

Stepping stone or quicksand? The role of consumer debt in the U.S. geography of economic mobility

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Motivation: How might credit affect mobility?

Access to credit may fund investment

- Student debt funds human capital investment; without it youth underinvest
 - Lochner and Monge-Naranjo (2015), Ellwood and Kane (2000), Belley and Lochner (2007)
- (Unsecured) consumer credit funds childrearing, without it parents underinvest
 - Cunha and Heckman (2007)
- Credit card, home equity and other debt fund entrepreneurial activity
 - Adelino, Schoar, and Severino (2014), Hurst and Lusardi (2002)



Motivation: How might credit affect mobility?

Limited financial capability + arcane financial contracts may generate debt traps

- Households with lower financial literacy borrow at higher interest rates
 - Lusardi and Tufano (2008), Stango and Zinman (2009)
- ...are more likely to default on mortgages
 - Gerardi, Goette, and Meier (2013)
- ...and are more likely to withdraw housing equity
 - Duca and Kumar (2014)

So what is the net relationship between debt (access and burden) on economic mobility?



- Provide a dataset of commuting zone-level mobility measures, <http://www.equality-of-opportunity.org/index.php/data>
 - Relates income of parents of 15-20yos in 1996-2000
 - To income of the children around age 30, in 2011-12.
- Measures of intergenerational economic mobility:
 - Absolute: Expected child income percentile rank in 2011-12 given CZ parents' 1996-2000 rank was 25th percentile.
 - Also $\Pr(1^{\text{st}} \text{ quintile to } 5^{\text{th}} \text{ quintile})$.
 - Relative: Regress child's percentile rank on CZ parent's percentile rank, expresses progress of the bottom relative to the top.



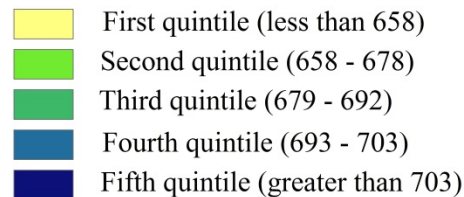
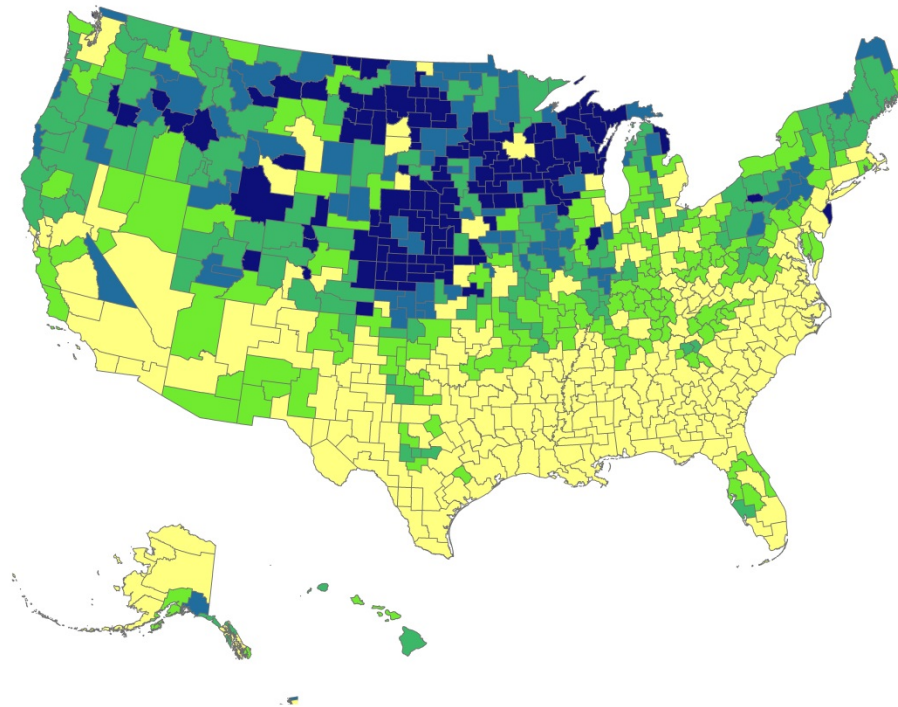
Credit data: FRBNY Consumer Credit Panel / Equifax

- FRBNY Consumer Credit Panel (CCP) –New York Fed has developed in collaboration with Equifax.
 - 5% representative sample of US residents with Equifax credit reports, + household members
 - 1999Q1-2014Q4 ongoing
 - Lee and van der Klaauw (2010)
- Borrower-level information on
 - Credit card, student loan (2004), auto, mortgage, home equity, and other debt use, balances, limits, payment amts, repayment
 - Bankruptcy, foreclosure, delinquency, court liens
 - Equifax risk score
 - Geographic location to the Census block
 - Limited demographics, income, wealth – have age, merge in data from other sources at the geographic level – IRS income, CoreLogic house price index



