Discussion of:

Macroprudential Policy and Household Leverage: Evidence from Administrative Household-Level Data

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Research Question

Are mortgage LTV limits effective as a macroprudential tool?

- **Rationale**
  - Agents overborrow in good times (Lorenzoni, 2008)
  - Build-ups of household leverage followed by defaults, low output growth, and high unemployment (Mian et al., 2017)
- **LTV limits adopted by 60 countries from 1990 to 2016**
  - Most used macroprudential tool in advanced economies
  - See IMF database by Alam et al. (2019)
- **Laboratory**
  - Introduction of LTV limits in Netherlands in 2011
  - Extremely detailed household-level data (first-time buyers)

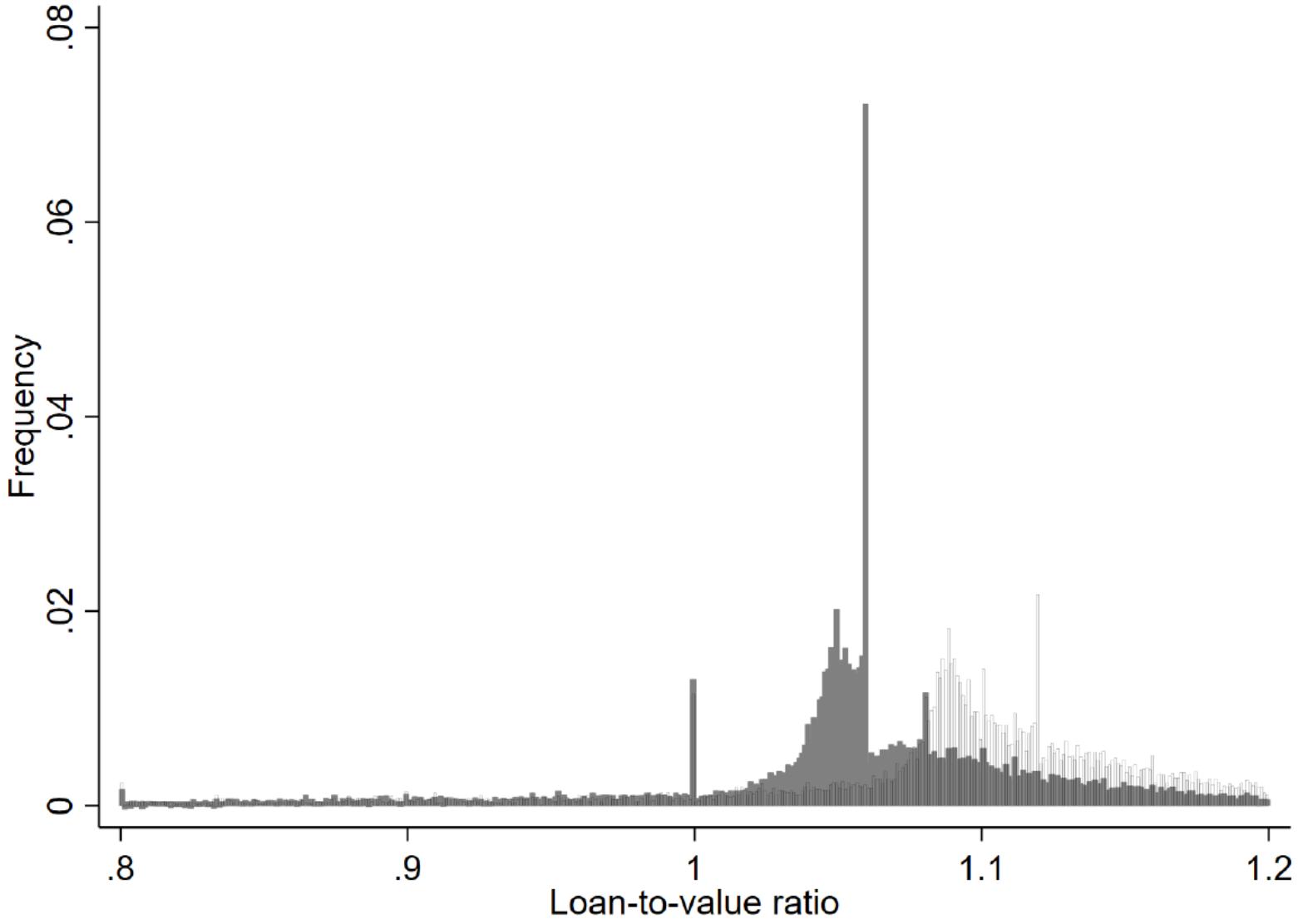
Findings

1) **Limits are effective in reducing household leverage**
   - Limits are binding (bunching at the limit)
   - The market "moves" to conform with the new rules
   - LTV $\downarrow$ more for low-income, -liquidity, -wealth households

