Where Credit is Due: The Relationship between Family Background and Credit Health

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Are Opportunities Equally Available to Everybody?

- Socioeconomic status (SES) highly correlated between parents and children (Solon, 1999, Chetty et al., 2014)
- Places policy may help level playing field have key features:
  - Measurable gap by background
  - Early in the lifecycle
  - "Important" mode of transmission
- For example, achievement gaps → educational interventions
- Our study examines (early-career) credit health
  - Credit scores
  - Prime/subprime

Why Credit Health?

- Reflects likelihood of default within some time frame
  - Based on prior interactions with credit markets
    - E.g., payment history, amount owed, length of credit, new credit, credit mix
    - Negative credit events highly predictive and tend to persist
  - Scoring models cannot (explicitly or implicitly) make use of demographics
    - They do not appear to penalize on race, ethnicity, or gender (Avery, Brevoort, and Canner, 2012; Board of Governors, 2007)

- Early differences may contribute to overarching socioeconomic divides
  - Determines access to (and price/terms of) credit
    - Consumption-smoothing across shocks and periods
  - Used to evaluate consumer risk for non-credit transactions
    - Insurance, rental housing, utility contracts, and employment

Main Findings

- Background significantly correlated with early-career credit health
  - Among those who attended college, 30 year olds from disadvantage:
    - 100 point lower credit scores
    - 20 percentage points more likely to be “subprime” (i.e., have reduced access to credit)
  - Holds for various definitions of background and credit health
- A gap remains upon inclusion of achievement, postsecondary schooling, and key elements of early credit histories
  - Educational borrowing negatively correlated with credit health
- Thus, borrowing costs higher and opportunity sets more restrictive for those from disadvantage, even holding many factors constant
  - Family background itself may have predictive power for credit health

Linked Person-level Administrative Records

- TransUnion
  - Credit records roughly bi-annually from 1997-2014
  - Focal year is 2008 but also examine 2014
- CollegeBoard
  - SAT scores, cohort, and parental education
- National Student Clearinghouse
  - Postsecondary enrollment and graduation records
- Department of Education
  - Financial aid records

*Data were anonymized. No PII was provided to the FRB

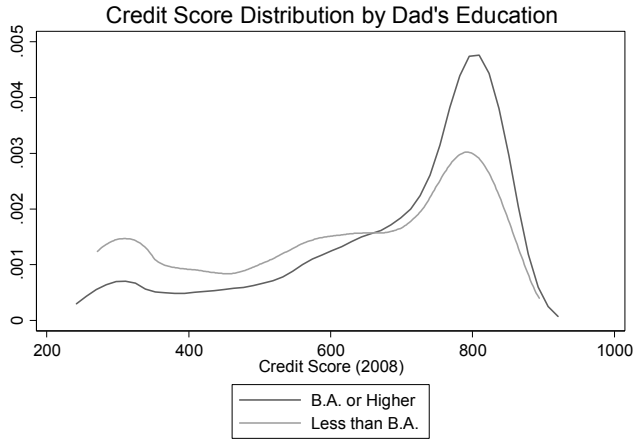
Sample Construction

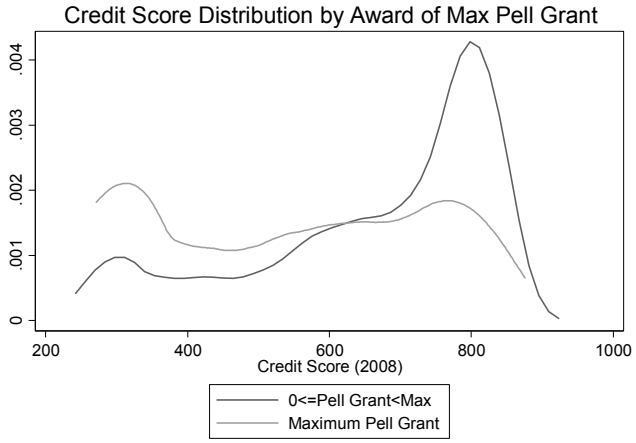
- Representative cohort of ~35,000 23-31 year olds with credit files in 2004 (Mezza and Sommer, 2016)
  - Restrict to 5,421 people who took SAT and graduated high school between 1994 and 1999 (i.e., "college-bound" individuals)
- Four measures of disadvantage (all binary)
  - Parental education: mom (dad) equals 1 if mom (dad) has *less than* a B.A.
  - Ever awarded a Pell Grant
  - Ever awarded the maximum Pell Grant
- Two primary measures of credit health
  - Credit score in 2008 (after most schooling is complete)*
  - Prime borrower: 1 if credit score ≥ median score in 2008
    - Also examine definitions that accord with housing market and standard industry thresholds

