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# The Impacts of Affordable Lending Efforts on Homeownership Rates

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Presentation

Panel on Mortgage Rates and Homeownership at the American Enterprise Institute  
October 25, 2002

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(Research supported by grants from the Zell/Lurie Wharton Real Estate Center and Freddie Mac)

Forthcoming, *Journal of Housing Economics*

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## Context: Policy Objective - Increased Access to Homeownership

- Initiatives to Increase Homeownership Opportunities
  - GSE Affordable Lending Efforts
  - Goal: To make borrowing more accessible to lower income and minority populations
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# GSE Conforming Loan Market Standards

- GSE downpayment
    - standard 20%
    - 10% with private mortgage insurance
    - often purchase mortgages with 5% down payments
  - GSEs payment-to-income ratios
    - housing payments not to exceed 28% of income
    - housing combined with other debt payments not to exceed 36% of income
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# Four GSE Affordable Lending Products

- Freddie Mac Affordable Gold Initiatives
    - For Income Qualified
    - Affordable Gold 5: downpayment as low as 5%
      - all funds from borrower's personal cash
    - Affordable Gold 3/2: downpayment as low as 5%
      - only 3% must come from borrower's own resources
    - Affordable Gold 97: 97% loan to value ratio
      - 3% downpayment from borrower's personal resources
  - Freddie Mac's Alt 97: 3% downpayment
    - downpayment need not come from borrower's resources
    - targeted to buyers with little savings but good credit history
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# Impact of Initiatives

- Some evidence that affordable lending initiatives may be having an impact
    - HMDA data
      - # of loans to families w/ incomes at or below 80% of median increased 38% between 1993 and 1997, compared with 27% growth for loans to higher income families.
    - GSE data on share of business going to low and moderate income households show same pattern
  - Gap: No examination of impact of specific affordable lending programs
    - omission since this information is crucial for evaluating impact of programs
    - need to evaluate program design for populations of interest: minority, low to moderate income, young households, center city
    - do downpayment or income requirements present a higher constraint to home ownership?
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## Literature Review

- Linneman and Wachter. (1989) “The impacts of borrowing constraints on homeownership.” *AREUEA Journal*.
  - Zorn. (1989) “Mobility-tenure decisions and financial credit: Do mortgage qualification requirements constrain homeownership?” *AREUEA Journal*.
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  - Haurin, Hendershott, and Wachter. (1997) “Borrowing constraints and the tenure choice of young households.” *Journal of Housing Research*.
  - Linneman, Megbolugbe, Wachter, and Cho. (1997) “Do borrowing constraints change U.S. homeownership rates?” *Journal of Housing Economics*.
  - Feldman.(2000) “Mortgage Rates, Homeownership Rates, and GSEs.” *Minn. FRB Bulletin*.
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# Methodology

- Objective: to determine changes in homeownership propensities that result from use of flexible underwriting guidelines
  - Methodology: Three Parts
    - 1. Construction of key variables
    - 2. Logistic estimation of tenure choice equation
    - 3. Simulation of changes in predicted probabilities of ownership under affordable lending scenarios
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# Construction of Key Variables

## ■ Key Variables

- Relative housing price
    - value/rent and own/rent ratios
  - Permanent income - estimation approach (Goodman 1998)
  - Demographics
    - age
    - household size
    - marital status
    - male/female head of household
    - minority status
  - Income and downpayment constraints
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# Borrowing Constraints

- Household defined as:
    - Income constrained
      - If mortgage payment on optimal home exceeds 28% of monthly income
    - Wealth constrained
      - If 10 % downpayment on optimal home exceeds household wealth
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# Tenure Choice Estimation

- Tenure decision model
    - $\text{Prob}(\text{own}) = \text{permanent income} - \text{transitory income} - \text{own/rent} + \text{value/rent} + \text{age} - \text{household size} + \text{married} - \text{male} \pm \text{black} \pm \text{Hispanic} - \text{income constrained-wealth constrained}.$
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# Changes in Homeownership Propensity

Scenario	PITI	Interest Rate	Downpayment
Baseline Conventional (28/8/20)	28%	8%	20%
1. Conventional (28/6/20)	28%	6%	20%
2. Conventional (33/8/5)	33%	8%	5%
3. Affordable (38/8/5)	38%	8%	5%
4. Affordable (33/8/3-2)	33%	8%	3% (95% loan/value)
5. Affordable (38/6/3)	38%	6%	3%
6. Alt97/Flex 97 (33/8/0-3)	33%	8%	0% (97% loan/value)

Table 2. Mean and Standard Deviation of Model Variables

Variable	Mean	St. Dev
Own home	0.6526	0.4761
House Value	104,480.70	57,351.16
Household Income	42,341.29	35,233.77
Permanent Income	38,748.26	21,988.82
Transitory Income	3,592.96	32,383.80
Age of Head of HH	48.89	17.193
Own/Rent Ratio	1.4051	0.1214
Valrent Ratio	1.3881	0.0312
Family size	2.64	1.479
Ever Married	0.8377	0.3687
Male Head of HH	0.6353	0.4813
Black Head of HH	0.1162	0.3204
Hispanic Head of HH	0.0874	0.2825
In Central city	0.3336	0.4715
Recent movers	0.3509	0.4749
Assets	125,711.69	231,941.13

