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Medical Debt in Credit Scoring Models: Evaluating Its Predictiveness and the Consequences of Its Use

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The opinions in this presentation are those of the author and do not necessarily reflect the views of the Consumer Financial Protection Bureau or the United States.

Medical Debt in Credit Records

- “Medical Debt” is debt from unreimbursed medical care
 - Does not include debts from paying for medical services
 - Debts reported directly by provider or by third-party collection agency
- Medical debt is found on 1-in-5 credit records in the U.S.
 - Accounts for 45 percent of third party collection trades
- Policymakers have considered banning its use in credit scoring models
 - e.g., Medical Debt Responsibility Act

A Brand New Source of Data

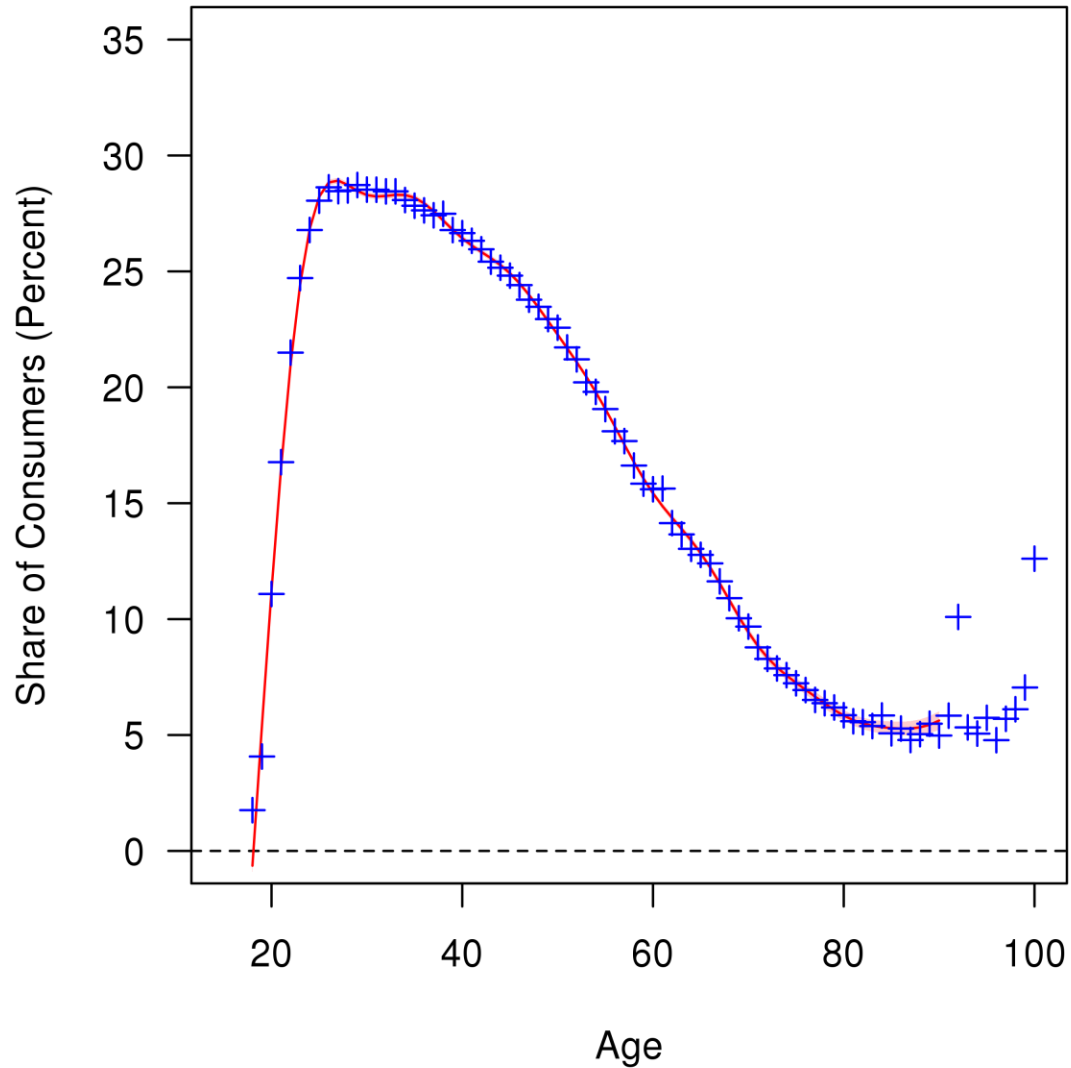
- Consumer Financial Protection Bureau's Consumer Credit Panel
 - 1-in-48 sample of anonymous credit records (about 5 million records)
 - Plus credit records of any associated borrowers
 - Sample drawn in December 2012
 - Quarterly updates in the future
 - Historical data going back to September 2001
 - Includes entire contents of credit files, less any personally identifying information
 - Includes a FICO Risk Score each quarter
- Matched marketing data
 - Demographic data on individuals
 - Household-level information as well