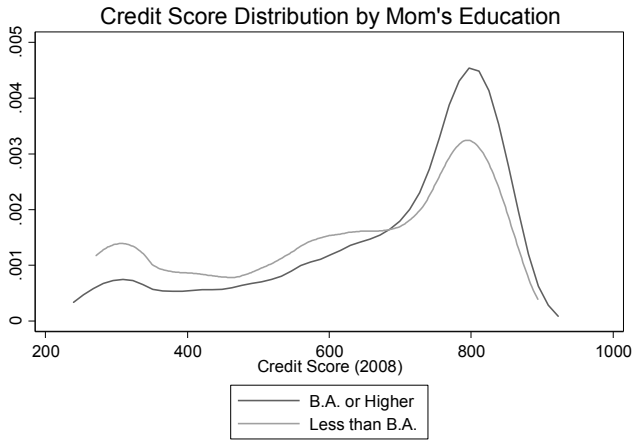
*The credit score used in this analysis is the TU TransRisk AM Score

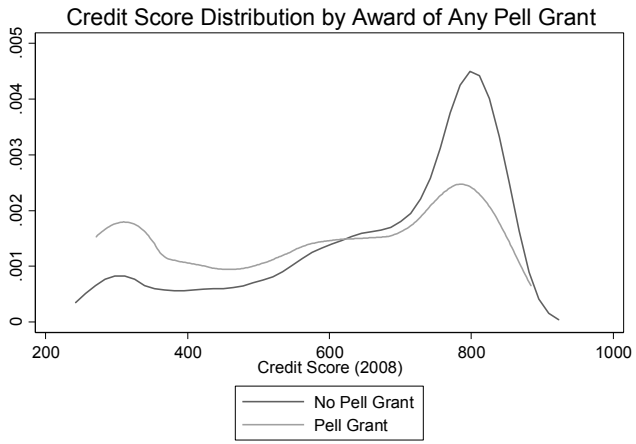
Summary Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
dad	4,790	0.563	0.496	0	1
mom	4,867	0.650	0.477	0	1
any_pell	5,421	0.368	0.482	0	1
max_pell	5,421	0.193	0.395	0	1
maxsat100	5,421	10.1	2.1	4.3	16
tuscore2008	5,421	639.3	183.0	271	894
prime	5,421	0.679	0.467	0	1


Credit Score Distribution by Dad's Education
0
.001
.002
.003
.004
.005
200
400
600
800
1000
Credit Score (2008)
B.A. or Higher
Less than B.A.


Credit Score Distribution by Award of Max Pell Grant
0
.001
.002
.003
.004
200
400
600
800
1000
Credit Score (2008)
0<=Pell Grant<Max
Maximum Pell Grant


Credit Score Distribution by Mom's Education
0
.001
.002
.003
.004
.005
200
400
600
800
1000
Credit Score (2008)
B.A. or Higher
Less than B.A.


Credit Score Distribution by Award of Any Pell Grant
0
.001
.002
.003
.004
.005
200
400
600
800
1000
Credit Score (2008)
No Pell Grant
Pell Grant

Estimating Equation

$$c_{iy} = \beta_0 + \beta_1 * b_{iy} + (\beta_2 * X_{iy}) + \delta_y + \varepsilon_{iy}$$

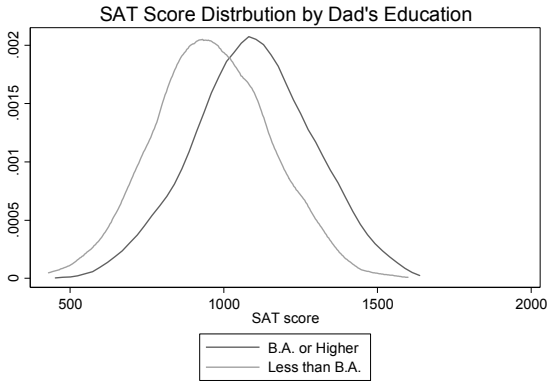
- c_{iy}: credit health
- b_{iy}: disadvantage
- X_{iy}: any additional factor (e.g., SAT score)
- δ_y: cohort fixed effect

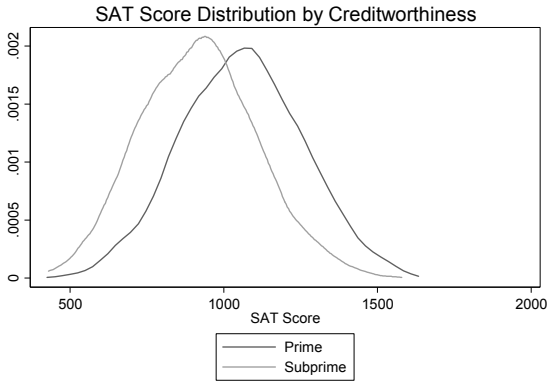
- β_1: relationship between disadvantage and credit health
  - Not interpretable as causal effect of disadvantage on credit health if characteristics correlated with both are omitted
  - Exploit other dimensions of our data and see if relationship remains