2) **Borrowers increase their downpayments to conform**
   - Borrowers do not obtain other sources of credit
   - Borrowers use their liquid assets for the downpayment

3) **Default and homeownership**
   - Better repayment performance by borrowers
   - Decline in transition from renting to buying

Limits Bind and Market Conforms



Limits Bind and Market Conforms

- **Evidence of bunching around the limit very convincing**
  - Hard to find alternative stories to explain the bunching
  - % of loans that would have been affected in the pre-period?

- **When does the market move to conform?**
  - Rules announced in Mar11, implemented in Aug11
  - $After = 0$ in Aug10-Jul11, $After = 1$ in Aug11-Jul12

- **Why does the market conform *before* implementation?**
  - I would expect a "rush-to-borrow" by high-LTV borrowers *before* Aug11
  - Need to clarify the timing

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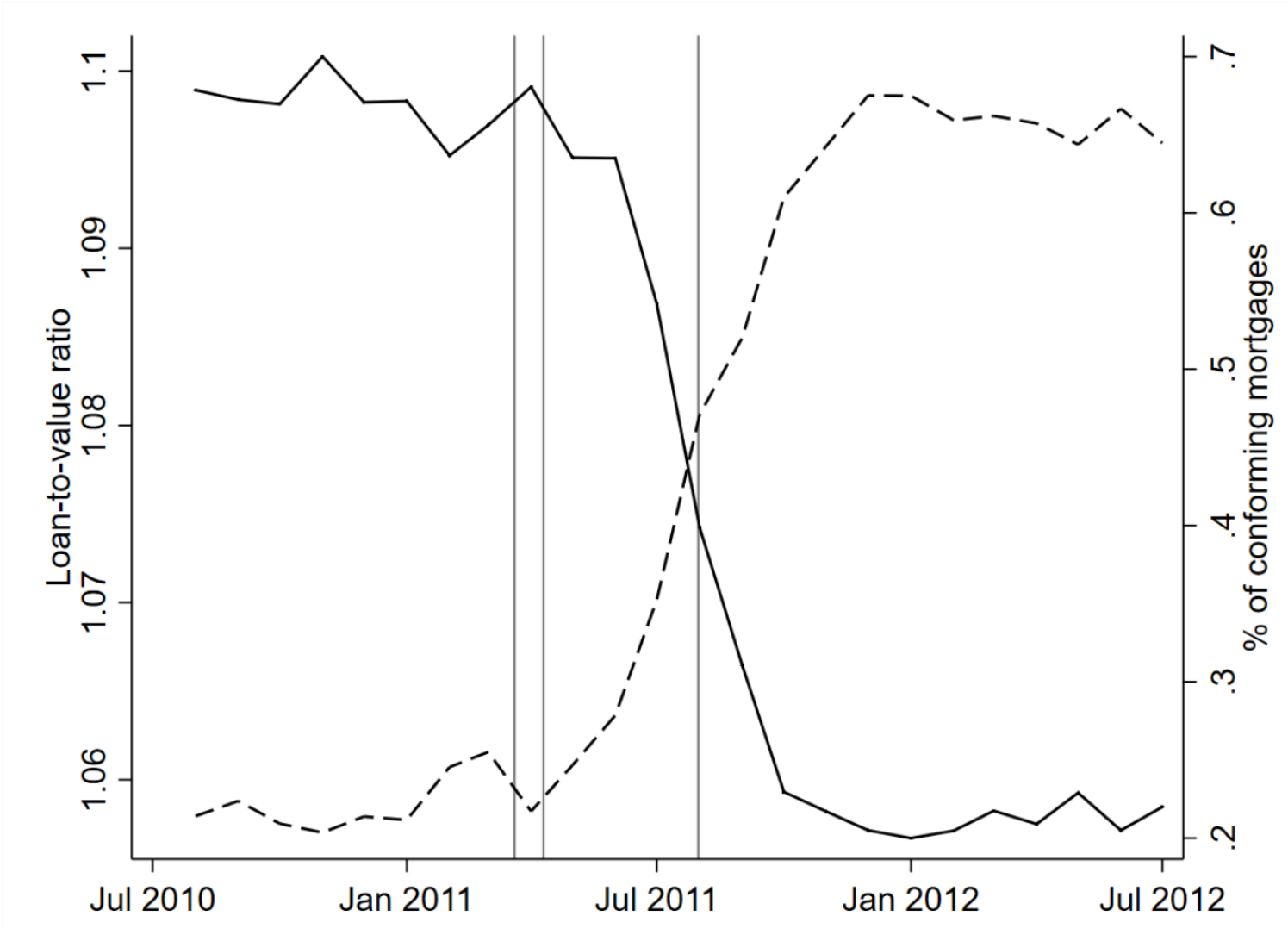

