

Lending Patterns in Poor Neighborhoods

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Overview

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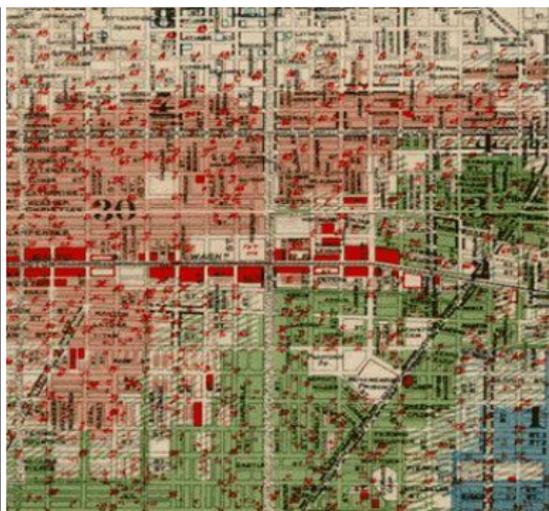
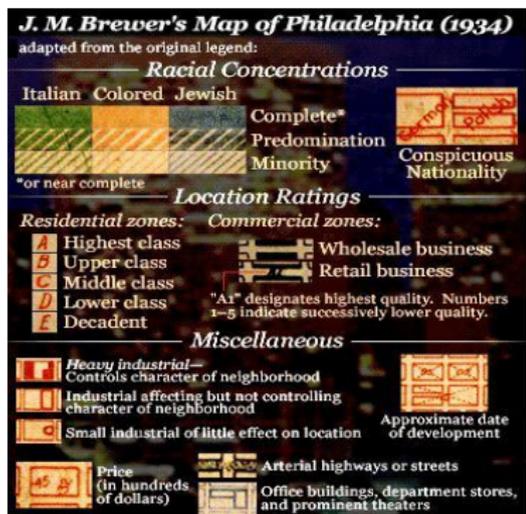
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Then: Redlining Era 30's → Late 60's

'All location ratings and racial concentration quotes are the opinion only of J.M. Brewer after careful investigation of the location.'



Source: *The Free Library of Philadelphia's Map Collection-The Cartographic Modeling Laboratory*

<http://www.cml.upenn.edu>

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- Racial segregation, positively related to subprime lending, given credit score, poverty, median home prices (Squires, Hyra, and Renner, 2009)
- Borrower's decisions influenced by formal/informal advice, social networks (Pittman, 2008)
Poverty is likely to affect social ties formation

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Lower reliance on mainstream financial institutions may have strengthened this effect
Only channel that induces social multiplier effect

Working with Aggregate Data

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$$Ay = \rho AW_d y + Ae \neq \tilde{\rho} W_a Ay + Ae$$

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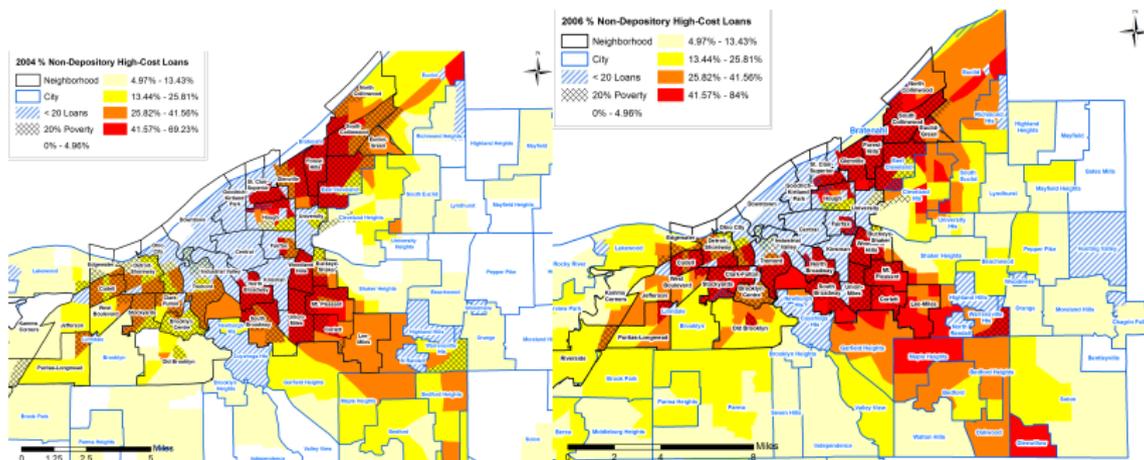
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- Are social effects stronger in poorer neighborhoods? We make no attempt to separate endogenous from exogenous effects