Credit Gap in Simple Framework

	Credit Score				Prime Borrower?			
	Mom (Less than B.A.)	Dad (Less than B.A.)	Ever Awarded a Pell Grant?	Ever Awarded the Max Pell Grant?	Mom (Less than B.A.)	Dad (Less than B.A.)	Ever Awarded a Pell Grant?	Ever Awarded the Max Pell Grant?
Disadvantage	-63.92***	-78.59***	-93.60***	-119.1***	-0.138***	-0.177***	-0.210***	-0.259***
	(5.390)	(5.150)	(4.991)	(6.085)	(0.0138)	(0.0133)	(0.0128)	(0.0157)
Constant	692.5***	697.8***	682.0***	671.8***	0.791***	0.810***	0.771***	0.747***
	(7.505)	(7.151)	(6.442)	(6.274)	(0.0193)	(0.0184)	(0.0166)	(0.0162)
Observations	4,867	4,790	5,421	5,421	4,867	4,790	5,421	5,421
R-squared	0.031	0.050	0.064	0.069	0.022	0.038	0.049	0.050

Accounting for Achievement





	Dad (Less than B.A.)			
	Credit Score		Prime Borrower?	
Disadvantage	-78.59***	-41.15***	-0.177***	-0.0927***
	(5.150)	(5.189)	(0.0133)	(0.0135)
SAT (100s)		28.09***		0.0636***
		(1.270)		(0.00331)
Constant	697.8***	500.8***	0.810***	0.364***
	(7.151)	(11.21)	(0.0184)	(0.0292)
Observations	4,790	4,790	4,790	4,790
R-squared	0.050	0.138	0.038	0.107

Exploiting Other Dimensions of Our Data

- Other factors, like achievement, might vary with background and also influence credit

- Introduce these concepts sequentially:
  1. Borrowing for college
  2. College quality ($borrowed, mean income, mean SAT)
  3. Completion/Persistence (attainment, years)
  4. Elements potentially important for early credit histories (length of credit file, defaulting on college loans)

Varying "Dad (Less than B.A.)" Specification (1 of 2)

	(1)	(2)	(3)	(4)	(5)	(6)
A. Credit Scores						
Disadvantage	-78.59***	-41.15***	-34.19***	-29.81***	-20.64***	-18.21***
	(5.150)	(5.189)	(5.165)	(5.214)	(5.126)	(4.939)
SAT		x	x	x	x	x
Borrowed for College			x	x	x	x
College Quality				x	x	x
Attainment/Persistence					x	x
Credit History						x

Varying "Dad (Less than B.A.)" Specification (2 of 2)

	(1)	(2)	(3)	(4)	(5)	(6)
B. Prime Borrower?						
Disadvantage	-0.177***	-0.0927***	-0.0778***	-0.0670***	-0.0433***	-0.0380***
	(0.0133)	(0.0135)	(0.0135)	(0.0137)	(0.0136)	(0.0133)
SAT		x	x	x	x	x
Borrowed for College			x	x	x	x
College Quality				x	x	x
Attainment/Persistence					x	x
Credit History						x

Potential Mechanisms

- Those from disadvantage may face **larger financial headwinds** (e.g., fewer avenues through which to build healthy credit, larger shocks to their finances, fewer resources to weather financial shocks)
- Those from disadvantage may be **less versed in the importance of healthy credit records** and may even, as a result, take unadvisable credit risks (e.g., cumulating debt they will be unable to repay)
- Those from disadvantage may have different **consumption preferences** or **attitudes toward risk**
- **Discriminatory lending practices** may exist that restrict certain groups' ability to access credit and build health credit history, which could affect their scores
- **Elements of the formulas for credit scores may (inadvertently) proxy for socioeconomic background** rather than have independent predictive power (e.g., credit norms may vary by group)
  - Avery, Brevoort, and Canner (2012), examining other demographics, found little evidence

Concluding Thoughts

- Because of the many settings in which an individual's credit health is a key ingredient in assessing risk types, early differences could contribute to overarching socioeconomic divides

- Identify key mechanisms to understand role for policy:
  - Do the differences in credit scores that we document stem solely from the underlying default risk of different household types?
  - Are they partially an unintended artifact of how credit scores are constructed?