Part I

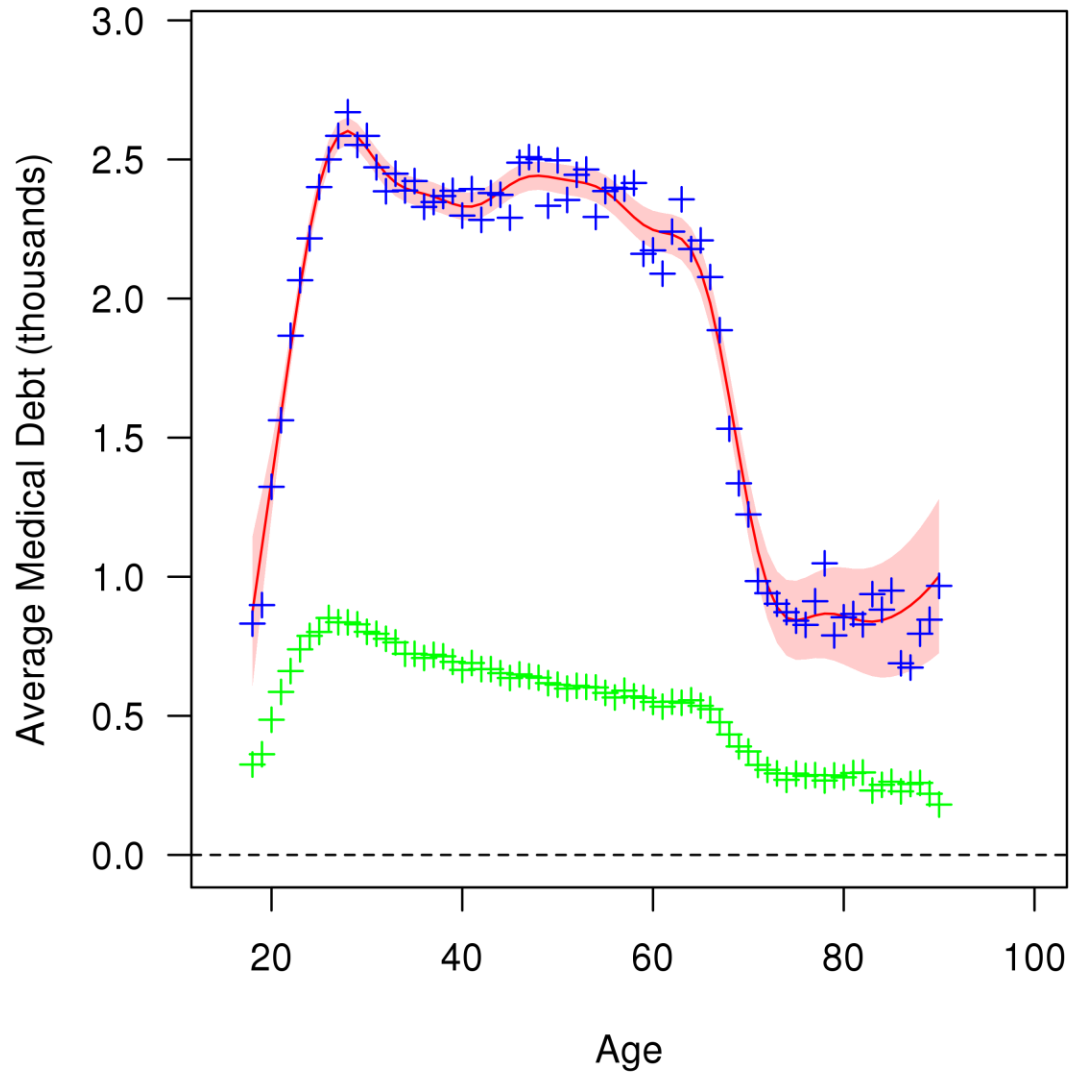
Who Has Medical Debt?