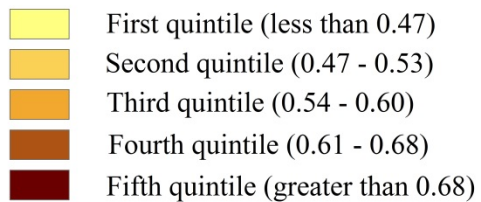
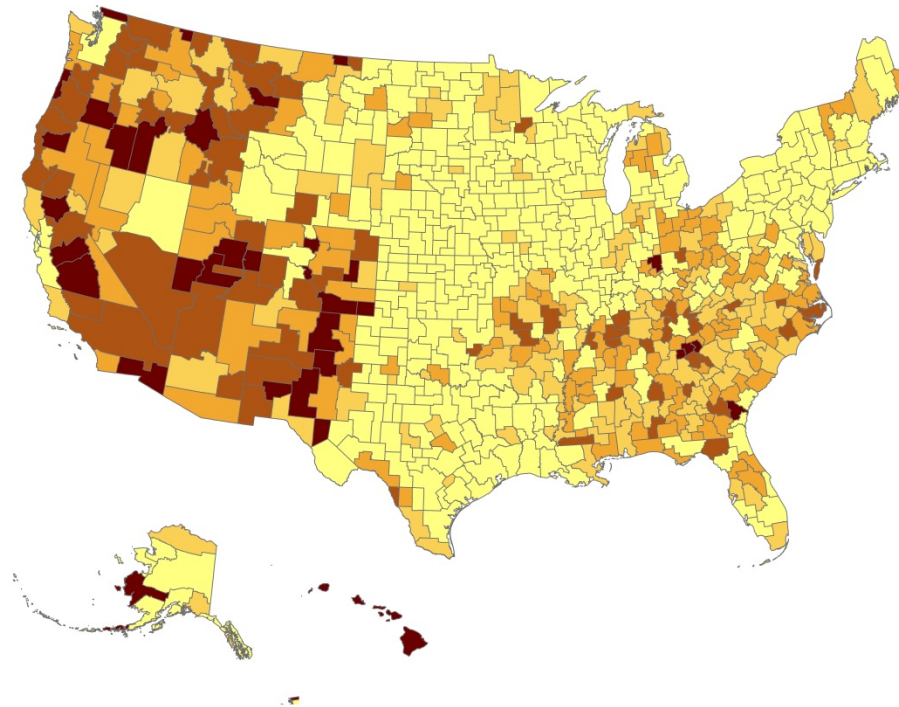
Geography of Credit Risk Scores, FRBNY / Equifax

CZ mean Equifax risk score, lower income households (bottom 50%)



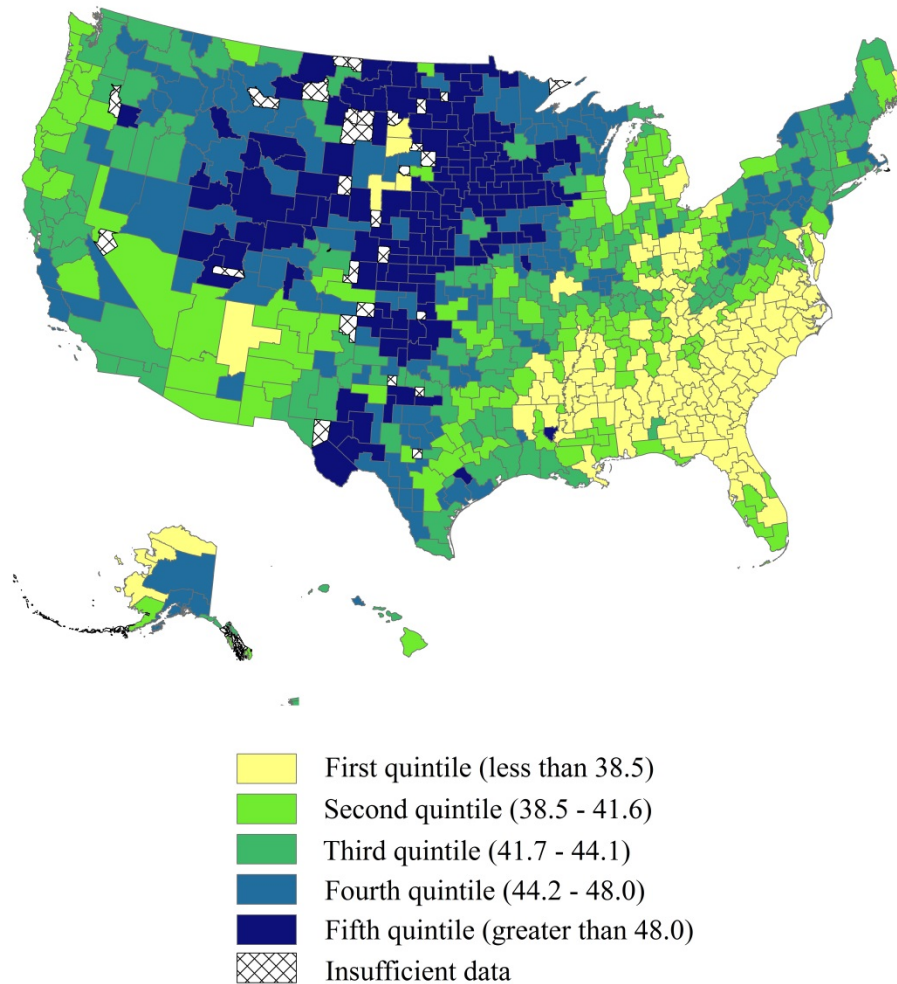
Geography of Debt to Income (DTI), FRBNY / Equifax