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Building the Counterfactual

! **There is no counterfactual**

- We don't observe the *same* borrowers pre-/post- policy
- Borrowers *choose* to borrow.

- ***Build* our own counterfactual**

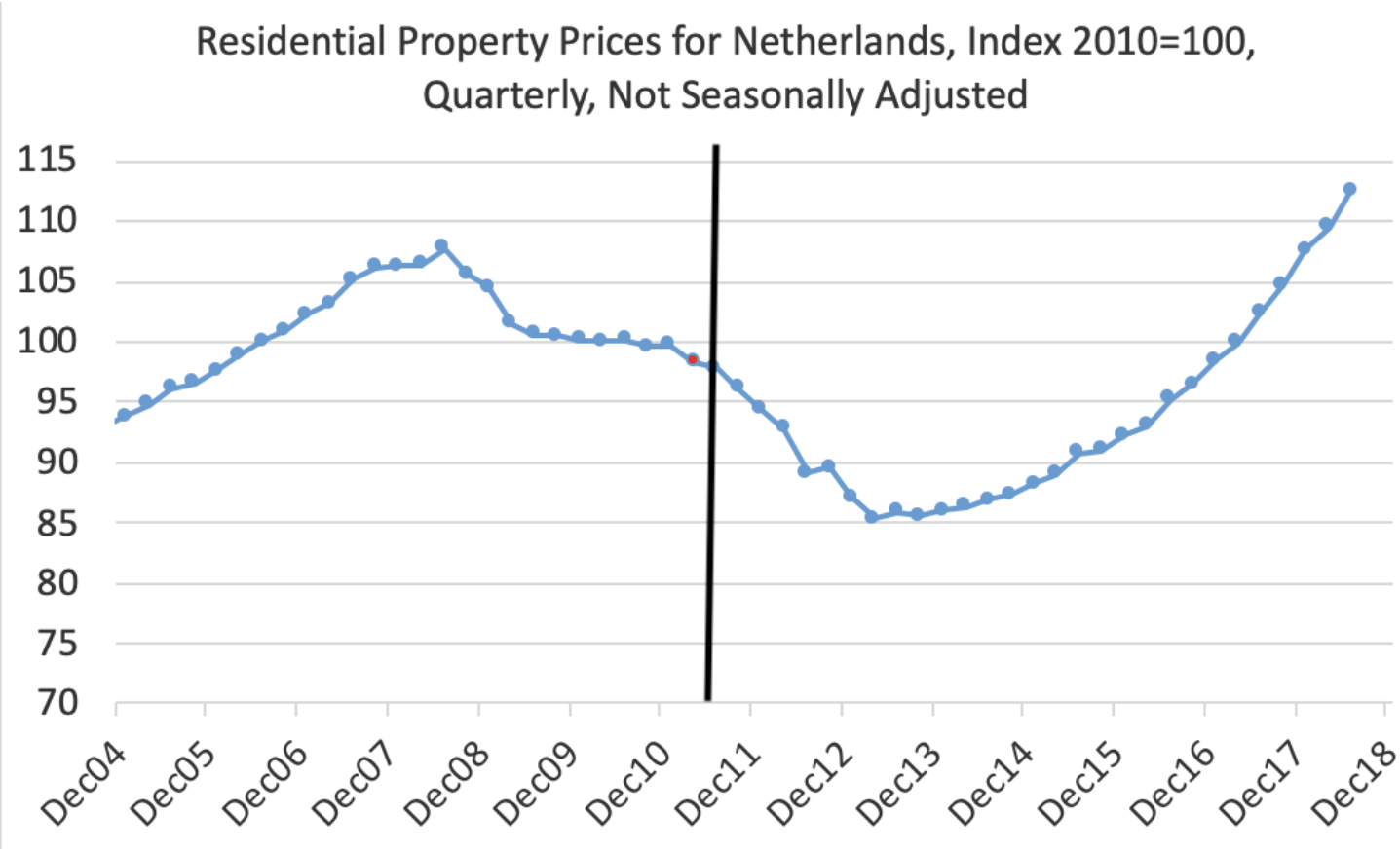
i) Predict LTV in the pre-period
... for each household wealth percentile $\times$ zip code cell
... using income and income^2 as predictors

