# Discussion
# Housing Price, Labor Supply, and Household Behaviors by Deng, Guo and Huang ( 2018)

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# Overview: contributions and main suggestions

- **Real effects of the housing price boom and bust: spillover effects from " dream" city and demand shocks additional to the "superstar" citiy effect.**
  - **cute but not comprehensive: more discussions of the alternative channels**
  - **credit supply,  housing market optimism, and speculation by investors.**
- **Household respsonses: labor supply; wage; sector working in; migration; marital status; home ownership in US and China.**
  - **neat but not enough: more labor market outcome varables such as the labor market inflows, outflows, retirment , self-employment, working hour, effort, labor productivey**
- **Housing price movements: endogeneity concerns using Saiz (2010) and Deng and Wu (2014, 2015...)**
  - **fine but not innovative: identifications from the transportation cost, geographic boundaries (spatial) regression discontinuities; private-label mortgage backed securitization market(PLS) exposure; land collateral by**

# Overview: Dating with the literature

- **Real Effects of the housing price boom and bust: Eveideces from US, French and China**
  - Mian and Sufi (2011): 2007-2009 Drop in employment
  - Chaney, Sraer and Thesmar (2012): Corporate investment and real estate value.
  - Adelino, Schoar and Severino(2015): Small business starts and self-employment before the financial crisis of 2008.
  - Schmalz, Sraer and Thesmar (2017): Housing collateral and entrepreneurship
  - Huang, Lin, Liu and Sheng (2018): The cost channel of the housing boom: evidences from online and offline entrepreneurship.
  - Gu, He, Qian (2018): Housing boom and shirking

