

Regulating Household Leverage

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Housing: Micro Data, Macro Problems

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Summary

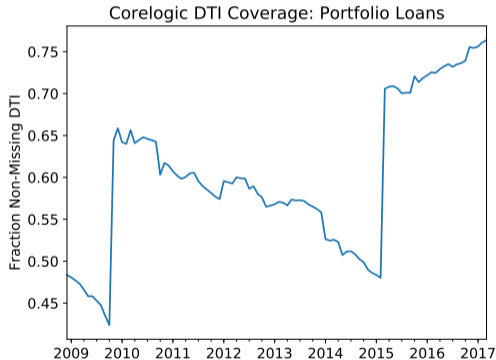
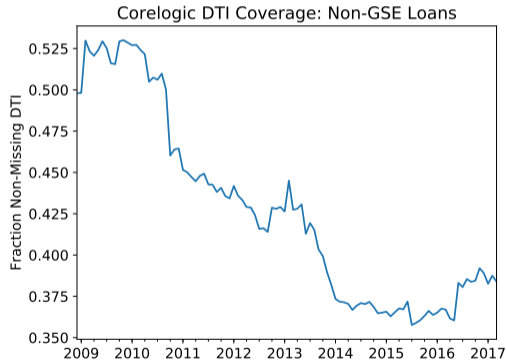
- ▶ Main question: how did credit markets respond to Dodd-Frank rules favoring mortgages with $DTI \leq 43$?
- ▶ Findings:
 1. Lenders charge 10 - 15 basis point premium for loans above limit after implementation (not due to borrower selection).
 2. Large effects on credit quantities: shifted 20% of affected borrowers to lower DTI loans, prevented 15% from borrowing altogether.
 3. DTI limit would have had modest effects on aggregate default rate in the crisis.
- ▶ My take: convincing overall, but should check extensive margin effect for data coverage issues.
 - What about 2008-2012 shift?
 - Good partial equilibrium estimate of effectiveness, but GE impact of policy also important.

DTI Data

- ▶ Key data issue: DTI field often missing in servicer data (see Foote, Gerardi, Goette, Willen (2009) for LPS data).
- ▶ Here: extensive margin effect (loans not made due to policy) depends on loan counts, which comes from sample with **non-missing** DTI data.
- ▶ Need to make sure that changes in coverage don't affect extensive margin numbers.

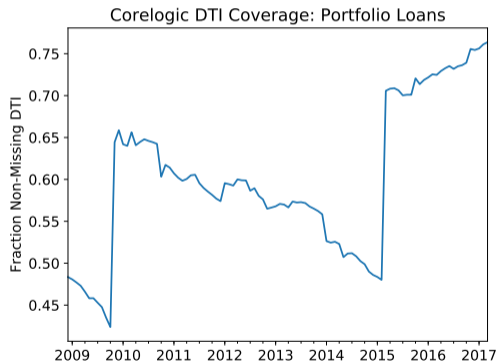
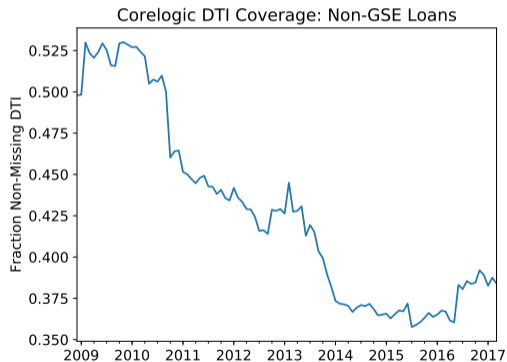
DTI Coverage

- ▶ Highly non-scientific analysis (all loans, not originations): coverage may be time-varying in CoreLogic LLMA. Did new regulations/conditions influence coverage?



DTI Coverage

- ▶ Suggestion: use HMDA data to discipline loan counts?

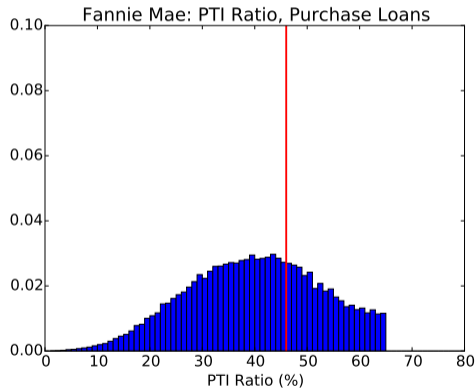


Tip of the Iceberg?

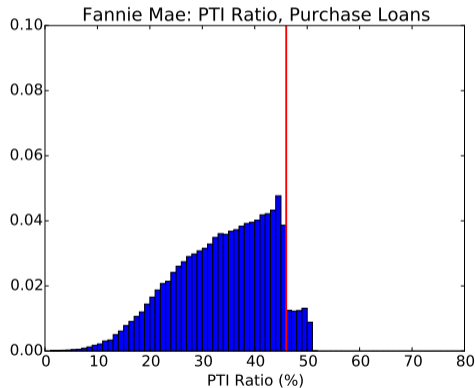
- ▶ Banks in sample typically won't give out DTIs over 45% in 2013-2014 period.
- ▶ Ability to Repay rules shift DTI from counterfactual distribution for most loans by $\leq 2\%$.
- ▶ Limit at 45% appears to follow GSE underwriting policy, which underwent major shift during housing crash.