ii) Use $\widehat{LTV}$ in a Diff-Diff specification

- **More on this predictive exercise**

- Why income and income^2? Driven by theory?
- How good is the prediction? In-sample, out-of-sample?
- What about age, marital status, wealth?
- Exercise made for machine learning (random forest models)

General Equilibrium Considerations



General Equilibrium Considerations

- **LTV limits change the equilibrium in the economy**
  - Predictive exercise is based on the pre-policy eqm

  e.g., Lower house prices in the new eqm $\rightarrow$ lower LTVs

  $\Rightarrow$ $\widehat{LTV}$ is overestimated

  e.g., Banks might want to increase LTV of *conforming* households

  $\Rightarrow$ $\uparrow$ LTV for households with predicted LTV < 106

- **We do not observe the *same* borrowers before and after**
  - Document how the distribution of household characteristics change before and after (table 1 not enough)
  - Less emphasis on identification, more on potential channels at work (with GE considerations in mind)

Defaults and Institutional Details

- **Institutional details**
  - Do the limits apply to all borrowers? ("106 ltv limit applies *most cleanly* to first-time homebuyers")
  - Are mortgages securitized?
  - Very low default rate (lender recourse, priority of mortgages in bankruptcy, high recovery rates)
  - The share of the housing stock going into foreclosure in 2010 was 0.03% in the Netherlands and 2.23% in the U.S.
- **Defaults**
  - Do defaults really matter in this context?
  - Are 18 months enough to observe repayment performance?
- **Data work**
  - Observations with $LTV < 80$ are dropped. How many observations are dropped?
  - Observations trimmed at the 1 and 99 percentiles but the top 1% is likely important for transmission

Conclusion

- Obviously important and policy-relevant question
- Impressive household-level data
- My comments:
  - Refine prediction of LTV
  - Acknowledge and discuss GE effects
  - Careful with "identification language"
  - Tie up loose ends (timing, institutional details)