Collateral Valuation and Borrower Financial Constraints: Evidence from the Residential Real Estate Market

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The views are those of the authors and may not reflect those of Fannie Mae

Motivation (Cont'd)

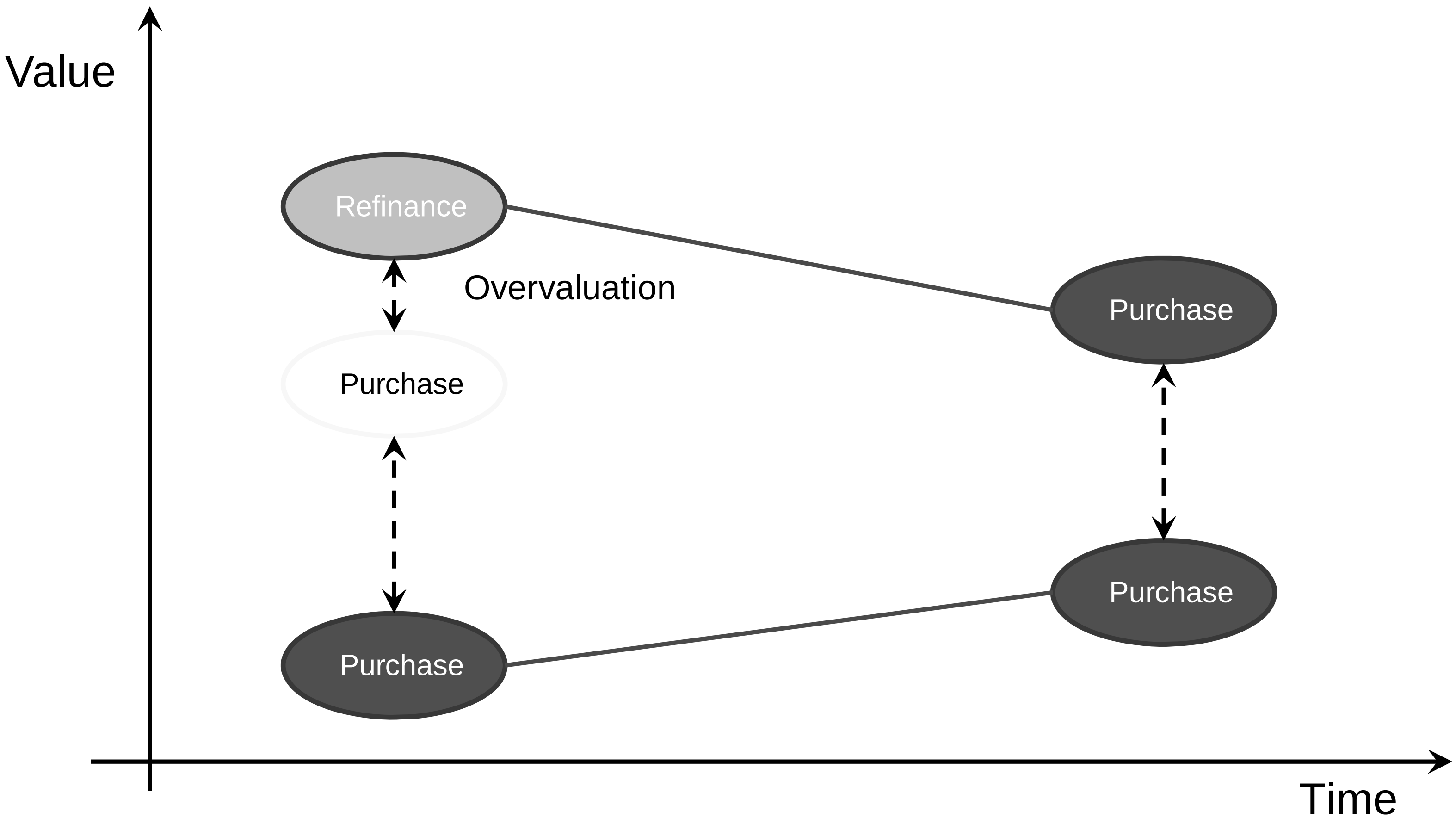
- Valuations (appraisals) effectively matter only

- Lingo:
  - Borrowers often complain that their ‘appraisal came in low’ or ‘value was cut’ implying the appraiser is at fault.
  - No one in the mortgage business ever says ‘borrower’s expectations were too high’ or ‘purchase price was unrealistic.’
- Many articles in the spirit of “How to Influence an Appraiser.” E.g., http://EzineArticles.com/3201545
  - Most appraisers are lazy, so you have to do Most

- Testimonies of Appraisers 11,000 appraisers complaining about harassment by loan officers and borrowers (http://appraiserspetition.com/index.htm)
  - Pressure comes from commission paid loan officers who often condition future assignments with achieving certain appraisal values
  - Some appraisers say that they were 'black listed' because they did not deliver the right values
  - "I have lost clients for NOT hitting a number"
  - "Appraisers