DTI Coverage

- ▶ Fannie Mae data: shift from essentially no DTI limit to strict 45% cap over 2008-2012.



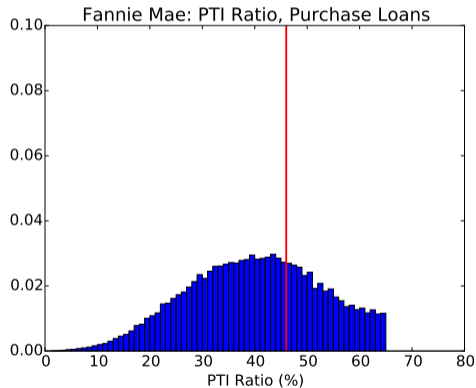
(a) DTI Ratios: 2008 Q1



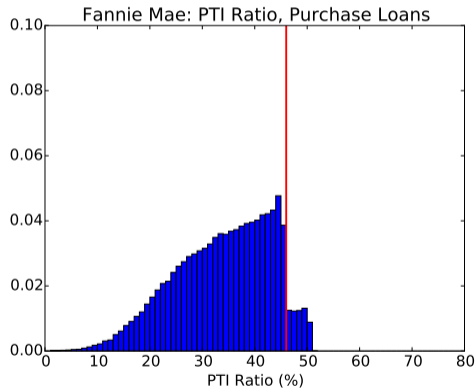
(b) DTI Ratios: 2012 Q1

DTI Coverage

- ▶ What was the effect of this shift on lending? Not as well identified as Ability to Repay policy change but economic impact could be huge (bigger change over entire market).



(a) DTI Ratios: 2008 Q1



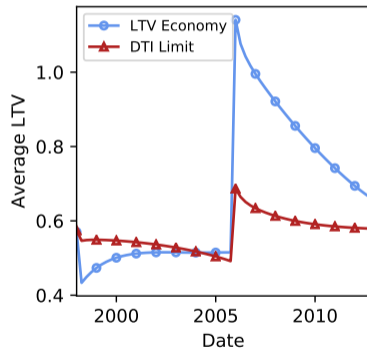
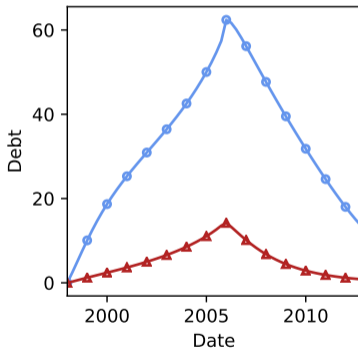
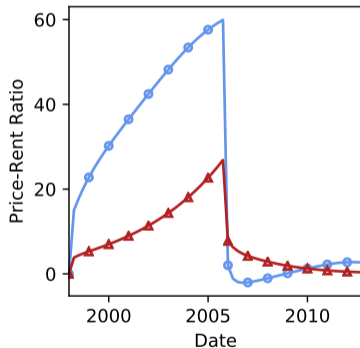
(b) DTI Ratios: 2012 Q1

Policy Effectiveness

- ▶ Authors argue (convincingly) that direct effect of counterfactual 43% DTI limit on defaults in boom would be very limited.
- ▶ Past research (e.g., Foote et al., 2009) have similarly found small direct impact of DTI on default.
- ▶ This is partial equilibrium effect based on authors' reduced form estimates. But **general equilibrium** effect (through house prices) could be large!
- ▶ Intuition: lower DTI ratios \implies smaller loans \implies huge down payments \implies fall in housing demand \implies smaller boom-bust \implies less default.

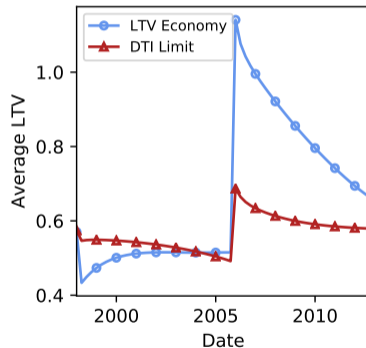
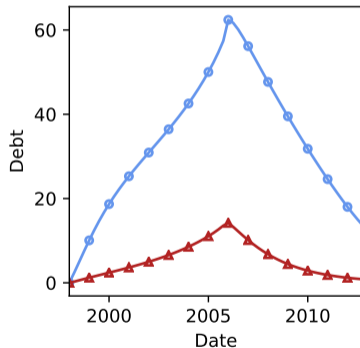
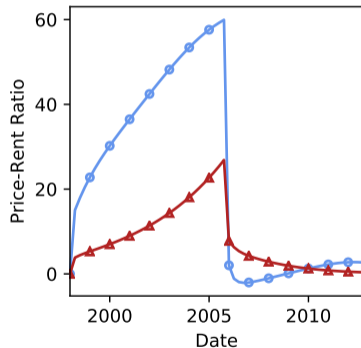
GE Effects

- ▶ Greenwald (2016): strict DTI limit can effectively limit boom-bust cycles.



GE Effects

- ▶ Example: expected house price appreciation scenario dramatically dampened by 36% limit.



Conclusion

- ▶ Careful evaluation of important policy change.
 - Calculation of counterfactual distribution very convincing.
 - May want to check robustness of extensive margin to DTI coverage.
- ▶ Could have a lot to say about 2008-2012 DTI shift!
- ▶ Great PE estimate of policy effectiveness.
 - Big picture analysis needs to take GE effects into account.