CZ mean CCP debt / CZ mean IRS income, lower income households (bottom 50%)



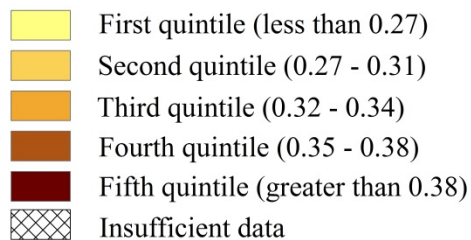
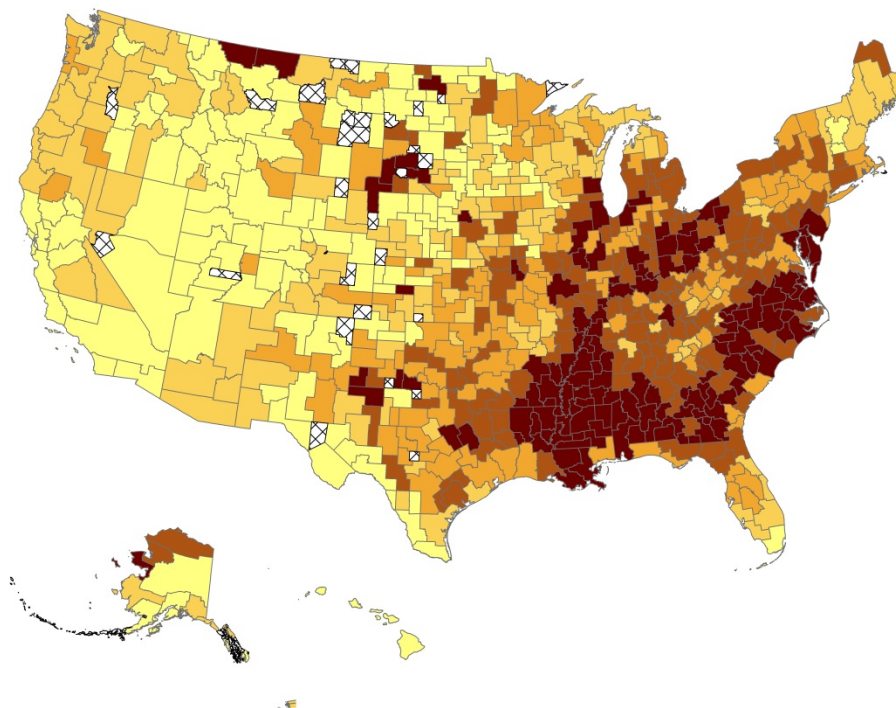
Geography of Absolute Mobility, Chetty et al.

E(child income percentile 2011-12 | parent 25th percentile 1996-2000)



Geography of Relative Mobility, Chetty et. al

Coefficient from regression of child income percentile on parent income percentile



Correlates of Mobility

Unweighted OLS regression of mobility on Chetty et al. determinants & debt measures

- Commuting zone-level regression of absolute or relative mobility on
 - Chetty et al. big five – income segregation, income inequality, education, social capital, & family stability
 - CCP total debt, Equifax risk score, debt prevalence and balance by category: mortgage, home equity, auto, credit card, student loan, other
- Specification

$$M_z = X_z \beta^C + D_z \beta^D + \varepsilon_z$$

- $N = 706$ commuting zones, 324 MSAs, rest non-urban



Correlates of Mobility

Unweighted OLS regression of mobility on Chetty et al. determinants & debt measures

Table 1: Conditional Correlation of Creditworthiness and Mobility, low inc.

