

Do Falling Housing Prices Influence Labor-Market Slack?

Evidence from the Household Side

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Research Question & Motivation

- China's housing boom since 2000 boosted construction, credit, and employment.
- The 2021 “**three red lines**” policy sharply curtailed developer borrowing and triggered a nationwide housing correction.
- **Question:** How do falling housing prices affect household labor supply through the **debt-overhang channel**?
- **Why it matters:** integrates the *demand side* (firm hiring ↓) and *supply side* (household job search ↑) reactions to housing shocks, to explain shifts in macro *slack*.

Positioning in the Literature

1. Wealth effect (labor supply \downarrow when housing wealth \uparrow):

Fu, Liao & Zhang (2017); Li et al. (2023): rising housing wealth discourages work effort and labor-force participation.

2. Demand-side channel:

Mian & Sufi (2012, 2014) falling house prices \downarrow household consumption \downarrow firm sales \downarrow job creation \rightarrow higher labor-market slack.

Diamond (1982) aggregate demand management matters even in search equilibrium: lower demand reduces vacancies and matching efficiency.

3. This paper: household supply-side mechanism

$$\text{Housing Price} \downarrow \Rightarrow \begin{cases} (1) \text{ Demand side: Consumption } \downarrow \Rightarrow \text{Firm Sales } \downarrow \Rightarrow \text{Vacancies } \downarrow \\ (2) \text{ Supply side: Debt Burden } \uparrow \Rightarrow \text{Job Search / LFP } \uparrow \end{cases}$$

\Rightarrow **Labor-Market Slack** \uparrow *This paper empirically isolates the household (supply-side) mechanism and connects it to the aggregate slack outcome.*

Stage 1 Macro baseline (regional correlation):

$$Slack_{rt} = \alpha + \beta \log P_{rt}^H + X'_{rt}\gamma + \mu_r + \lambda_t + \varepsilon_{rt}$$

Expectation $\beta < 0$: housing downturn \Rightarrow higher regional slack.

Stage 2 Household mechanism (micro response):

$$LFP_{irt} = \alpha + \beta \log P_{rt}^H + \delta(\log P_{rt}^H \times Debt_{i,pre}) + Z'_{irt}\theta + \mu_i + \phi_{rt} + \varepsilon_{irt}$$

Key $\delta > 0$: indebted households increase labor supply when prices fall.

Identification: To address the endogeneity of housing prices, I instrument $\log P_{rt}^H$ using the 2021 “three-red-lines” policy shock:

$$IV: Shock_{rt} = Post_t \times Exposure_r$$

where $Exposure_r$ is the 2020 share of real-estate investment in total fixed-asset investment.

Data & Variable Construction

Data: CFPS 2010–2022 (main), CHFS 2011–2021 (validation). Linked to NBS 70-city housing-price index by city/province-year.

Main variables:

- **Labor outcomes:** labor-force participation, hours, job search, and $E \leftrightarrow NILF$ transitions (CFPS labor module).
- **Debt measures:** mortgage-to-income (MTI) and debt-service ratio (DSR); top quartile defined as *HighDebt* (Chen et al. 2019; Mian & Sufi 2014).
- **Slack (regional):** job seekers / vacancies; alternatives include unemployment rate and participation gap (Shimer 2005).
- **Exposure_r:** 2020 share of real-estate investment in total fixed-asset investment (NBS), capturing regional dependence on highly leveraged developers.

Next Steps & Potential Challenges

Empirical extensions

- Heterogeneity: gender, education, household type (mortgage vs renter).
- Micro-to-macro aggregation: $\widehat{Slack}_r = \sum_i w_i \widehat{LFP}_{ir}$.

Challenges

- Limited post-2021 data (CFPS 2022 partial; CHFS 2023 upcoming).
- Measurement error in self-reported debt and employment status.

Next phase

- Update dataset with new CFPS and waves.
- Structural calibration linking debt shocks to aggregate slack.

Broader goal: quantify how balance-sheet shocks transmit to macro slack via joint demand and supply adjustments.