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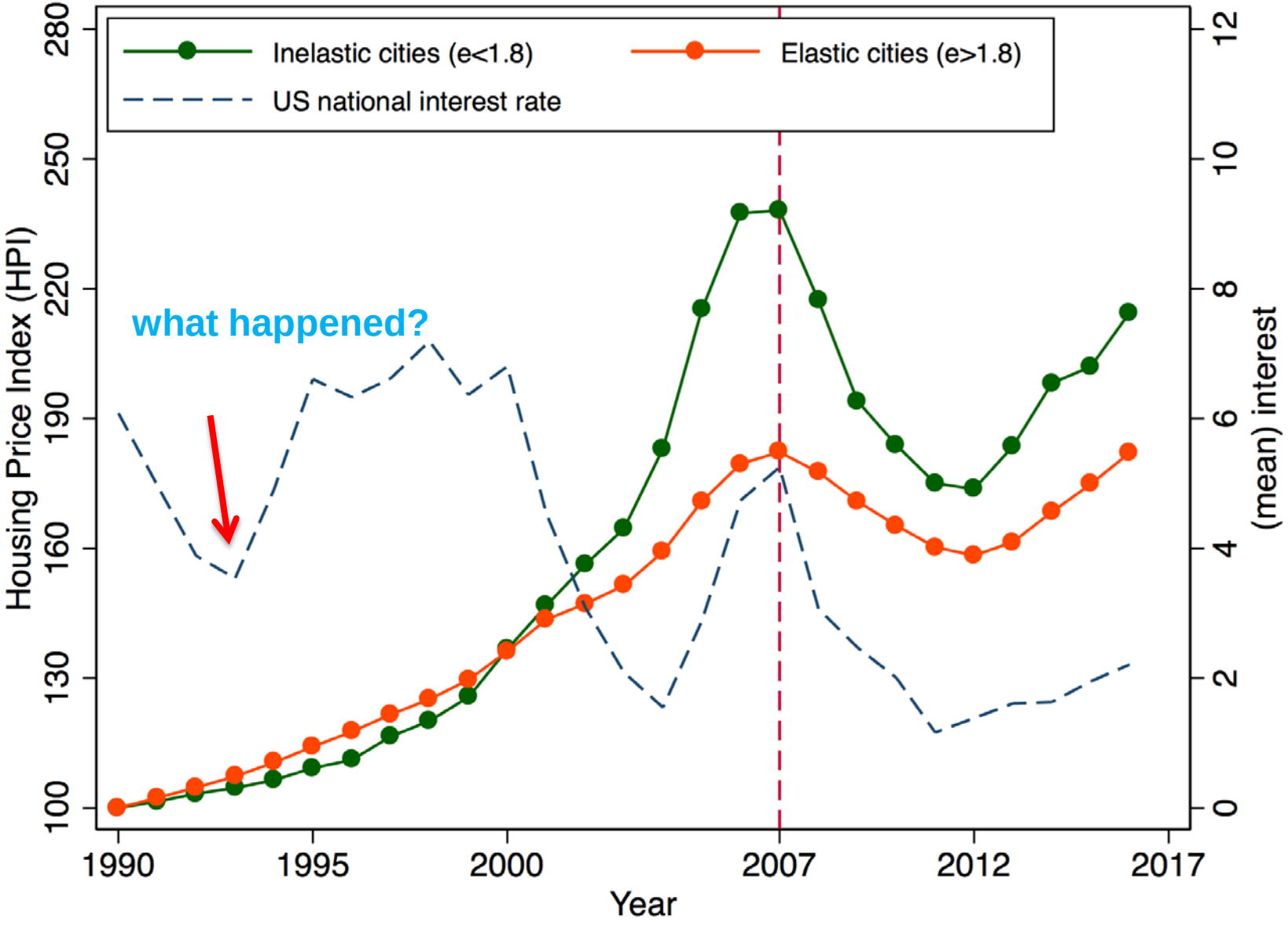
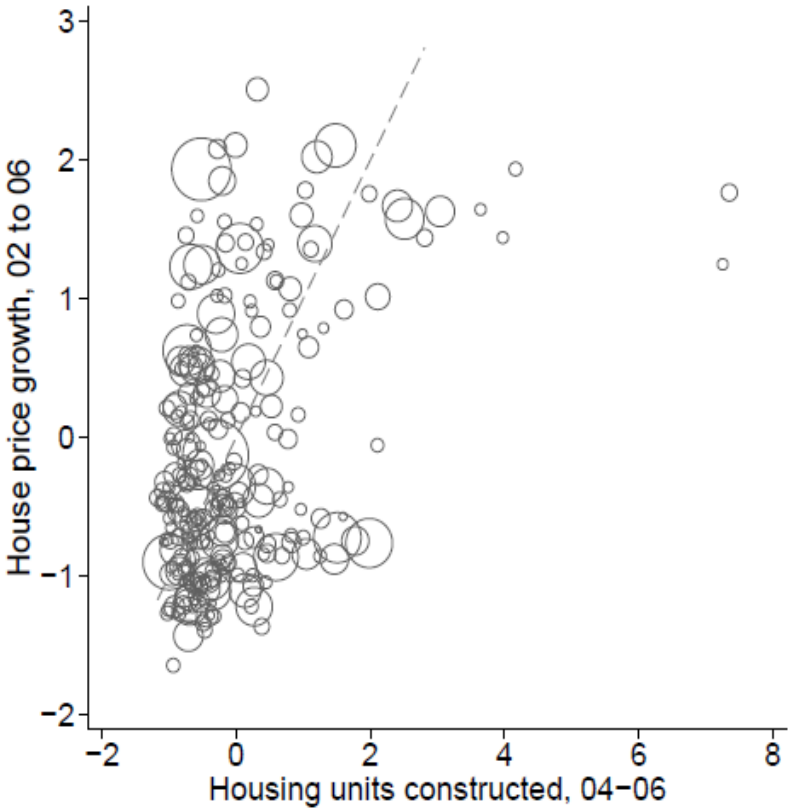
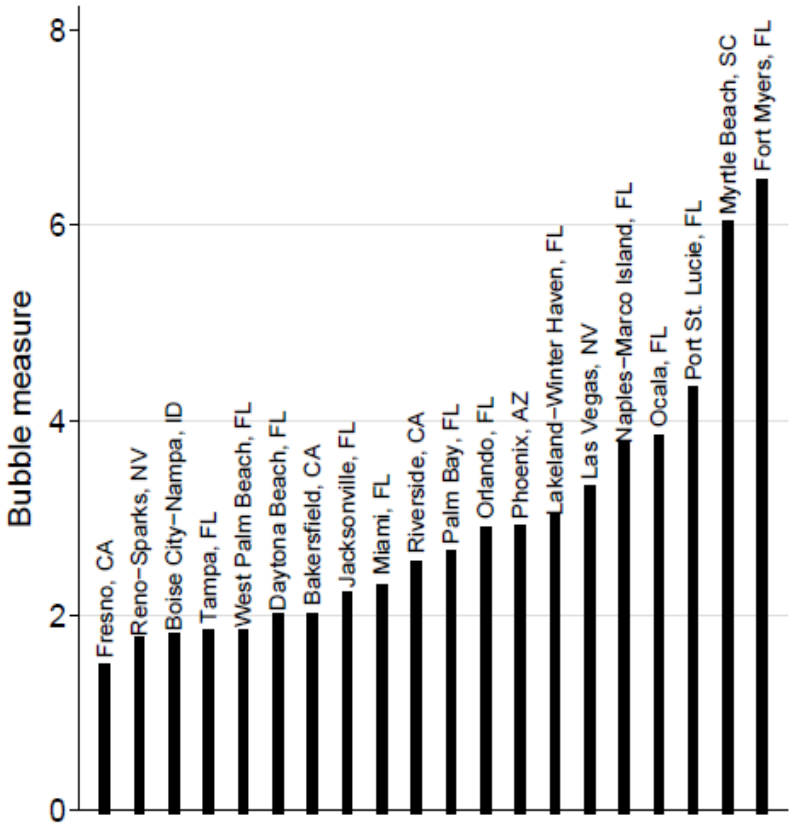
# Exogenous variation: Land supply elasticity