Dependent Variable:	Absolute upward mobility			Relative mobility		P(Q5 Q1)
	(1)	(2)	(3)	(4)	(5)	(6)
Mean Riskscore	0.116 (0.074)	0.161** (0.076)	0.259** (0.113)	-0.358*** (0.069)	-0.492*** (0.094)	0.000 (0.003)
Controls	X	X	X	X	X	X
State FE's		X			X	
MSAs Only			X			
Observations	706	706	324	706	324	706
R-squared	0.76	0.86	0.71	0.52	0.57	0.60

Correlates of Mobility

Unweighted OLS regression of mobility on Chetty et al. determinants & debt measures

Dependent Variable:	Absolute mobility			Relative mobility		Pr(Q5 Q1)
	(1)	(2)	(3)	(4)	(5)	(6)
Mean Riskscore	0.273 *** (0.063)	0.183 *** (0.048)	0.371 *** (0.097)	-0.325 *** (0.063)	-0.442 *** (0.075)	0.007 ** (0.003)
Mean Mortgage Balance	0.118 ** (0.058)	-0.076 (0.075)	0.166 ** (0.072)	-0.479 *** (0.069)	-0.564 *** (0.098)	0.010 *** (0.003)
Mortgage Prevalence	-0.232 *** (0.065)	-0.069 (0.048)	-0.238 *** (0.071)	0.228 *** (0.075)	0.185 * (0.097)	-0.015 *** (0.004)
Mean HELOC Balance	0.036 (0.051)	0.005 (0.034)	-0.074 (0.077)	-0.027 (0.051)	-0.011 (0.073)	-0.001 (0.003)
HELOC Prevalence	-0.142 ** (0.058)	-0.073 (0.048)	-0.078 (0.099)	0.119 * (0.063)	0.166 ** (0.081)	-0.005 (0.003)
Mean Auto Balance	0.095 * (0.054)	0.036 (0.059)	0.149 (0.090)	-0.013 (0.072)	-0.015 (0.091)	0.002 (0.004)
Auto Prevalence	-0.128 **	-0.100 *	-0.235 **	0.018	0.055	-0.002

Correlates of Mobility

Unweighted OLS regression of mobility on Chetty et al. determinants & debt measures

Mean Credit Card Balance	-0.080 **	-0.024	-0.066	0.031	-0.056	-0.004 **
	(0.038)	(0.030)	(0.112)	(0.041)	(0.097)	(0.002)
Credit Card Prevalence	0.117 *	0.103	0.142	-0.103 *	0.038	0.007 **
	(0.067)	(0.077)	(0.123)	(0.057)	(0.127)	(0.003)
Mean Student Loan Balance	-0.008	-0.013	0.066	0.022	0.006	-0.001
	(0.022)	(0.016)	(0.064)	(0.035)	(0.054)	(0.001)
Student Loan Prevalence	0.087 **	0.032	0.039	-0.105 **	-0.047	0.003
	(0.040)	(0.029)	(0.074)	(0.042)	(0.057)	(0.003)
Mean Other Debt Balance	-0.090 **	-0.073 ***	-0.205 ***	0.071 **	0.174 **	-0.004 *
	(0.036)	(0.019)	(0.056)	(0.033)	(0.073)	(0.002)
Other Debt Prevalence	0.180 ***	0.111 *	0.269 ***	0.000	-0.078	0.009 ***
	(0.058)	(0.061)	(0.082)	(0.056)	(0.112)	(0.003)
Controls	X	X	X	X	X	X
State Fes		X				
MSAs only			X		X	
Observations	705	705	324	705	324	705
R-squared	0.81	0.88	0.79	0.63	0.74	0.65

Conclusions

- This paper investigates the role of consumer credit in the geography of US intergenerational mobility.
- Risk score, DTI, and mobility maps show
 - (i) low risk scores, high (relative) debt, low absolute and high relative mobility in the Southeast and the rust belt
 - (ii) high scores, low debt, high absolute but low relative mobility in New England & the Plains
 - (iii) and high scores, debt, and absolute mobility (but low relative mobility) in the West. Texas, however, is an anomaly.
- Regression of mobility on Chetty et al. social & CCP debt measures reveals:
 - Total debt has a mixed relationship with mobility.
 - Creditworthiness, particularly among lower income households, is strongly associated with upward mobility.
 - While home- & auto-secured debts are associated with lower mobility, unsecured debts (card, student, other) are associated with higher mobility.
- Debt measures are more effective in improving the fit of relative mobility than of absolute mobility models.