

Appraisal Inflation and Private Mortgage Securitization

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Summary

- This paper study the relationship between appraisal inflation and securitization
 - Sample focus on jumbo refinance loan to remove other concerns
- Results:
 - Mortgages with higher appraisal inflation around Key LTV notches have a higher probability of securitization
- Consequences:
 - Inflated appraisals on sold notch loans are associated with higher default.
- Why?
 - Adverse selection: Lenders likely exploit their informational advantage

Overall Comments

- Important question in the housing market
 - Nearly 100,000 licensed appraisers helped over 10 million homeowners to originate about \$2.7 trillion mortgages to finance home purchases and refinancing in 2006.
- As one type of financial intermediary in the housing market, their behaviour are affected by
 - Information environment (asymmetric information)
 - Incentive structure (relationship contract)
- Appraisal bias has consequences on home buyers and sellers, mortgage decisions and financial health for originators
- Policy debate: whether to use AVM to replace human appraisers
- Business model: ibuyer, machine learning, and automatic valuation model

July 11, 2017, 5:00 PM GMT+8

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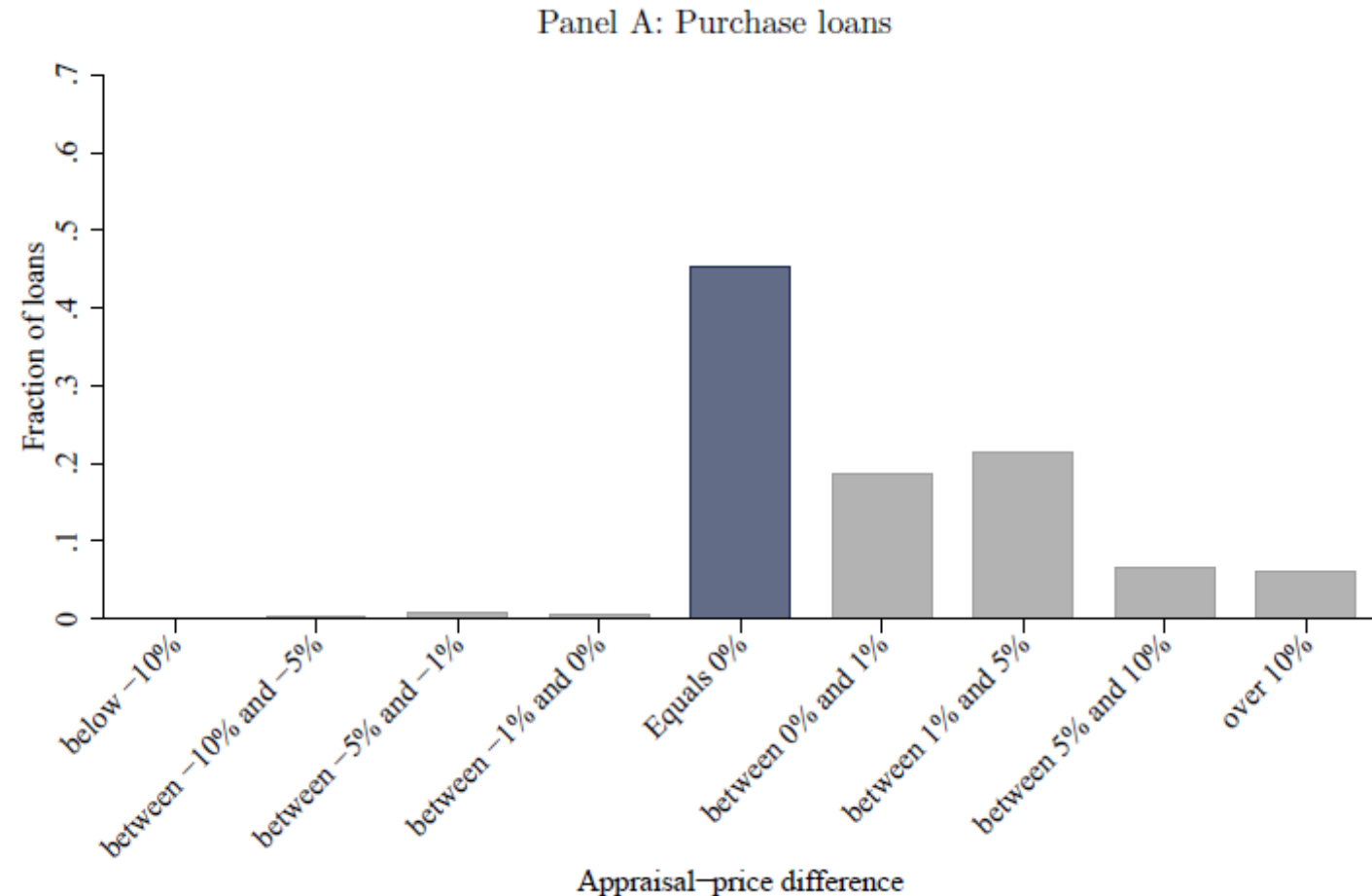
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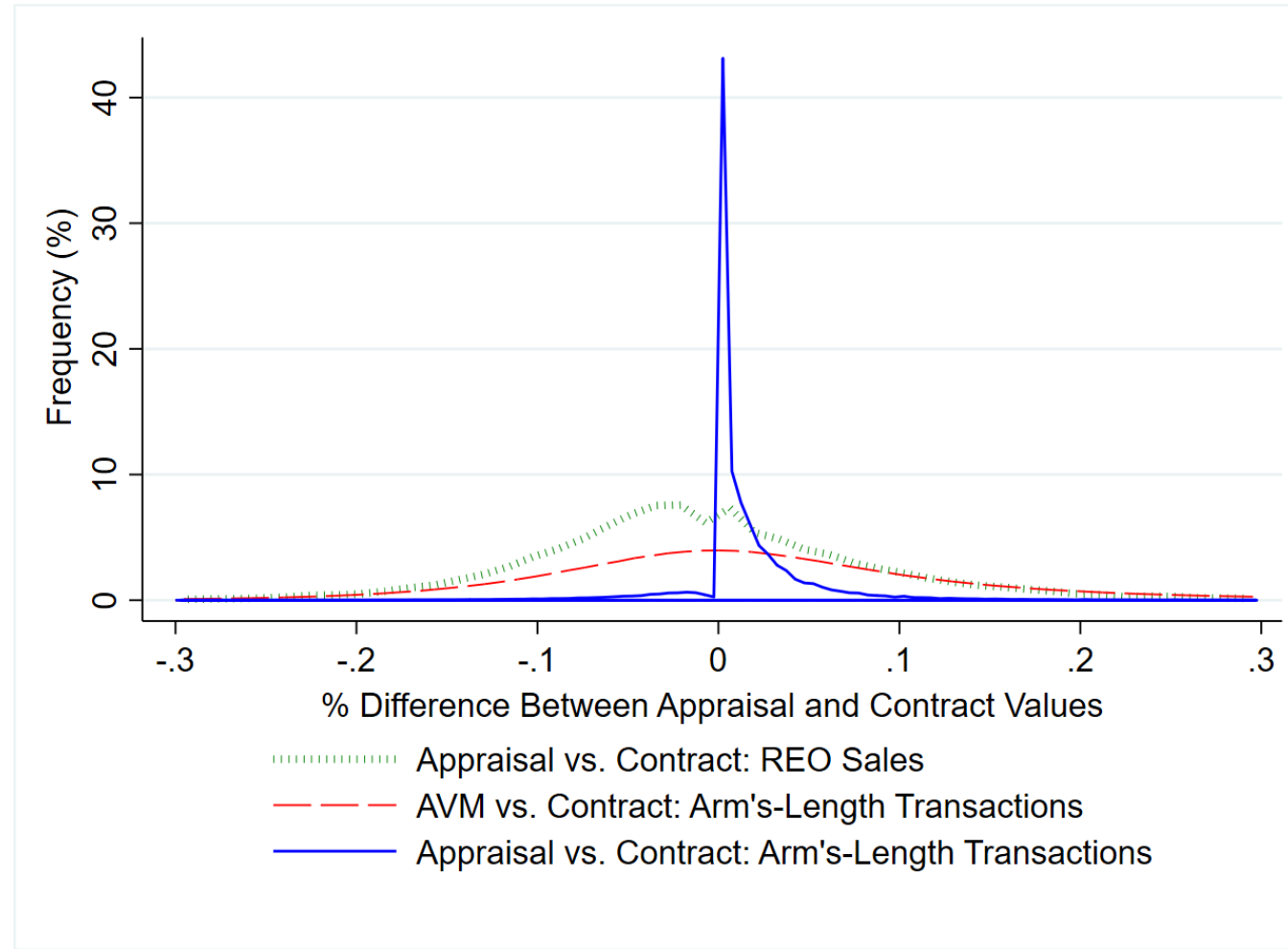
Is the pattern of appraisal inflation consistent in different sample?