Likely Mechanism

Illustration of Methodology



- Controls: I(Default), I(Serious delinquency) Mortgage characteristics (t = 0): FICO, I(FRM 30), I(FRM 15), I(ARM short term), I(ARM Hybrid), I(No/low doc), I(Owner occupier), I(Condo), Debt r to income ratio, CLTV, Excess premium

- Fixed effects:

- First transaction: Refinance or purchase
  - Large mortgage insurer's data (includes valuation data)
  - 1990–2011
  - Conforming loans:
    - Prime borrowers (FICO > 620)
    - Mortgage size below GSE jumbo cutoff (currently $417,000)
  - In 49%, mortgages are originated by

- Nearlyr

Third Party Origination

Dependent variable:	Difference in standardized values (%)
Sample restriction (% of loan limit):	All
	(1)
Cash-out refi	-2.82***
	(-26.31)
× Third Party Originator	-2.25***
	(-20.83)
Rate refi	-2.57***
	(-26.17)
× Third Party Originator	-2.85***
	(-28.71)
Observations	1,011,749
Adj R^2	0.335

Full set of controls + fixed effects in all columns

- Third party origination is associated with appraisal bias of about 2.2%

Approaching the Jumbo Loan Cutoff

Dependent variable:				
Sample restriction (% of loan limit):	0%-85%	85%-95%	95%-98%	98%-100%
	(1)	(2)	(3)	(4)

- Loans that are close to the jumbo loan cutoff have significantly lower appraisal bias
- Near the jumbo loan cutoff there is little incentive to manipulate valuations, as loan size is capped

- Refinanced mortgages are more likely to default (e.g., Elul et al. 2010)
- Also, leverage is a key determinant of default
- Is it possible that appraisal bias is partly responsible for the high likelihood of default of refinance transactions?

- Test:
  - Calculate the corrected leverage
  - Run horserace of observed leverage and corrected leverage

- Hypothesis: there is information in the recalculated leverage
- Test:
  - Stage 1: Regress default indicator on observed leverage indicators
  - Stage 2: Regress residuals on recalculated leverage indicators
- When replacing the order of the

Mortgage Rates

Dependent variable:	Interest rate (%)
	Stage 1 (raw)
	Observed CLTV
70< CLTV <80	0.05***
CLTV = 80	0.10***
80< CLTV <=85	0.19***
85< CLTV <=90	0.25***
90< CLTV <=95	0.34***
95< CLTV <=100	0.51***
100< CLTV <=105	
105< CLTV <=110	
110< CLTV	
Other controls	Yes
MSA × YYQQ	Yes
Observations	1,011,749
Pseudo-R^2	0.056

- Hypothesis: lenders price inflated appraisals in mortgage rates
- Test:
  - Stage 1: Regress mortgage rate on observed CLTV indicators
  - Stage 2: Regress residuals on recalculated CLTV indicators
- When replacing the order of the regressions, there is no additional information in the "observed CLTV" over the "recalcualted CLTV"

- It appears that borrowers put pressure on appraisers and that lenders understand this and undo the effect by charging a premium on highly leveraged refi transactions
  - Similar to the adverse selection in the insurance market; insurers account for adverse selection by pricing contracts accordingly (e.g., Akerlof 1970, Abbring, Chiappori, and Pinquet 2003, Lewis 2011)

- Why can't the borrowers and lenders just agree on higher leverage?
  - There are regulatory barriers. E.g., GSEs are supposed to help homeownership cannot finance loans by more than 100%. The silent cooperation between borrowers and lenders effectic

- Appraisal bias increases with bubble

- Sample is restricted to refi transactions between 2001 to 2006; purchase transaction up to 2007
- MSAs

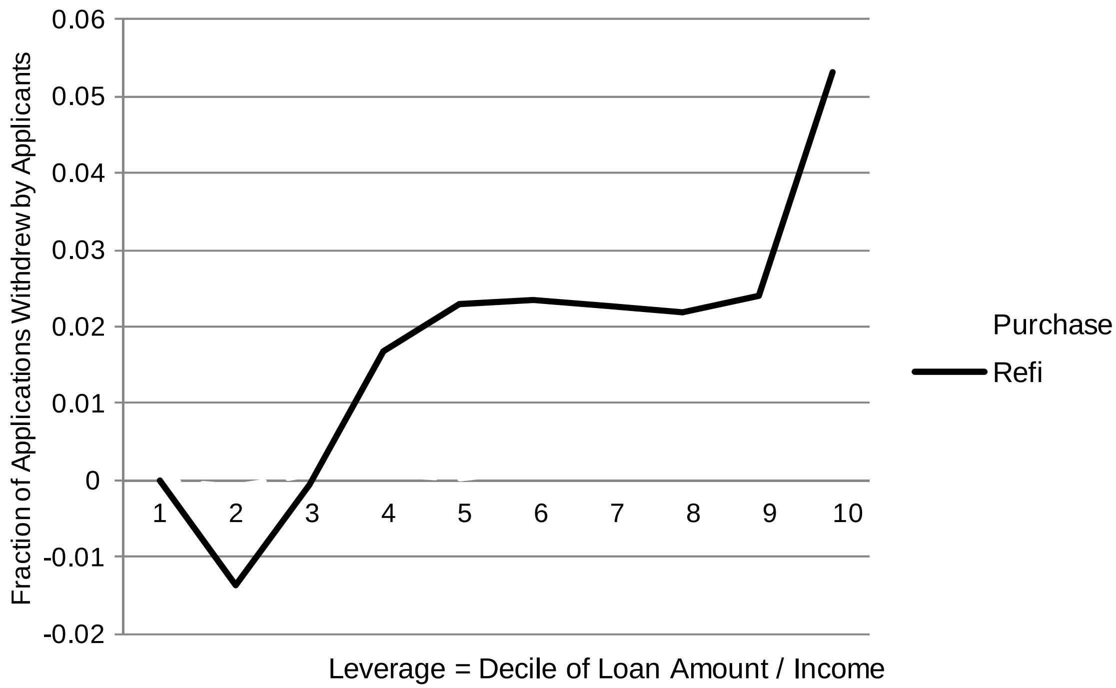
- It is possible that there is selection in the first transaction:
  - E.g., some refi/purchase take place because the value of the property is relatively high
- We can control for pre r first transaction by adding another purchase transaction to the series. Effectively, we have a sample of “triplets”.
- The results are similar.

