



FURMAN CENTER
FOR REAL ESTATE & URBAN POLICY
NEW YORK UNIVERSITY
SCHOOL OF LAW • WAGNER SCHOOL OF PUBLIC SERVICE



Market Failure and the Need for Regulation

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Theories of Market Failures Underlying the Mortgage Crisis

- In the underwriting/securitization of mortgages
- In consumers' understanding of or ability to choose between owning and renting, or between financial products
- In the investors'/servicers' decision to foreclose or modify
- In the regulation of mortgage products

Failures in Consumers' Understanding of, and Choices Between, Options/Products

- Overestimating the potential for house price appreciation/underestimating the risk of stagnation or depreciation
- Overestimating the potential for refinancing
- Underestimating the risk of interest rate increases
- Underestimating the risk of income shocks
- Underestimating the ability to secure credit on better terms
- Overestimating the benefits/underestimating the costs of homeownership

Furman Center/FRBNY “Pathways” Project using New York City Data Set

LoanPerformance mortgage data, merged with:

- Deeds records from NYC Dept. of Finance
 - Property characteristics from tax assessment records
 - Neighborhood characteristics from the Census
 - Neighborhood foreclosure data
 - Community District level repeat-sales house price indices
 - HMDA
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- Work by Sewin Chan, Mike Gedal and Vicki Been at NYU’s Furman Center; Andy Haughwout at FRBNY

Purpose is to study the determinants of delinquency, foreclosure and aftermath

- Data allows us to jointly explore the role of:
 - Borrower characteristics
 - Loan characteristics
 - Property and neighborhood characteristics
- And to incorporate very local house price dynamics

But the work can tell us something about consumer choices

- First lien mortgages originated 2004-2008 in NYC, observed until December 2008
- Mortgages include both 30 year fixed rate mortgages and 2/28 and 3/27 adjustable rate mortgages
- Total of 1,236,262 monthly observations, representing 59,735 mortgages

Borrower and loan characteristics

	FRMs	ARMs
Default rate	15%	25%
Averages at origination:		
FICO credit score	667	621
Debt-to-income (DTI)	40%	42%
Combined LTV	70%	77%
Interest rate	6.9%	7.4%
Original loan amount	\$360,000	\$352,400
ARM margin		5.9%
Fraction >20% payment shock:		9.2%

Borrower race and gender

	FRMs	ARMs
Primary borrower:		
Female	39%	43%
Hispanic white	11%	13%
Black	30%	40%
Asian	9%	8%

Neighborhood characteristics

	FRMs	ARMs
Census tract averages:		
Median income	\$42,000	\$40,500
Residential units foreclosed	0.9%	1.0%
HMDA denials in past 6 months	55%	54%
Hispanic residents	8%	6%
Black residents	40%	50%
Asian residents	8%	6%

Empirical specification

- Cox proportional hazard model
- Dependent variable:
hazard of becoming 90 days delinquent
- Explanatory variables:
 - borrower, loan, neighborhood characteristics
 - time fixed effects

Hazard model results: borrower and loan characteristics

We broadly confirm results from the literature that default increases with:

- higher current combined LTV
- lower credit scores
- higher DTI
- higher interest rate at origination
- higher loan amount
- higher ARM margin
- large ARM payment shocks

Borrowers may underestimate the risk of depreciation

- For FRMs, having a current LTV higher than 95 is associated with a default hazard that is 3 ½ times higher than FRMs with LTVs lower than 60
- For ARMs, the effect is more than twice as large

Borrowers may under-estimate the risk of interest rate shocks

- Even for hybrid ARMs with less than 20 % increase in payments, from 7 months after the initial adjustment, the default hazard is 50 % higher than before the adjustment
- For those with payment shocks greater than 30%, the default hazard is over twice as high 5 months post adjustment compared with before adjustment
- 3/27 ARMs have significantly lower default rates overall than do the 2/28 ARMs

Borrowers may under-estimate the costs of homeownership

- Home purchase loans have higher default rates than do refinances, perhaps because refinancers have longer housing tenure & are not 1st time borrowers
- Owner-occupiers have higher default rates for ARMs compared with investors (though owner-occupancy is self-reported and maybe unreliable)
- Single family homes have higher default rates than buildings with 5 or more units, including condos, perhaps because multi-unit buildings often provide additional financial controls on buyers

Behavioral law & economics must consider:

- Role of Race
- Role of Neighborhood

Race

- 40% of subprime ARM borrowers, and 30% of subprime FRM borrowers, are African American
 - Only 25% of population of NYC was African American in 2000
 - Only 13% of home purchase borrowers in NYC were African American in 2007
- Nationwide and in NYC, African Americans are more likely to have subprime loans

Can behavioral law & economics explain those disparities?

Racial Disparities in High Cost Lending

Characteristics of HMDA Borrowers

	White Borrowers	Black Borrowers	Hispanic Borrowers
National (2006)			
% 1 st Lien Home Purchase loans that are High Cost	17.7%	53.3%	46.2%
% Refinance loans that are High Cost	25.5%	51.7%	38.6%
New York City (2004-2007)			
% 1 st Lien Home Purchase loans that are High Cost	7.8%	40.8%	30.1%
% Refinance loans that are High Cost	17.5%	37.3%	29.5%

Neighborhood characteristics

The risk of default increases with:

- higher neighborhood foreclosure rates
- lower neighborhood median income
- higher percentage of black residents in the neighborhood

Can behavioral law & economics explain those effects?







Why is it important to regulate?

- Effects on families in delinquency and foreclosure
- Effects on lenders and their shareholders
- External effects:
 - Neighbors who suffer declines in the value of their homes
 - Neighbors who suffer declines in the quality of life because of vacancies & reductions in maintenance, which may increase crime, health threats such as rodents or mosquitoes, neighborhood social capital, and aesthetic affronts

The importance of regulation, continued

- Effects on children forced to move homes and perhaps schools in the middle of the school year, or in off-years
- Effects on their classmates, whose own education may be disrupted by classmates' mobility
- Effects on the tax revenues of local governments
- Effects on the expenditures local governments must make for policing, fire, maintenance

% Non-white

-  16.2% - 42.1%
-  42.2% - 63.7%
-  63.8% - 78.2%
-  78.3% - 99.4%
-  Foreclosures
-  Parks & Airports

