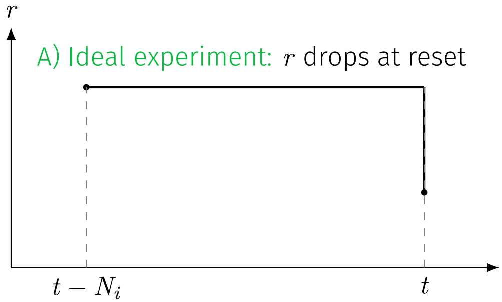

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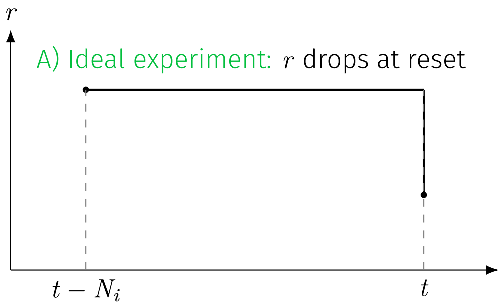

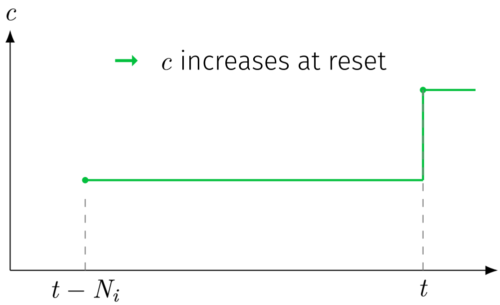

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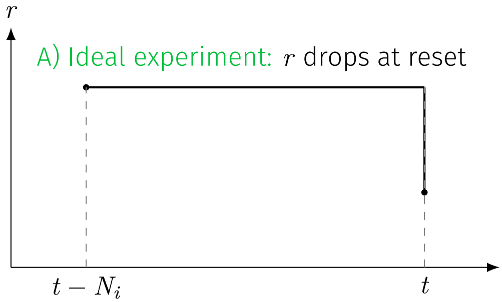
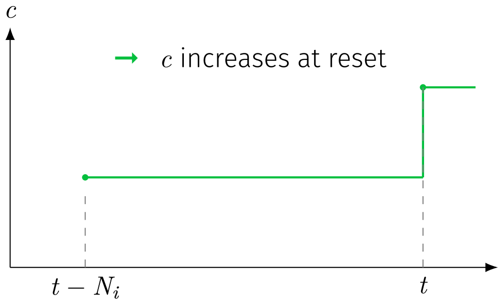
- If HH unconstrained: wealth/IES effect
- If HH constrained: liquidity effect (+ wealth/IES effect)





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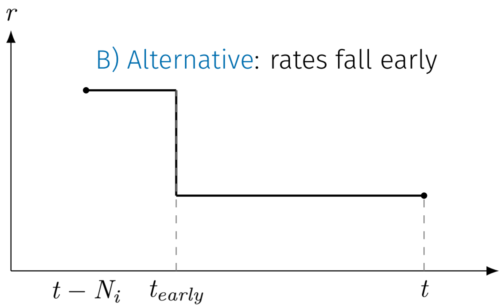

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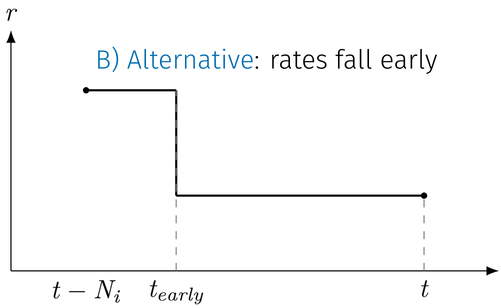

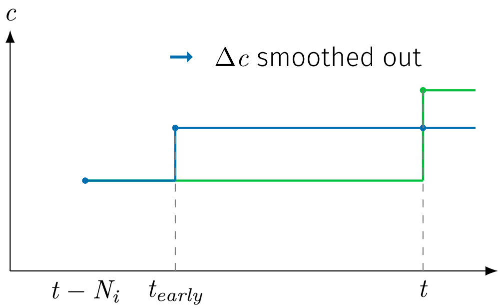

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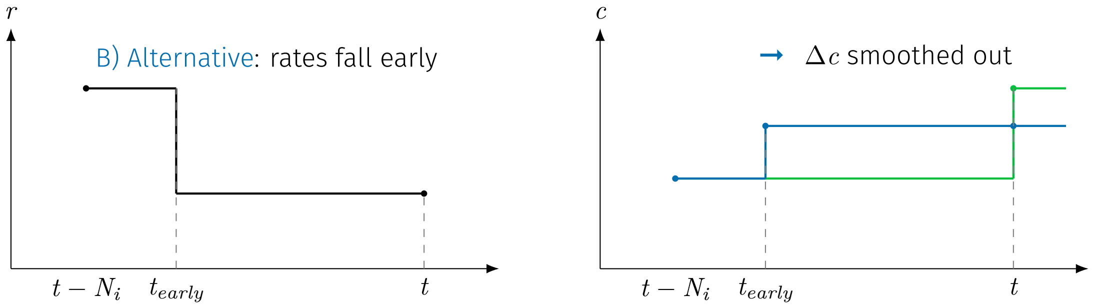
Suggestions:

- Currently show no pre-trends - could show full c path over contract
- Could split sample into rate shocks early vs late: does it attenuate c effects? (not fully addressed by *cumulative* sum of high-freq. monetary policy shocks)



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   - Didn't we learn that we need to provide cash flow, not debt relief? (Ganong–Noel 2020)
3. Are effects symmetric for tightening? e.g. Germany (Fuster et al. 2026) / Australia (Elias et al. 2025): forward-looking savings / contracting (+ UK too has pre-offers)

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My take:

- Institutional setting / (ex ante) mortgage contract design matters
- It matters whether HHs in *collateral-sensitive* region: $\approx$ 70-100% LTV (if >120% LTV: marginal improvement won't have bite) - collateral matters more for MP pass-through where majority of HHs are not distressed

Conclusion

- **Important paper**: mortgage collateral, borrowing (and contract design) matter for monetary transmission to consumption … even more than we thought
- Direct micro-level evidence on:
  - Mortgage borrowing capacity more important than rate-based cash flow relief for MPCs
  - Rate changes have financial accelerator effect on HH borrowing & consumption via collateral / house prices
- I learned a lot from reading the paper, exciting micro-to-macro frontier and looking forward to more work like this!