Selection of First Transaction? Use AVMs

Dependent variable:			
Sample:			
Cash-out refi	3.86***	3.23***	
× Third Party Originator		1.18***	
× CLTV ” 70%			3.01***
× 70% < CLTV < 80%			3.69***
× CLTV = 80%			4.41***
× 80% < CLTV ” 85%			4.10***
× 85% < CLTV ” 90%			3.73***
× 90% < CLTV ” 95%			2.23***
× 95% < CLTV			2.50***
Defaulted + Serious*			

- In order not to condition on future transaction taking place, in the current specification we compare appraisals to automatic valuation model (AVMs)

Withdrawal of Applications by Borrowers



- Threatening loan officers to shop translates to higher withdrawal rate by borrowers. The effect is stronger for refi and for highly leveraged borrowers
- Data: HMDA; 2006; 31.4m applications
- The likelihood of application withdrawal is significantly higher for refinance, especially for highly leveraged borrowers

Conclusion

- We use diff in diff methodology to measure appraisal bias in residential refinance transactions
- Appraisal bias
  - 3.7% on average
  - Increases with leverage: 6.5% for loans with CLTV > 95%
  - 2.2% for loans originates by third party originators
- Although appraisal bias affects default, lenders are aware of this, and charge a premium for highly leveraged refi mortgages
  - Borrowers and lenders circumvent legal restrictions on high leverage lending
- Appraisal bias appears to be correlated with (contributed to?) the real estate bubble

- Endogeneity of refinancing
  - Refinance (being a voluntary transaction) is likely to follow price run up
  - We examine only the difference in valuation between a purchase

Methodology (Cont'd)

- Calculate the "adjusted valuation", i.e., valuation (or price) expressed in standard deviation terms

- Express the difference between two consecutive transactions:
  - The difference between two consecutive refinance and purchase transactions:
  - The difference between two consecutive refinance and purchase transactions:

Anecdotal Evidence

- Lingo:
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  - No one in the mortgage business ever says ‘borrower’s expectations were too high’ or ‘purchase price was unrealistic.’
- Many articles in the spirit of “How to Influence an Appraiser.” E.g., http://EzineArticles.com/3201545
  - Most appraisers are lazy, so you have to do the work for them
  - Find out if they are willing to use private sales from county records
  - Find your own comps
  - Prepare a complete comp package for them
  - Have your place clean (first impressions are lasting ones)
  - Use your network for leverage and influence
- Customized valuations: www.namethatvalue.com

- 11,000 appraisers complaining about harassment by loan officers and borrowers (http://appraiserspetition.com/index.htm)
  - Pressure comes from commission paid loan officers who often condition future assignments with achieving certain appraisal values
  - Some appraisers say that they were 'black listed' because they did not deliver the right values
  - "I have lost clients for NOT hitting a number"
  - "Appraisers are like pawns in some financial firm's game. If they don't get what they want, they blacklist you"
  - "Appraisals need to be ordered by someone without a vested

- Washington Mutual and eAppraiseIT (now CoreLogic) (July 2006 to April 2007)
- WaMu puts pressure on its appraiser firm eAppraiseIT to increase valuations
  – Objective: to sell mortgages more easily in the secondary market
- WaMu threatens with transferring business to competitors
  – Threat is realized in N California
- eAppraiseIT accepts WaMu’s terms:
  – “Proven Accepted List” of appraisers
  – Appraisers who do not hit the numbers are black listed

- NY Attorney General Cuomo sues eAppraiseIT (November 1, 2007)
  – Strong price reaction
  – R(79re)-13.2(a)-135((Nov)9. Tf .2312 0 TDr(h TD71dTc [(number)12262 0 TD

- Change in the sample composition
  - If we used only refinance-purchase pairs then change in sample composition could affect the results
  - Since we use also purchase-purchase pairs, this concern is mitigated

- Change in unobservable characteristics
  - E.g., properties that are refinanced are in good condition, but
    [illegible]