Can Credit Rating Affect Credit Risk? Causal Evidence from an Online Lending Marketplace

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Community Banking Research Conference
Where Research and Policy Meet

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    - 2012 FTC Consumer Credit Audit showed widespread reporting errors by credit bureaus
    - Equifax recently sent incorrect household credit scores to lenders

Motivation Continued

WSJ NEWS EXCLUSIVE | FINANCE

Equifax Sent Lenders Inaccurate Credit Scores on Millions of Consumers

During a three-week period this year, Equifax sent faulty scores to lenders, resulting in higher interest rates and denied applications

By Andrew Ackerman Follow *and AnnaMaria Andriotis* Follow

Aug. 2, 2022 3:11 pm ET

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- Utilize CARES Act passage on March 25^{th}, 2020 which retroactively mandated borrowers starting forbearance plans January 31^{st}, 2020 or later be reported "current" to credit bureaus

Preview of Findings

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- Effects concentrated in ex-ante relatively higher quality borrowers
- Suggestive evidence borrowers lost access to external financing

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- Households request borrowed funds primarily for debt consolidation with three or five-year amortization schedules
- LendingClub offers "hardship" forbearance when borrowers face financial difficulties
- How do "hardship plans" work?

Visual Explanation of Identification

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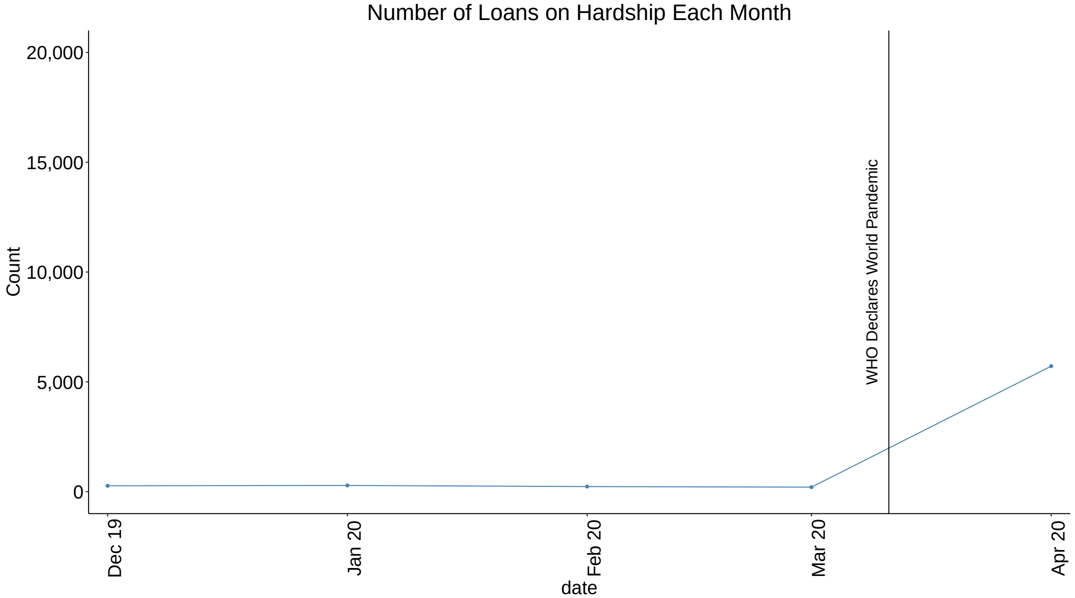