HINT: It may not be who you think.

Share of Consumers with Medical Debt



Dollar Amount of Medical Debt by Age



Multivariate Analysis of Having Medical Debt

<u>Race</u>		<u>Income</u>		<u>Living Unit</u>	
Black	11.5	15-24.9K	-1.12	One adult w/children	11.2
Hispanic	-1.1	25-34.9K	-0.93	Two adults	2.1
Asian	-10.2	35-49.9K	0.59	Two adults w/children	-2.0
		50-74.9K	-5.10		
		75-99.9K	-8.08		
<u>Sex</u>		100-124K	-9.79	<u>Education</u>	
Female	2.0	125-149K	-10.0	LT HS Dip.	2.9
		150-174K	-12.8	Some College	-1.8
<u>Marital Status</u>		175-199K	-13.0	Bachelors	-7.5
Single	1.1	200-249K	-11.9	Grad. Deg.	-8.1
		250K +	-12.4		

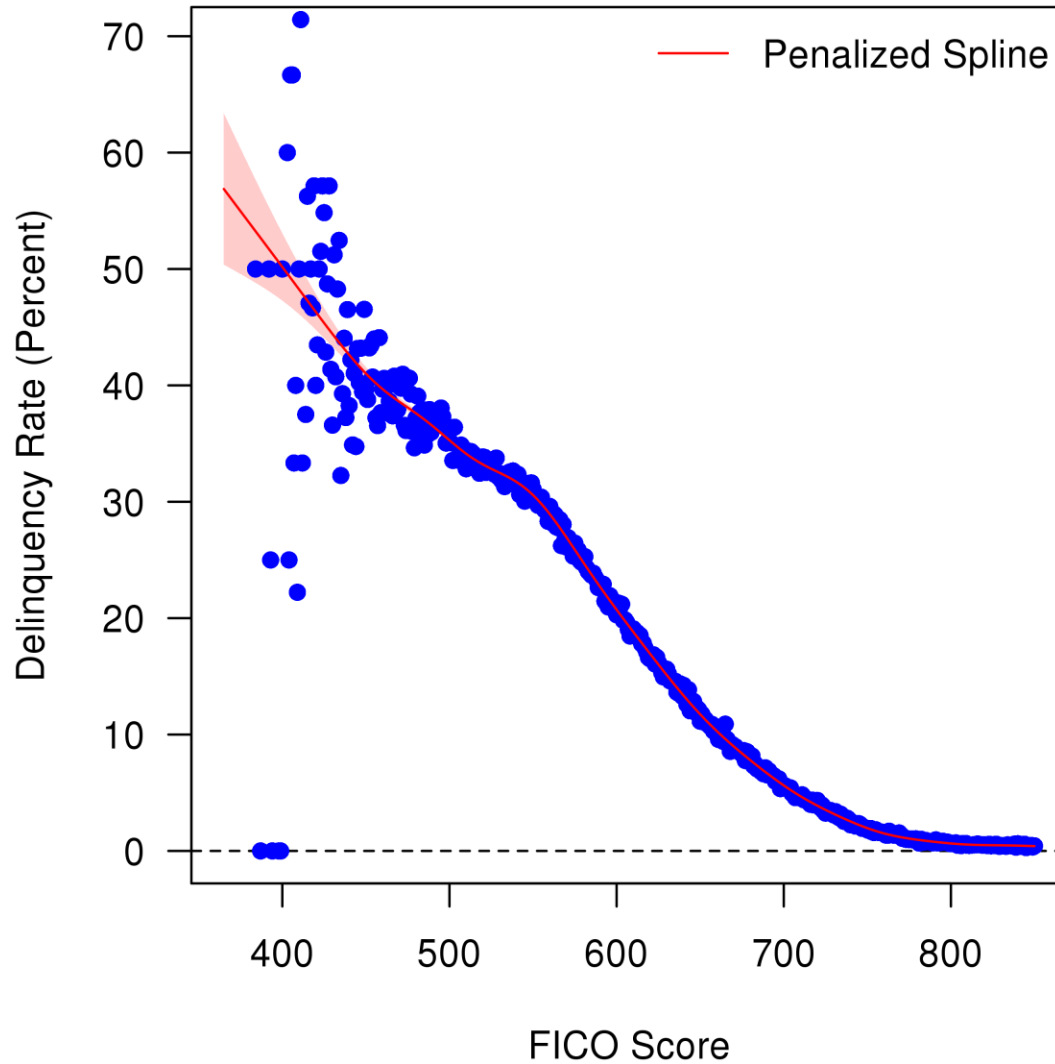
Part II

Does Medical Debt Predict Default?

Details

- Use FICO risk score from September 2011
- October 2011 to December 2012 performance period
 - New accounts: Opened during Oct – Dec 2011
 - Existing accounts: Open & in good standing in September 2011
 - Auto loans (new & existing)
 - Credit Cards (new & existing)
 - Mortgages (new & existing)
- Default means 90 days past due or worse

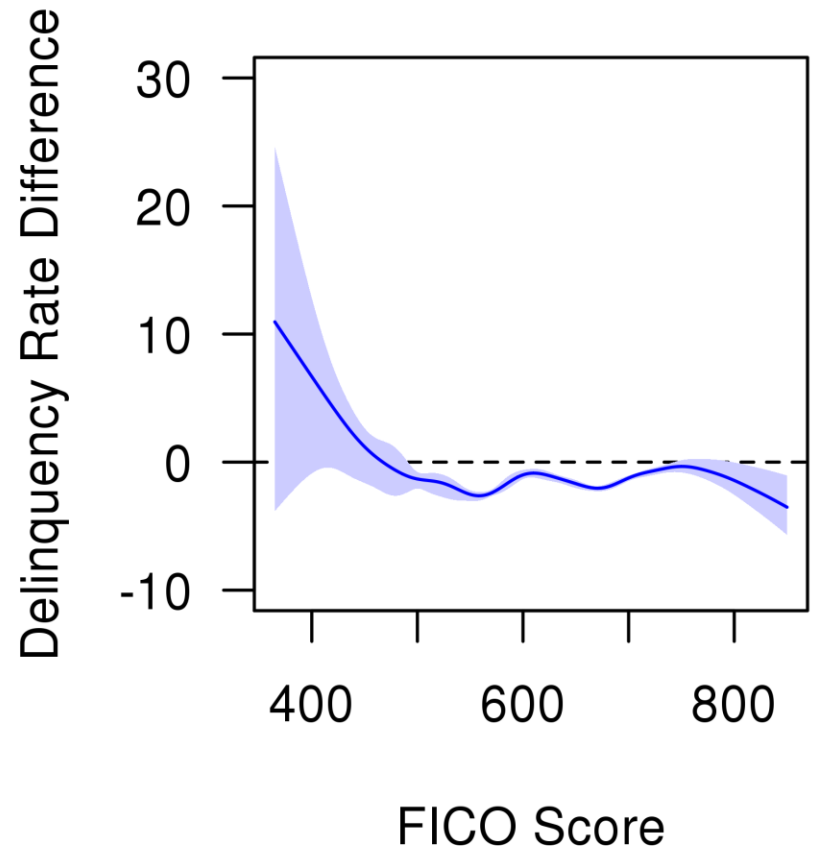
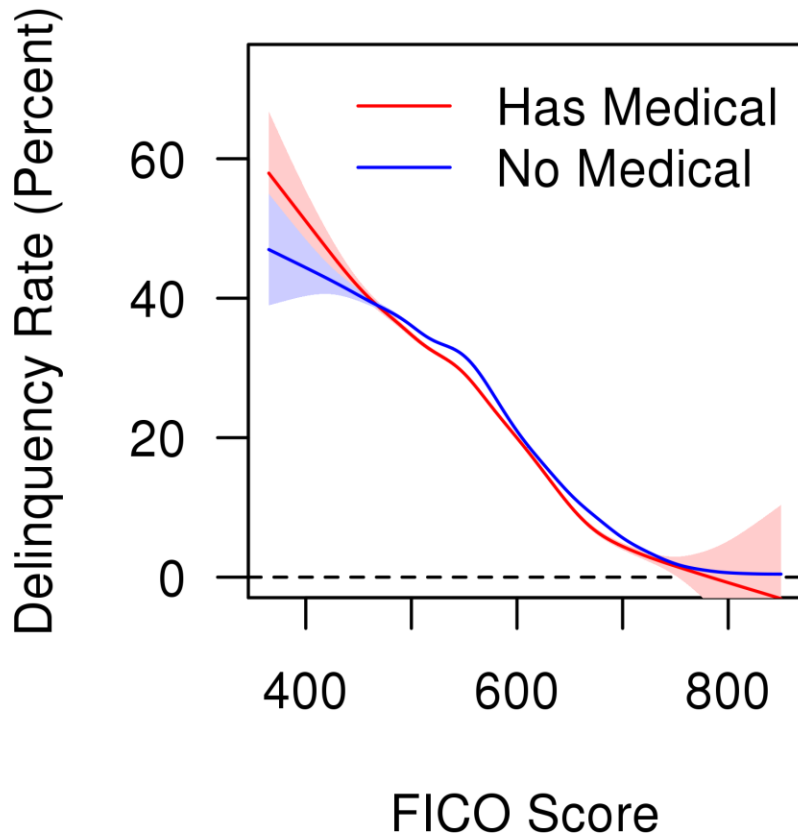
Performance (90DPD+) by Credit Score



