Misfortune and Mistake:

The Financial Conditions and Decision-Making Ability of High-Cost Loan Borrowers

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Motivation

▶ Use of controversial forms of credit widespread and rising
  ▷ Payday loans
  ▷ Deposit advance products
  ▷ Vehicle title loans

▶ Distinguished by low-income users, high fees, cycles of debt
  ▷ Clients are disproportionately banked but poor
  ▷ 2-week payday loan with a \$15 per \$100 fee $\approx$ APR of 400%
  ▷ CFPB says 80% of US payday loans are, in effect, rolled over

Motivation

- ▶ Opponents see the loans as predatory
  - ▷ Take advantage of poor decision-making
  - ▷ Lending to those they know will struggle to pay back
- ▶ Motivates various regulations
  - ▷ Interest rate limits
  - ▷ Mandatory underwriting
  - ▷ Cooling off periods
  - ▷ Limits on attempts to withdraw from borrower's bank account

Motivation

▶ Major regulation now paused or being reconsidered
▶ Proponents argue the loans are appropriately designed and meet important needs
  ▷ Fees are justified by risk
  ▷ Costs of default on other obligations are worse
  ▷ Living for today need not be a mistake

Identification Problem

▶ Is demand for payday loans due to "misfortune" or "mistake"?

▶ Imperfect choices are usually hard to identify

  ▷ Unobserved constraints, preferences, or beliefs can justify many behaviors as optimal

This paper

- ▶ Address identification problem by linking administrative and experimental data
- ▶ <u>Administrative</u>
  - ▷ Bank records from financial aggregator in Iceland
  - ▷ Reveal the financial circumstances and behaviors of individuals ("misfortune")

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▶ Experimental
  ▷ Online survey of aggregator users
  ▷ Choices under risk and intertemporal allocations of money
  ▷ Experimental variation reveals preferences and
  ▷ inconsistency with utility maximization or dominance principles ("mistakes")

▶ Decision-making ability (DMA) is measured by consistency with these normative properties

The Administrative Data

▶ Financial aggregator in Iceland
  ▷ ≈ 50,000 users, 20% of the population over age 16
▶ Data from 2011-2017 for 12,747 "well-linked"
  ▷ Payday loans
  ▷ Income
  ▷ Spending
  ▷ Liquidity
    ▷ Balances of checking, savings, and credit card accounts
    ▷ Overdraft and credit card limits
  ▷ Non-sufficient funds (NSF) charges
▶ 5.6% took a payday loan, average loan size is $244

Misfortune: Liquidity
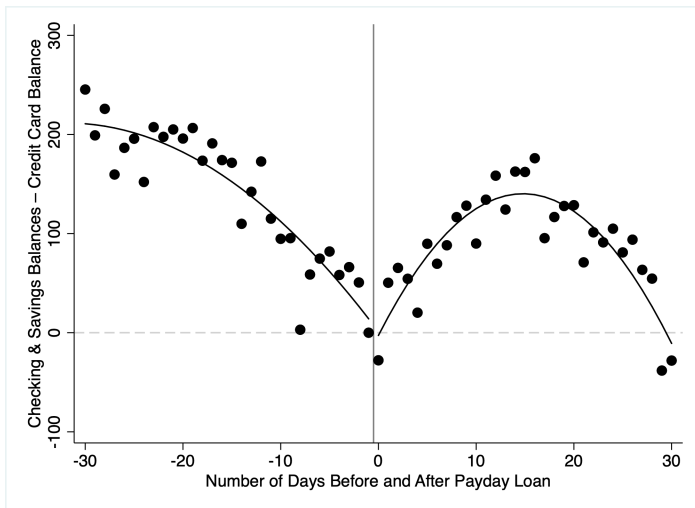
Misfortune: Liquidity

	Mean	*Percentiles*				
		10th	25th	50th	75th	90th
Checking Balance + Overdraft Limit (1)	273	0	0	32	190	745
Savings Balance (2)	466	0	0	0	1	531
Credit Card Limit - Credit Card Bal. (3)	541	0	0	7	352	1,750
(1) + (2)	740	0	2	58	384	1,276
(1) + (2) + (3)	1,280	0	28	244	1,149	3,323