# Bubbly Cities: House Price Growth and Construction Growth




Mian and Sufi (2018): Fueling a Frenzy: Private Label Securitization and the Housing Cycle

# Industry Heterogeneity : Construction sector

Employment and house price appreciation across industry types.

The table shows two-stage least squares regressions at a county level of employment growth on house price growth between 2002 and 2007. Each observation is at a county level. All regressions are weighted by the number of households in a county as of 2000. House Price Growth is instrumented using the Saiz (2010) measure of elasticity of housing supply at an MSA level. Employment growth is the percentage change in employment between 2002 and 2007 estimated using County Business Patterns (CBP) data. Industry type definitions follow Mian and Sufi (2014). All regressions control for the natural logarithm of population, the percentage of the population with a college degree, the percentage of the labor force that is employed, the share of the population in the workforce, and the percentage of homes that are owner-occupied. All controls are at a county level for the year 2000 and are obtained using Census Bureau Data Summary Files. Standard errors are in parenthesis and are clustered by MSA. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

| | First stage | All industries | Non-tradable | Tradable | Construction | Others |
|---|---|---|---|---|---|---|
| Housing Supply Elasticity | −0.09*** | | | | | |
| | (0.02) | | | | | |
| Growth in House Prices | | 0.09 | 0.10 | −0.01 | 0.32*** | 0.06 |
| | | (0.06) | (0.07) | (0.11) | (0.08) | (0.06) |
| Log of the Population | 0.00 | −0.02** | −0.01 | −0.02** | −0.02* | −0.03 |
| | (0.03) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Percent College Educated | 0.00 | 0.00* | 0.00** | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Percent Employed (2000 Census) | −0.01*** | 0.00 | 0.00* | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Workforce as a Percentage of Population | −0.69 | −1.15*** | −1.13*** | −0.82 | −0.83** | −1.35 |
| | (0.63) | (0.23) | (0.28) | (0.51) | (0.37) | (0.24) |
| Percent of Homes Owner-occupied | 0.00 | 0.00** | 0.00 | 0.00** | 0.00** | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| China Import Share in County (2005) | 0.10 | −0.23 | 0.42 | −1.94*** | −0.52 | 0.42 |
| | (0.91) | (0.28) | (0.32) | (0.47) | (0.42) | (0.32) |
| Number of Observations | 731 | 731 | 731 | 730 | 731 | 731 |
| $R^2$ | 0.30 | 0.24 | 0.18 | 0.10 | 0.30 | 0.21 |

Sources: Adelino, Schoar and Severino (2015)

# Industry Heterogeneity : Stock vs. flow measure

Total employment, unemployment, and migration.