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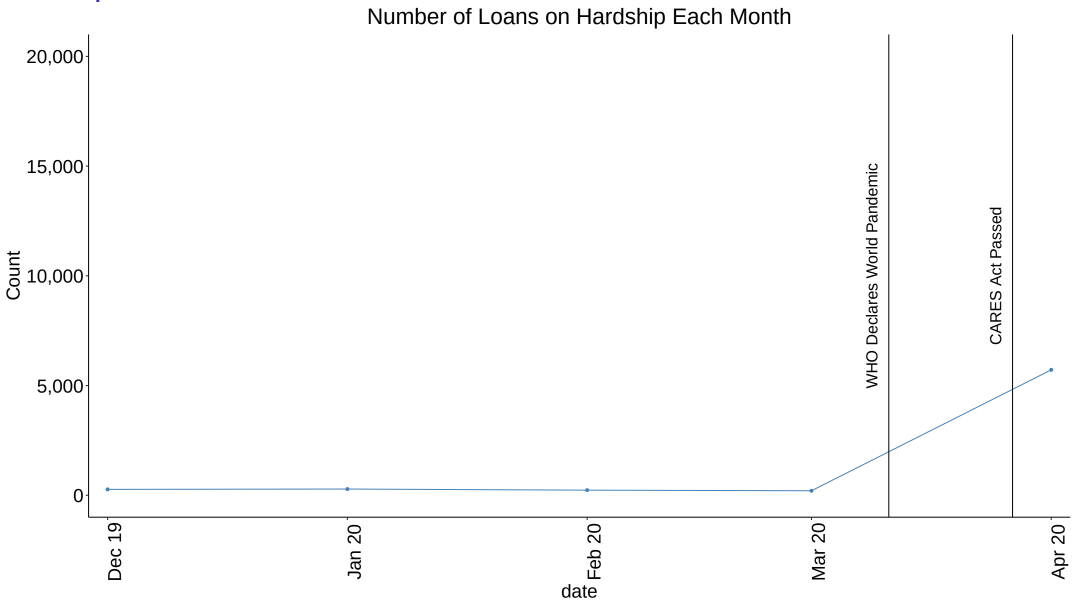

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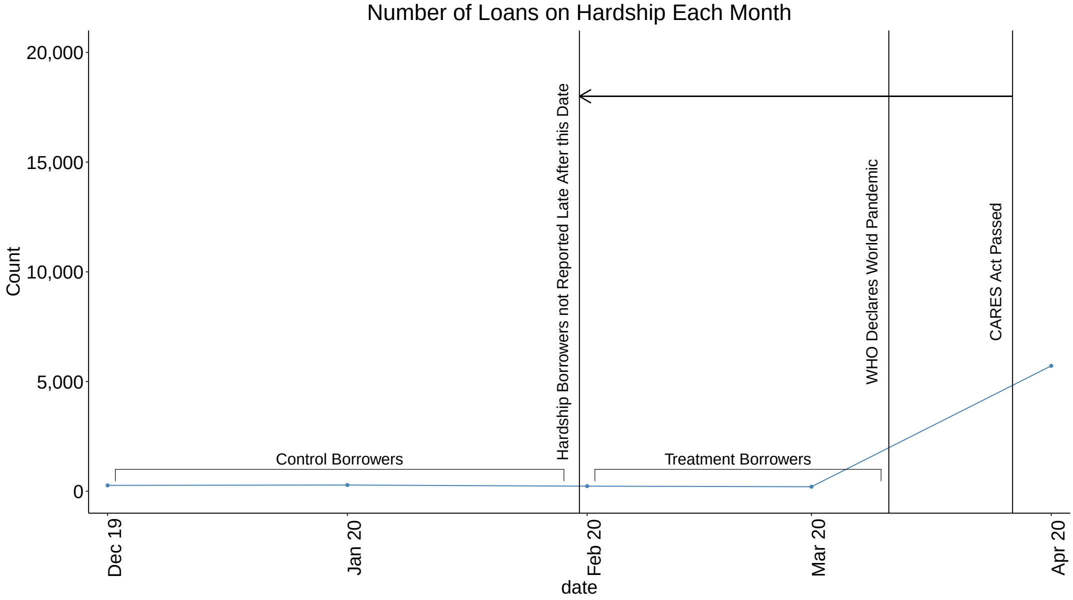
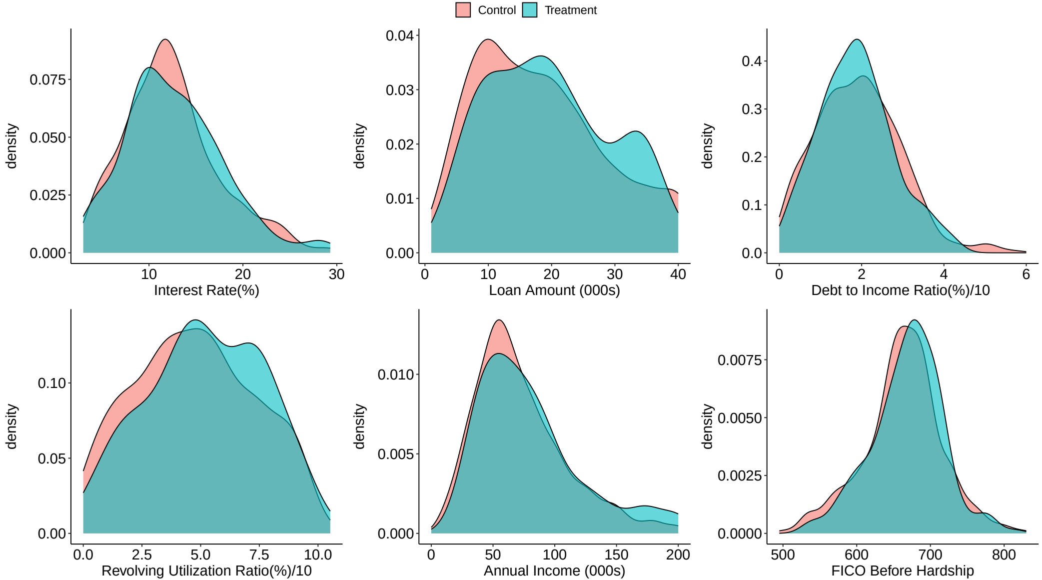