Table 3. Incidence of Borrowing Constraints

Variable	Baseline Scenario 28/8/20	Scenario 1 28/6/20	Scenario 2 33/8/5	Scenario 3 38/8/5	Scenario 4 33/8/3-2	Scenario 5 38/6/3	Scenario 6 33/8/0-3
Full Sample							
Income Constrained	11.6	7.5	11.8	8.8	12.2	5.8	12.2
Wealth Constrained	33.8	33.8	16.9	16.9	14.3	14.3	0
Black Head of Household							
Income Constrained	9.5	6.7	9.6	7.6	9.9	5.4	9.9
Wealth Constrained	45.4	45.4	20.3	20.3	16.5	16.5	0
Recent Movers							
Income Constrained	10.8	7.2	10.9	8.3	11.3	5.6	11.3
Wealth Constrained	55.4	55.4	28.4	28.4	24.2	24.2	0
Low to Moderate Income							
Income Constrained	33.8	23.1	34.2	26.5	35.1	18.3	35.1
Wealth Constrained	38.2	38.2	16.6	16.6	13.0	13.0	0
In Central City							
Income Constrained	11.4	7.7	11.6	8.9	11.9	6.3	11.9
Wealth Constrained	40.2	40.2	18.6	18.6	15.5	15.5	0
Young Households							
Income Constrained	7.5	4.9	7.6	5.8	8.0	3.9	8.0
Wealth Constrained	63.2	63.2	29.2	29.2	24.6	24.6	0

Table 5. Logistic Estimation of Probability of Ownership (Baseline model, all households)

V a r i a b l e	C o e f f .	S t . E r r .	P r o b - v a l
I n t e r c e p t	2 . 1 5 8 1	0 . 2 7 0 0	0 . 0 0 0 1
P e r m a n e n t I n c o m e	0 . 0 0 0 1 0 8	1 . 6 2 E - 6	0 . 0 0 0 1
T r a n s i t o r y I n c o m e	- 0 . 0 0 0 1	7 . 6 0 E - 7	0 . 0 0 0 1
O W N R E N T <sup>1</sup>	- 5 . 2 7 4 2	0 . 1 5 1 4	0 . 0 0 0 1
V A L R E N T <sup>2</sup>	8 . 4 3 5 9	3 . 7 0 8 1	0 . 0 2 2 9
A g e o f H H H e a d	0 . 0 5 8 5	0 . 0 0 1 1 9	0 . 0 0 0 1
F a m i l y s i z e	- 0 . 0 2 4 9	0 . 0 1 2 7	0 . 0 4 9 4
E v e r m a r r i e d	0 . 4 3 7 2	0 . 0 4 6 5	0 . 0 0 0 1
M a l e h e a d o f H H	- 0 . 4 6 7 1	0 . 0 3 5 0	0 . 0 0 0 1
B l a c k h e a d o f H H	0 . 1 4 1 9	0 . 0 4 7 8	0 . 0 0 3 0
H i s p a n i c h e a d o f H H	0 . 2 8 1 2	0 . 0 5 7 8	0 . 0 0 0 1
I n c o m e c o n s t r a i n e d	- 0 . 5 6 5 0	0 . 0 5 0 4	0 . 0 0 0 1
W e a l t h C o n s t r a i n e d	- 1 . 7 0 0 8	0 . 0 3 6 7	0 . 0 0 0 1
N u m b e r o f O b s e r v a t i o n s	4 0 0 2 7		
- 2 l o g L	I n t c e p t O n l y	I n t . & c o v	C h i - s q p v a l
	5 1 4 5 5	2 5 9 4 1	0 . 0 0 0 1

Table 6. Propensities for Homeownership under Alternate Underwriting Criteria

Variable	Baseline Scenario 28/8/20	Scenario 1 28/6/20	Scenario 2 33/8/5	Scenario 3 38/8/5	Scenario 4 33/8/3-2	Scenario 5 38/6/3	Scenario 6 33/8/0-3
Full Sample	65.7	66.1	68.9	69.1	69.9	69.8	73.4
Black Head of HH	43.8	43.9	48.2	48.4	49.0	49.2	53.1
Recent Movers	38.1	38.4	41.1	41.3	41.7	42.1	45.5
Low-mod Income	47.2	48.4	51.3	52.6	51.8	53.7	55.7
In Central City	50.5	50.7	54.0	54.6	54.5	54.7	57.7
Young HH	32.4	32.5	36.4	36.5	37.0	37.1	41.0

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## Conclusion

The findings indicate that affordable lending efforts increase homeownership opportunities for underserved populations. Freddie Mac's Alt 97 increases the relative probability of homeownership for young households by 27.1%, for black households by 21% and for center city households by 15%.

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