Identification Strategy

- Could have built a model and looked at the predictive value of the information
- Instead, evaluate the predictiveness of medical debt as currently implemented in the FICO model
 - FICO does not distinguish between medical collection accounts and non-medical collection accounts
 - Exclude “nuisance” collection accounts
 - If medical debt is not predictive, then consumers with medical debt will be “unfairly penalized,” meaning their scores should be low compared to their subsequent performance.

Credit Performance by Medical Status



Multivariate Analysis

- Estimate a logit model

$$Y_i = f(\beta_0 + FICO_i\beta_F + MEDICAL_i\beta_M + X_i\beta_1)$$

Y_i = Performance measure

$FICO_i$ = FICO score

$MEDICAL_i$ = Indicator for presence of medical debt

X_i = Vector of other control variables

- Allows us to compute a FICO-score equivalent of performance differences as β_M/β_F

Summary of Estimation Results

Performance Type	MEDICAL Coefficient	FICO Equivalent
New & Existing	-0.123	8.76
New	-0.0687	4.26
Existing	-0.138	9.70
Auto (N&E)	-0.0732	4.38
Credit Card (N&E)	-0.156	9.53
Mortgage (N&E)	-0.344	23.9

- Adding demographic controls increases these differences slightly (e.g., New & Existing FICO equivalent is 10.7)
- FICO equivalents are well below stated marginal contribution of collection account

Preliminary Conclusions & Caveats

- Medical debt appears to be *ex post* “over penalized”
 - Nevertheless, FICO equivalents are small: Medical debt is highly predictive of future credit performance
- Results are preliminary
 - Using relatively short performance period (15 month vs. 24 months)
 - Time period may be unusual
 - Results comparing medical collections to non-medical collections are currently mixed