Treatment and Control Covariate Match



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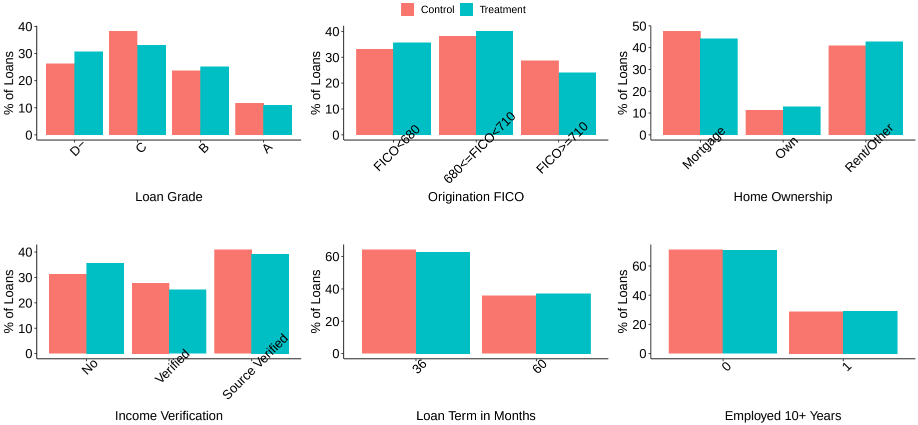
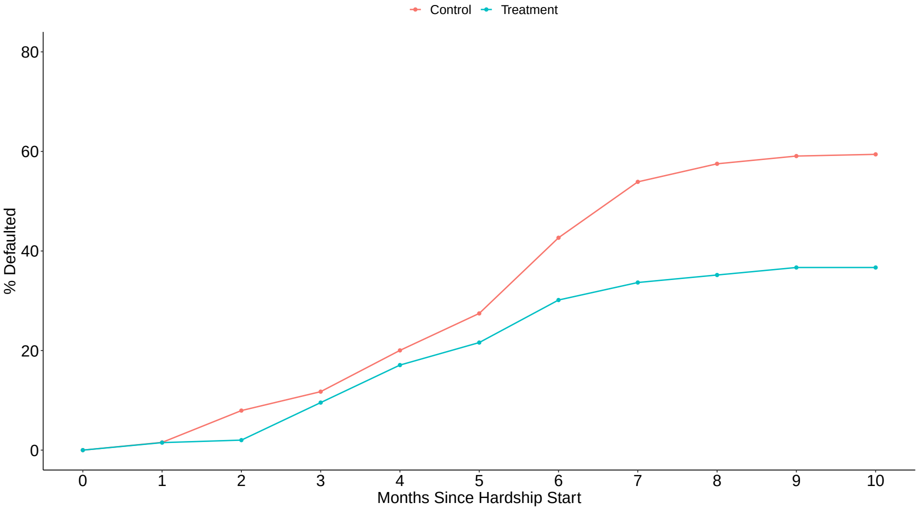