The table shows two-stage least squares regressions at a county level of the net migration on house price growth between 2002 and 2007. All regressions are weighted by the number of households in a county as of 2000. House Price Growth is instrumented using the Saiz (2010) measure of elasticity of housing supply at an MSA level. Net Migration, Inflows, and Outflows are obtained from the IRS county-to-county migration data series. Net Migration is calculated by county using inflows of taxpayers minus outflow of taxpayers in a year as a proportion of nonmigrants (i.e., people that filed in the same county in $t-1$ and $t$). For each dependent variable the first column shows the results for the regressions without controls, and the second column shows the coefficients controlling for log of population, the percentage of the population with a college degree, the percentage of the labor force that is employed, the share of the population in the workforce, and the percentage of homes that are owner-occupied. All controls are at a county level for the year 2000 and are obtained using Census Bureau Data Summary Files. Standard errors are in parenthesis and are clustered by MSA. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

| | Net migration | Inflows | Outflows |
|---|---|---|---|
| Growth in House Prices | −0.16 | 0.19 | 0.34** |
| | (0.12) | (0.12) | (0.17) |
| Log of the Population | 0.00 | −0.07*** | −0.07*** |
| | (0.01) | (0.01) | (0.01) |
| Percent College Educated | 0.00 | 0.01*** | 0.00*** |
| | (0.00) | (0.00) | (0.00) |
| Percent Employed (2000 Census) | 0.00 | 0.00 | 0.00 |
| | (0.00) | (0.00) | (0.00) |
| Workforce as a Percentage of Population | −0.01 | −0.63* | −0.62** |
| | (0.19) | (0.34) | (0.26) |
| Percent of Homes Owner-occupied | 0.00** | 0.00*** | −0.01*** |
| | (0.00) | (0.00) | (0.00) |
| China Import Share in County (2005) | 0.19 | −1.08*** | −1.27*** |
| | (0.29) | (0.28) | (0.44) |
| Number of Observations | 731 | 731 | 731 |
| $R^2$ | | 0.41 | 0.18 |

Sources: Adelino, Schoar and Severino (2015)

