Report: The aggregate and distributional implications of credit shocks on housing and rental markets

Summary

This paper studies the aggregate and distributional effects of credit shocks on housing and rental markets using a heterogeneous-agent life-cycle model with endogenous tenure choice (renter, owner, landlord). Households differ by age, income, and wealth, and can choose to be renters, owner-occupiers, or landlords holding multiple properties financed through long-term mortgages subject to loan-to-value (LTV) and loan-to-income (LTI) constraints. House prices and rents are jointly determined in equilibrium through endogenous housing demand and landlord supply decisions.

The paper analyzes two types of credit shocks: (i) borrower-based macroprudential policies tightening LTV and LTI limits and (ii) increases in real interest rates. The model is calibrated to Ireland and evaluated using the 2015 Irish macroprudential reform, which introduced binding LTV and LTI limits.

The central finding is that contractionary credit shocks reduce house prices while increasing rents persistently. The key mechanism arises from endogenous landlord entry. When credit becomes tighter—for example through stricter LTV/LTI limits—some potential buyers are unable to obtain mortgages and remain renters. This shifts rental demand outward. Because rental supply is generated by households deciding to become landlords and is therefore upward sloping, rental prices increase while house prices fall.

Quantitatively, the model implies that:

- house prices fall (about 0.9%)
- rents increase persistently (peaking around 4.5%)
- homeownership declines (about 3 percentage points)
- welfare losses fall disproportionately on renters and lower-income households.

The paper also provides empirical evidence that regions where the reform was more binding experienced lower house price growth but higher rental growth, consistent with the model mechanism. The welfare analysis suggests that renters and young households lose, while landlords benefit, with a welfare loss of roughly 1.5% of lifetime consumption for newly born households.

Assessment

The paper is well executed and clearly written. The central result - that tightening credit reduces house prices while increasing rents - is theoretically sound and broadly consistent with the empirical evidence presented.

The mechanism is intuitive: tighter borrowing limits prevent marginal buyers from entering homeownership, shifting demand toward the rental market. Because rental supply is upward sloping, this demand shift raises rents and lowers house prices.

The empirical results provide supportive evidence for this mechanism. In particular, the model-generated regression coefficients on house price and rent responses are broadly consistent with the empirical estimates relating housing outcomes to the credit constraint exposure measure.

Overall, the paper addresses an important and policy-relevant topic, and the authors develop a thoughtful quantitative framework linking credit conditions, rental markets, and housing markets. The mechanism is intuitive and the analysis is carefully executed. I believe

that the paper would benefit from revisions that strengthen the following aspects: empirical validation, conceptual positioning, and the scope of the welfare analysis.

Major Comments

- **I. Empirical Validation**

  A stronger evaluation of the model's quantitative performance would significantly strengthen the paper.

  Calibration to Irish Micro Data A central concern is that the key source of within-cohort income heterogeneity is not estimated using Irish data. Instead, the earnings process is borrowed from UK estimates due to data limitations.

  Because the earnings process determines who is credit constrained, who can afford down payments, and who becomes a landlord, the distributional welfare results depend critically on this assumption. It would be useful to assess the sensitivity of results to alternative calibrations.

  Similarly, the model disciplines heterogeneity primarily through aggregate moments such as the wealth-to-income ratio. Given that the paper's main contribution concerns distributional outcomes, incorporating additional micro-data moments would strengthen the credibility of the results.

  Rental Supply Elasticity The model implies a rental supply elasticity of roughly 3.5, which is more than twice the empirical estimate for the United States reported by Rotberg and Steinberg (2024). Because this elasticity directly determines the magnitude of rent increases following credit tightening, the paper would benefit from sensitivity analysis varying this parameter.

  Relatedly, the construction sector is modeled in a relatively stylized way and does

not incorporate zoning restrictions, land-use regulation, or construction delays. These frictions are likely to influence the speed of housing supply responses and the distributional consequences of credit shocks. Given the importance of housing supply in the transmission mechanism, the paper would benefit from a more careful discussion of these issues.