Cumulative Borrower Default within 10 Months of Hardship



Credit Score Evolution

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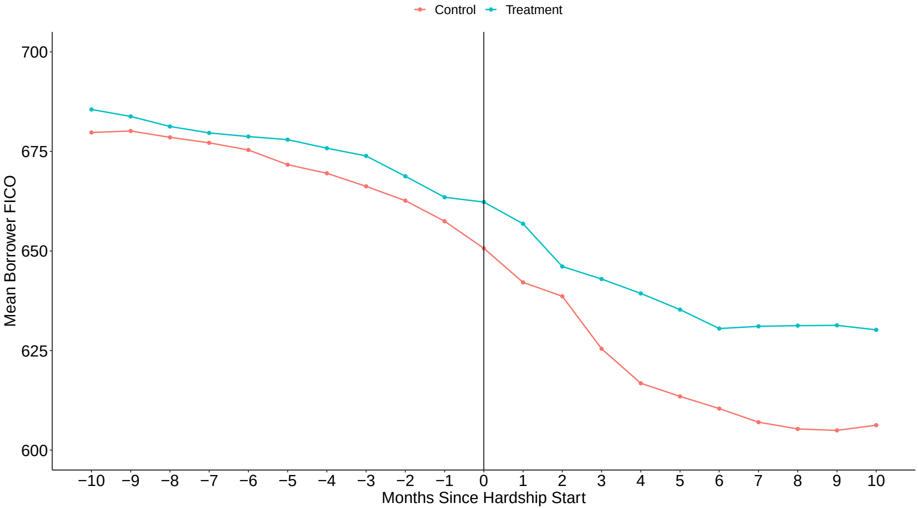

Credit Score Channel, Two-Stage Least Squares of Cumulative Default

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$$Default_{i,s} = \alpha + \beta_1 \mathbb{1}(\widehat{Fico\_Change_i}) + \beta_2 \boldsymbol{BorrowerTraits}_i + \beta_3 \boldsymbol{LoanFeatures}_i + \beta_4 \boldsymbol{Local\_Controls}_s + \epsilon_{i,s}$$

$Default_{i,s}$: Default within 10 Months of Entering Hardship,

i : borrower,

s : state,

$Fico\_Change_i$ instrumented by $\mathbb{1}(Treatment_i)$

Credit Score Channel, Two-Stage Least Squares of Cumulative Default

Table:

	Dependent variable:			
	$\log(\text{FICO}_{t+4}/FICO_{t-1})$ 1st Stage	Default IV	Default IV	Default IV
	(1)	(2)	(3)	(4)
Treatment	0.303***			
	(0.077)			
$\log(\text{FICO}_{t+4}/FICO_{t-1})$		−0.767***	−0.566***	−0.681***
		(0.186)	(0.187)	(0.167)
Constant	−0.077*	0.550***	2.468***	2.402***
	(0.042)	(0.026)	(0.548)	(0.591)
Extensive Borrower Controls			x	x
State Fixed Effects				x
Observations	777	777	777	777
F Statistic	13.769*** (df = 1; 775)			

Note: *p<0.1; **p<0.05; ***p<0.01

Borrower Loan Balance over Time

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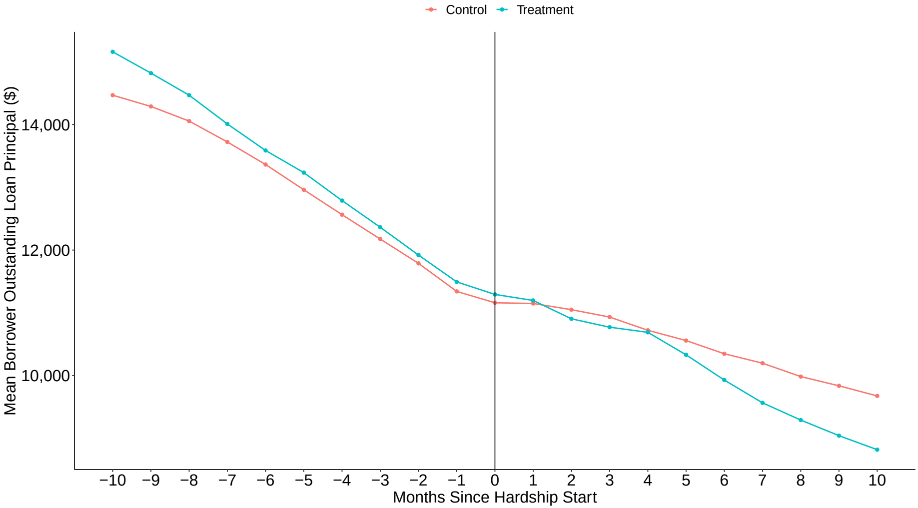