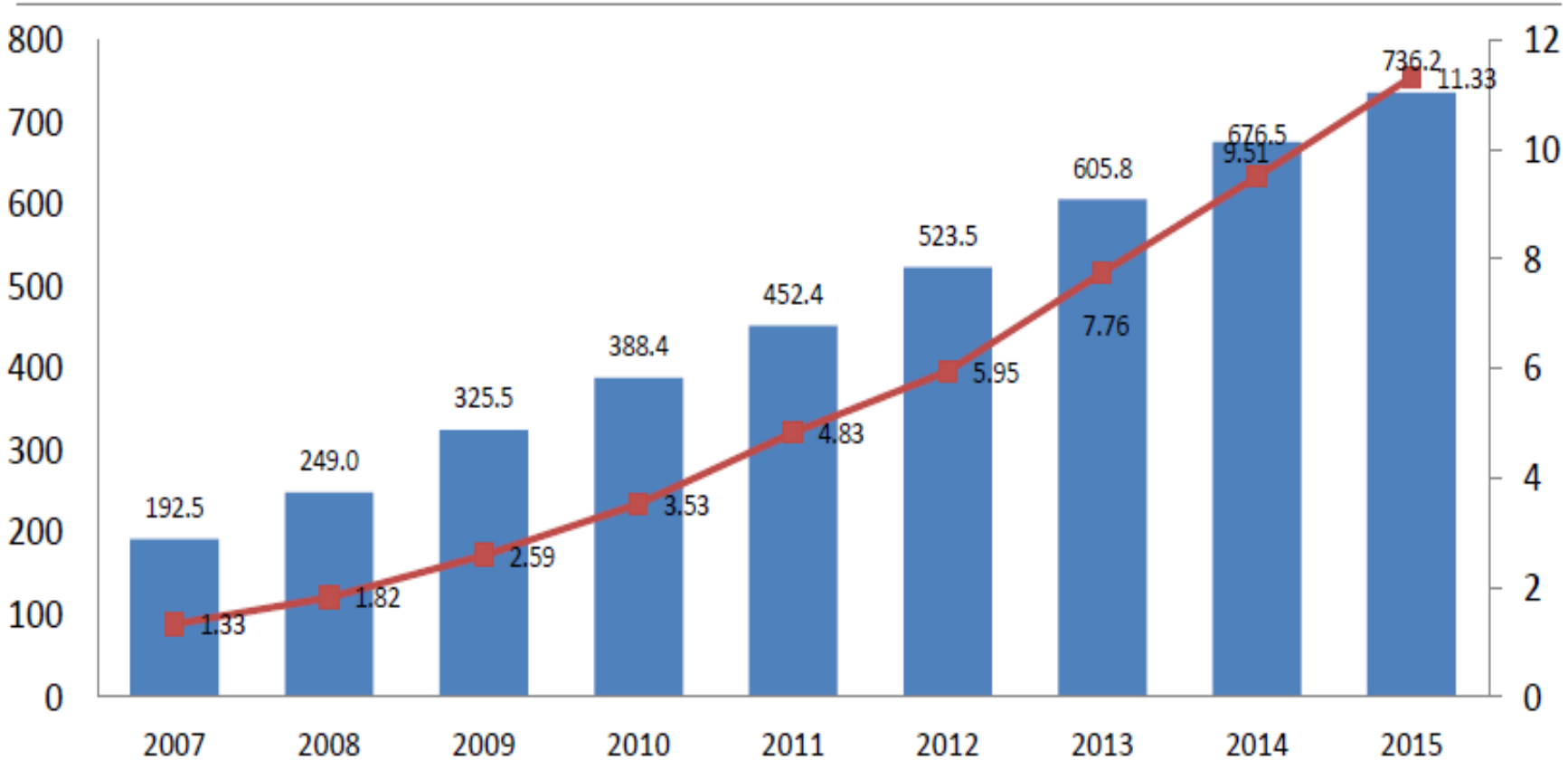
# First Stage of potential IV in China

| VARIABLES | (1) Housing Price Index (= 100 in 2003) Saiz (2010) elasticity | (2) |
|---|---|---|
| Elasticity*Real interest rate | **0.19** | |
| | **(0.97)** | |
| Elasticity*lending interest rate (5yrs) | | -3.52 |
| | | (6.31) |
| Observations | 222 | 222 |
| R-squared | 0.88 | 0.88 |
| City fixed effect | Yes | Yes |
| Year fixed effect | Yes | Yes |
| Number of cities | 32 | 32 |

Robust standard errors in parentheses are clustered at the City level.
*** p<0.01, ** p<0.05, * p<0.1