Identification Concerns The distance measure used to capture exposure to the macroprudential reform is strongly correlated with proximity to Dublin. It would be useful to test whether the empirical results remain robust when excluding Dublin or controlling more flexibly for urban recovery trends. Showing a version of Figure 5 separately for house prices and rents would also help clarify the empirical dynamics.

Institutional Investors and Rental Supply The model excludes institutional landlords, which the authors justify based on their relatively limited role in Ireland at the time of the reform. However, Figure A1 indicates a non-negligible role for institutional buyers in new purchases. Even a modest presence of deep-pocketed investors could significantly increase rental supply elasticity and dampen rent responses to credit tightening. A sensitivity exercise incorporating a small institutional investor sector would help assess the robustness of the results.

Matching Transition Dynamics The model produces plausible transition dynamics: house prices fall immediately following credit tightening but gradually recover, while rents increase more smoothly and remain elevated. However, these dynamic predictions are not tested against the data. Comparing the model-implied transition paths with observed price and rent dynamics during the reform period would strengthen the quantitative validation.

It would also be useful to assess whether the model matches other key outcomes, such

as the evolution of homeownership rates.

- **II. Conceptual Framework**:

  The model builds on an established body of work combining heterogeneous-agent housing models, life-cycle savings frameworks, and macroprudential policy analysis. Closely related papers include Kaplan–Mitman–Violante (2020), Favilukis–Ludvigson–Van Nieuwerburgh (2017), and Sommer–Sullivan (2018). The paper's key innovation - endogenous landlord entry - has precedents in several of these frameworks. Moreover, the mechanism whereby tighter credit shifts households from ownership toward renting has been extensively explored in recent emerging literature.

  While the mechanism proposed in the paper is interesting and plausible, it is not entirely clear that it fundamentally alters our understanding of credit shocks relative to existing models. Clarifying the conceptual distinction between this framework and earlier macro-housing models would significantly strengthen the contribution.

  Also, the absence of a bequest motive generates a counterfactual decline in landlord ownership late in the life cycle, whereas older households remain significant property holders in the data. This feature may affect the shape of the rental supply curve and the age distribution of landlords. Introducing a simple bequest motive or discussing how it might affect rental supply responses would strengthen the analysis.

- **III. Welfare Interpretation**

  The welfare analysis aims to quantify the distributional costs of macroprudential regulation. However, the model explicitly abstracts from the financial instability risks that typically motivate such policies. As a result, the welfare analysis captures only the housing-market costs of tighter borrowing limits without considering potential benefits from reduced financial fragility. This limitation weakens the policy interpretation of the welfare results. Here are some suggestions:

Financial Sector and Mortgage Default The model abstracts from mortgage default, financial crises, and banking sector dynamics. These considerations are central motivations for macroprudential regulation. Introducing a simple mortgage default mechanism or discussing how financial-sector risks interact with the housing market mechanisms would improve the policy relevance of the model.

Interest Rate Counterfactual The counterfactual experiment involving interest rate changes likely affects a much broader set of economic decisions—including savings behavior, borrowing costs, and asset pricing—beyond housing markets. The paper would benefit from clarifying how these broader macroeconomic channels are captured in the model and how they interact with the housing market mechanisms emphasized in the analysis.

Minor Comments

- As discussed in table A1 (appendix C2), the LTI limit alone appears to drive most of the rental price response in the quantitative results. This finding has direct policy relevance and should be emphasized more prominently in the main text.
- The model estimation relies on an initial guess for price paths. In the presence of multiple equilibrium, additional details on convergence and robustness to alternative initial guesses would increase transparency.

Overall Assessment

This paper studies an important policy question and develops a rich quantitative framework linking credit conditions, housing markets, and rental markets. The mechanism is intuitive, and the empirical evidence provides suggestive support.

For a journal such as JPE, the paper would benefit from a clearer articulation of its conceptual contribution, stronger empirical validation of the model's quantitative implications, and a more complete discussion of the welfare implications of macroprudential regulation.