Robustness Test

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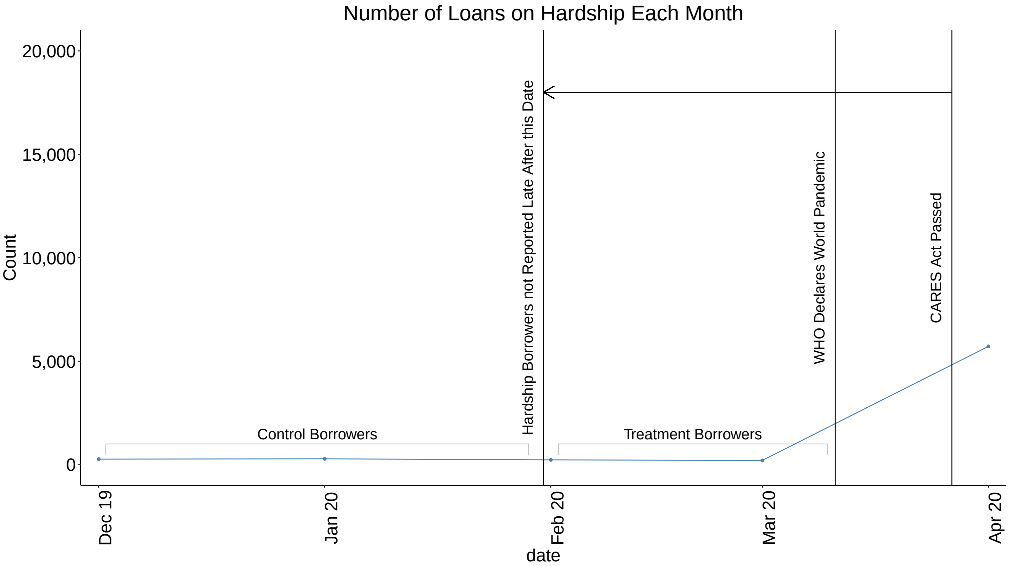

Robustness Test

Table: Cumulative Default with Non-Hardship Borrowers

	Dependent variable:		
	Default		Default
	logistic		*conditional logistic*
	(1)	(2)	(3)
Hardship Dummy	23.559***	28.239***	27.556***
	(0.192)	(0.203)	(0.205)
Post January Dummy	1.409	1.356	1.375
	(0.306)	(0.312)	(0.316)
Hardship Dummy * Post January Dummy	0.275***	0.276***	0.261***
	(0.350)	(0.358)	(0.360)
Interest Rate		1.088***	1.081**
		(0.033)	(0.034)
Loan Amount (000s)		1.021**	1.017**
		(0.008)	(0.008)
Constant	0.066***	0.011***	
	(0.172)	(0.778)	
Conditional Logit by State			x
Extensive Borrower Controls		x	x
Observations	1,556	1,556	1,556

Note: *p$<$0.1; **p$<$0.05; ***p$<$0.01

Cross-Sectional Tests

- Default and credit score drop concentrated in ex-ante higher quality borrowers, suggesting external financing coordination frictions

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- Default and credit score drop concentrated in ex-ante higher quality borrowers, suggesting external financing coordination frictions
- Effects not stronger in sub-samples of borrowers who are renters, unemployed, or have high levels of ex-ante debt

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- Data limitations to outside credit and borrower balance sheets

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- Alternative data implications?

Conclusion and Thanks