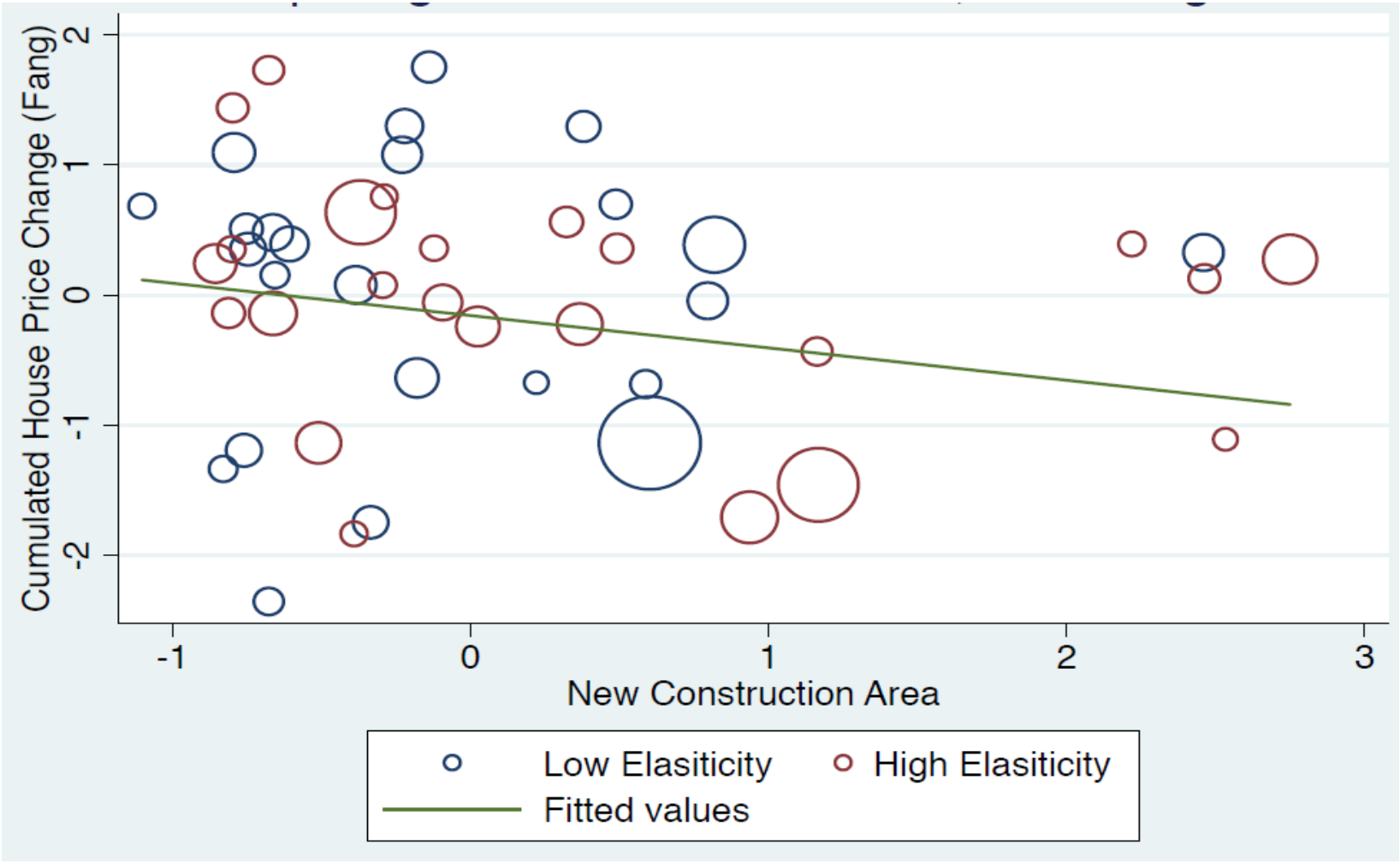
***Possible explanation: As the major land supplier, local government make the decison between land sales and land collateral.***

