

# Color, Loan Approval, and Crimes: The Dark Side of Mortgage Market Deregulation

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## Motivation

### What is the effect of credit expansion on minorities?

- Credit expansion **improves the real economy** (Di Maggio and Kermani, 2017) by increasing employment, economic growth, and housing price
  - Credit expansion may improve the welfare of minorities through increase in access to credit or a spillover effect from better economic conditions
- Racial discrimination** in mortgage lending is a longstanding problem (Bayer, Ferreira, and Ross, 2018)
  - The unequal treatment makes the overall effect of credit expansion on minorities unclear

## Data

Mortgage origination and loan approval rate data:

- Home Mortgage Disclosure Act (HMDA)

Criminal offense data:

- National Incident-Based Reporting System (NIBRS)

County characteristics and housing price data:

- U.S. Census Bureau, Zillow

## Identification

- 20 states enacted stronger **antipredatory-lending laws** (APL) by the end of 2006 to curb abusive lending
- The Office of the Comptroller of the Currency (OCC) **exempts the national banks from state APLs** in 2004

This regulation creates an **exogenous credit supply shock** with two sources of variation:

- The preemption rules only affect the states with APLs
- Counties with higher exposure to national banks are affected more by this new regulation

## Methodology

$$Y_{i,t} = \beta_1 APL_{g,t} \times Post_t \times OCC_i + \beta_2 APL_{g,t} \times Post_t + \beta_3 Post_t \times OCC_i + \beta_4 APL_{g,t} \times OCC_i + \beta_5 APL_{g,t} + County FE + Year FE + \gamma Controls_{i,t} + \varepsilon_{i,t}$$

$Y_{i,t}$ : Measures of loan approval rate for county  $i$  in year  $t$   
 $APL_{g,t}$ : A dummy equals to one for state  $g$  with APL in year  $t$

$OCC_i$ : fraction of loans originated by national banks in 2003 in county  $i$

$Post_t$ : A dummy equals to 1 after 2004

Controls: median household income, population, unemployment rate, labor participation rate, poverty rate

## Empirical Results

- Loan approval rate significantly increases** for the overall sample and for white applicants
  - Black applicants are **left out in the process**

	(1)	(2)	(3)
	All Applicants	White Applicants	Black Applicants
$APL_{g,t} \times Post \times OCC$	0.155*** (0.0358)	0.149*** (0.0373)	-0.179 (0.209)
$APL_{g,t} \times Post$	-0.0552*** (0.0109)	-0.0557*** (0.0113)	0.0528 (0.0639)
$Post \times OCC$	-0.0708*** (0.0186)	-0.0717*** (0.0189)	0.146 (0.101)
$APL_{g,t} \times OCC$	-0.0440 (0.0297)	-0.0419 (0.0287)	-0.334* (0.172)
$APL_{g,t}$	-0.00255 (0.00850)	-0.00312 (0.00832)	0.0781 (0.0525)
Controls	Yes	Yes	Yes
County FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	5,178	5,178	4,581
R-squared	0.767	0.743	0.288
# counties	740	740	730

2. **Housing price growth increases by 32.9%** in a county fully exposed to the mortgage deregulation

3. **Unintended negative consequence** of unequal credit distribution: effect of credit-supply-driven housing price growth on crime rate
 

- A 10% rise in the housing price growth induced by the credit expansion increases the **black offenders' money-related crime rates** by 21.9%

$$\ln(1 + Crime\ rate)_{m,i,t} = \beta Housing\ Price\ Growth_{i,t} + Agency\ FE + Year\ FE + \gamma Controls_{i,t} + \varepsilon_{m,t}$$

	(1)	(2)	(3)	(4)
	Money-Related Crime		Other Crime	
	Black Offenders	White Offenders	Black Offenders	White Offenders
Housing Price Growth	2.193*** (0.831)	0.745 (0.567)	0.295 (0.832)	0.770 (0.571)
Controls	Yes	Yes	Yes	Yes
Agency FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	6,190	6,190	6,190	6,190
R-squared	0.915	0.853	0.921	0.839
# agencies	1,104	1,104	1,104	1,104

- Money-related crimes: burglary, larceny, motor vehicle theft, robbery, and drug/narcotic offenses
- Other crimes: assault, arson, rape, murder, etc.

## Conclusion

- We find an **unintended adverse consequence** of mortgage market deregulation on **minorities**
- An increase in the **financial burden and stress** from rising housing prices induced by mortgage market deregulation propel black offenders to commit **money-related crimes**