Non-Depository Subprime Lending Rates in Cuyahoga County, OH - 2004 and 2006



Number of Loans by Census Tract and Year

	All loans			Refi, HI only			Ratio Refi/All		
year	2004	2005	2006	2004	2005	2006	2004	2005	2006
tracts	487	486	486	483	475	476	483	475	476
p10	18	17	12	10	11	7	0.46	0.40	0.34
p25	51	49	36	30	26	18	0.52	0.47	0.39
p50	93	87	68	56	46	32	0.58	0.52	0.47
p75	146	133	102	83	69	46	0.64	0.58	0.54
p90	188	176	138	105	92	62	0.71	0.65	0.60
p100	407	492	295	219	206	142	1.00	1.00	1.00
mean	101.93	95.23	72.22	58.72	49.98	33.63	0.58	0.52	0.47
stdev	68.16	64.28	48.59	37.29	31.85	21.46	0.12	0.11	0.13

Distribution of % Tract Pop. Below Poverty Line

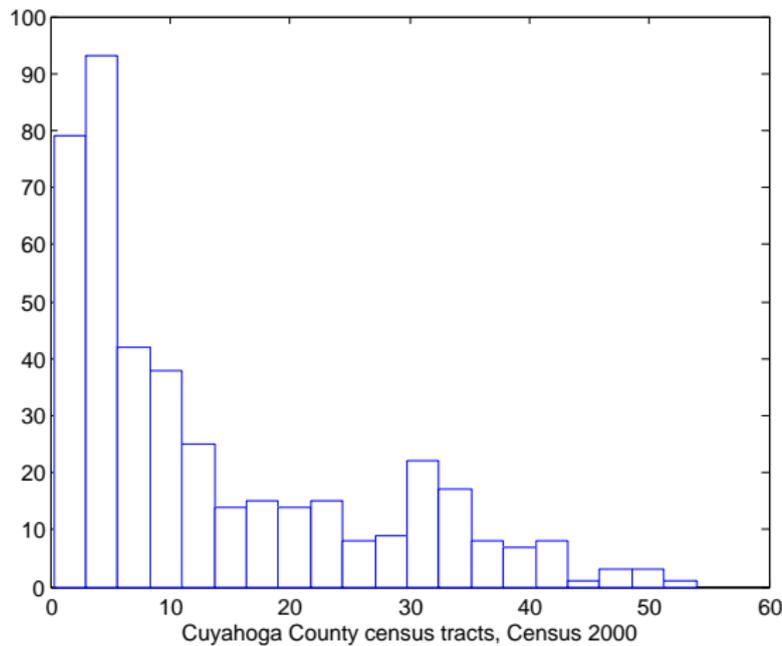


Figure: x: % population in poverty, y: tract count

Spatial Model of Subprime Lending in Poor and-Non Poor Neighborhoods

$$Y = \rho_p PWY + \rho_{np}(I - P)WY + \alpha P1_{mT} + X\beta + WX\theta + \lambda_T \otimes 1_m + \epsilon$$

y_{it} = Subprime lending rate in census tract i during year t

$P = I_T \otimes \text{diag}(p_i)$, p_i dummy for poverty in census tract i

Poor if $z\%$ of its population was below the official poverty line in 2000

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MLE: Dual-Regime Spatial Durbin Model

Run for all mortgages and restricted to refi and HI only

Dependent Variable: Non-depository high cost lending rate

Variable	Coeff.	z-prob.
$P_{\geq 20\%}$	0.29	0.001
% lowcred	0.400	0.000
% afamerican	0.158	0.000
% nohschool	0.381	0.000
borr. income	-0.056	0.000

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slag lowcred	-0.096	0.207
slag afamerican	-0.277	0.195
slag nohschool	-0.249	0.000
slag borr. income	-0.001	0.248

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slag borr. income	-0.001	0.248
slag $y_{<20\%}$	0.281	0.000
slag $y_{\geq 20\%}$	0.487	0.000
Δ slag y	-0.201	-5.338
R^2	0.862	
σ^2	0.0057	
tracts	422	
years (fixed effects)	3	

Additional Regression Results

- Results hold for models with 30 and 40 percent threshold, only poverty dummy becomes statistically insignificant
- The restricted model (refi, home improvement) finds significant but weaker effects, as expected.

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- Social interactions in poor neighborhoods may have facilitated the higher rates of subprime lending
- Race at the neighborhood level highly associated with rates of subprime lending
- Availability of products in the traditional financial system that meet the needs of low income borrowers