# Land as the collateral by local government after 2008



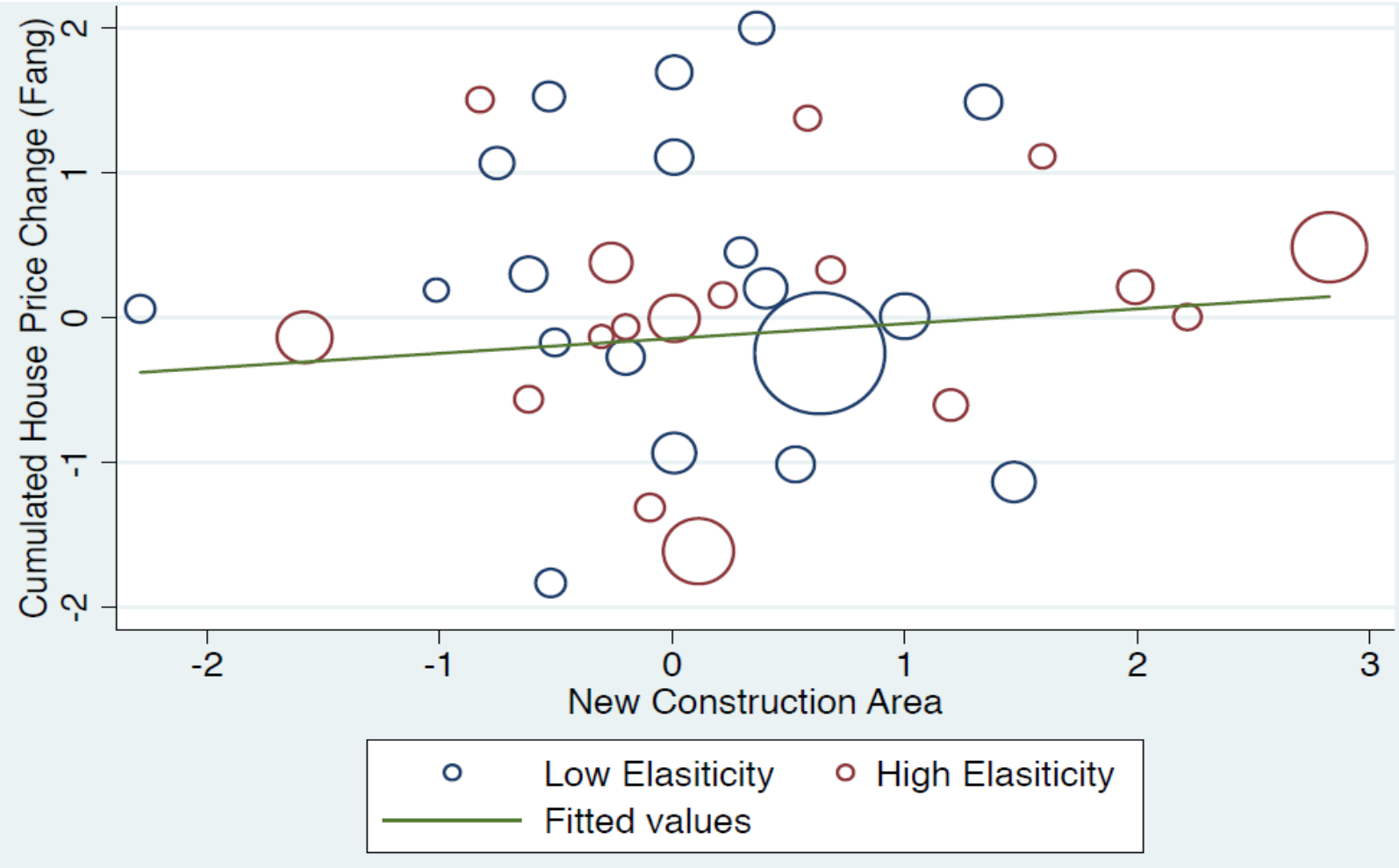

Sources: Liu Shouying (2018); Unit: Trillion RMB

# Land Supply and House Price before 2008




Sources: Hoffmann and Huang (2018)

# Land Supply and House Price after 2008




Sources: Hoffmann and Huang (2018)

# Potential IV in China

| Housing Price | | | | |
|---|---|---|---|---|
| **Log of city government debt/GDP** | 0.126*** | 0.108*** | | |
| | (0.00960) | (0.00869) | | |
| **Log of city government loans/GDP** | | | 0.124*** | 0.110*** |
| | | | (0.00984) | (0.00880) |
| **Log of Developable pixcels per capita** | -0.325*** | -0.348*** | -0.325*** | -0.348*** |
| | (0.0156) | (0.0140) | (0.0157) | (0.0140) |
| YearFE | No | Yes | No | Yes |
| City FE | No | No | No | No |
| N | 992 | 992 | 992 | 992 |
| R2 | 0.422 | 0.544 | 0.414 | 0.545 |

Sources: Deng, Huang and Wu (2018)

# Conclusion


**I can not wait to read the draft of my dreaming paper soon!**