- Kruger and Maturana (2020)
- Data: New Century Financial Corporation
 - 45% of purchase loan appraisals exactly equal purchase prices
 - Appraisals exceed automated valuation model (AVM) valuations by an average of 5%.
 - Appraisal bias predicts loan delinquency and RMBS losses



Is the pattern of appraisal inflation consistent in different sample?

- Agarwal, Song, and Yao (2021)
- Data: Universe of full appraisals collected by one GSE from 2013 to 2015
 - 31% of appraisals in the US bunch at the contract value
 - At-contract and above-contract appraisals predict higher mortgage default



Position in the literature

- Contribution:
- An alternative way to define appraisal inflation: local HPI adjusted
- link the appraisal inflation to *mortgage securitization* and mortgage default

Comment 1: Selection bias

- McDash data: Only include appraisals with successful loans.
- How does this bias the results?
- Appraisal inflation-> loan approval-> mortgage securitization
- If unsuccessful loan are unlikely to be securitized, the current estimation might be an underestimation of the effect of appraisal inflation on securitization

Comment 2: DID Specification

- Assumption: The ratio of Appraisal value to HPI adjusted price remain constant over time in the repeated sale.
- Variable Definition:
 - Refinance loan dependent variable is the ratio of *appraisal value* to HPI adjusted price
 - Purchase loan dependent variable is the ratio of *transaction price* of at the origination to HPI adjusted price
- Suggestion: purchase loan dependent variable should be the ratio of *appraisal value* of at the origination to HPI adjusted price

Comment 3: Interpretation

- Results: Inflated loans around LTV notches are more likely to be securitized
- Interpretation: Adverse selection vs moral hazard
 - Adverse selection: inflated loan are more likely to be securitized due to private information of lenders
 - Moral hazard: inflated loan are more likely to be securitized due to lax screening effort around LTV notches (Similar to FICO 620 in Keys et. al. 2010)

Comment 4: Consequences of appraisal bias

Table 6: Appraisal Inflation and Mortgage Performance to Default than Portfolio Notch Loans?

<i>Variable</i>	12-Month Default		
	<i>(1)</i> <i>All Loans</i>	<i>(2)</i> <i>Cash-Out Refi</i>	<i>(3)</i> <i>Term Refi</i>
Sec * Notch	0.0230** (0.0101)	0.0272*** (0.0095)	-0.0028 (0.0164)
Sec	0.0130*** (0.0042)	0.0128*** (0.0042)	0.0052 (0.0077)
Notch	-0.0066 (0.0082)	-0.0108 (0.0087)	0.0129 (0.0179)

Consequences of appraisal bias

- Delinquency/default is generally due to pre-origination selection or post-origination shock.
- Appraisal bias is likely to affect delinquency through selection.
- This would predict larger consequences for vulnerable borrower
- Suggestion: specification includes interaction with FICO and LTV>80

Summary

- Important paper
- Document the interesting relationship between appraisal inflation, securitization, and its consequences
- More on interpretations of interesting facts