Misfortune?: Non-Urgent Spending
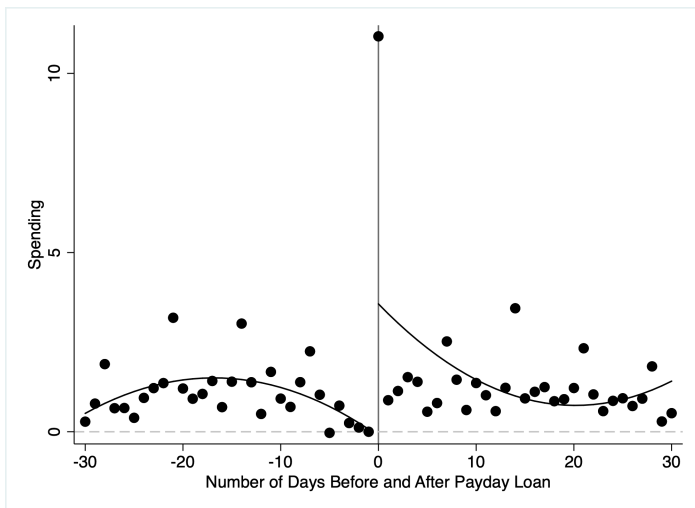
The Survey Data

- ▶ 8,913 email invitations delivered, 1,701 (19.8%) completed
- ▶ Experiments
    1. Risk
    2. Ambiguity
    3. Intertemporal Choice
- ▶ Financial incentives deposited to bank account
- ▶ Brief questionnaire (e.g., education)

The Survey Data (Cont.)

▶ Decision-Making Ability
  1. Risk: Consistency with utility maximization & monotonicity
  2. Ambiguity: Consistency with utility maximization
  3. Intertemporal Choice: Consistency with utility maximization

▶ Measures of impatience and present bias from intertemporal choice task

▶ Measure of risk aversion from risk choice task

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Payday Loans and Decision-Making Ability
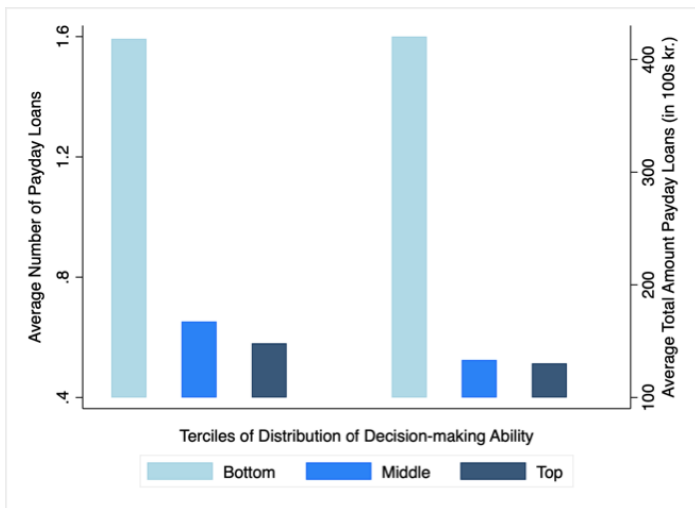
Low DMA individuals play outsized role in market

			Percentile of Decision-Making Quality Distribution					
10th	20th	30th	40th	50th	60th	70th	80th	90th
28%	53%	56%	62%	69%	78%	81%	90%	99%

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Payday Loans, DMA, Preferences, and Liquidity
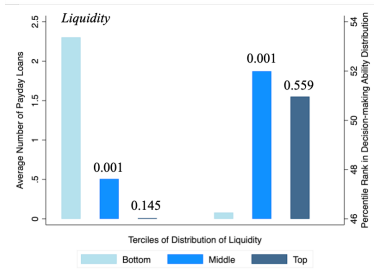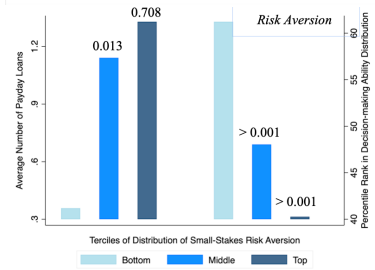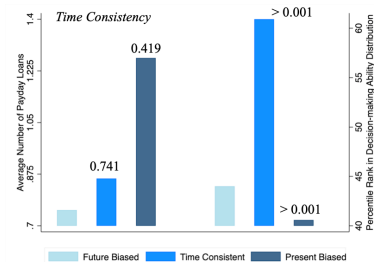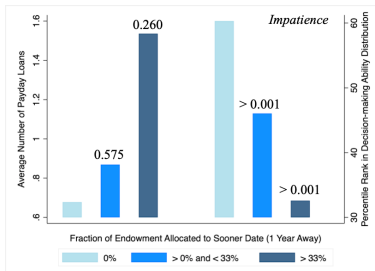
Payday Loans, DMA, Preferences, and Liquidity

	Number of Payday Loans				
DMA	-0.21		-0.16	-0.15	-0.12
	(0.08)		(0.08)	(0.07)	(0.06)
Liquidity		-0.49	-0.48	-0.47	-0.47
		(0.09)	(0.09)	(0.09)	(0.08)
Impatience				0.02	0.02
				(0.04)	(0.04)
Present Bias				0.06	0.06
				(0.07)	(0.07)
Risk Aversion					0.07
					(0.06)

Interactions between Misfortune and Mistake
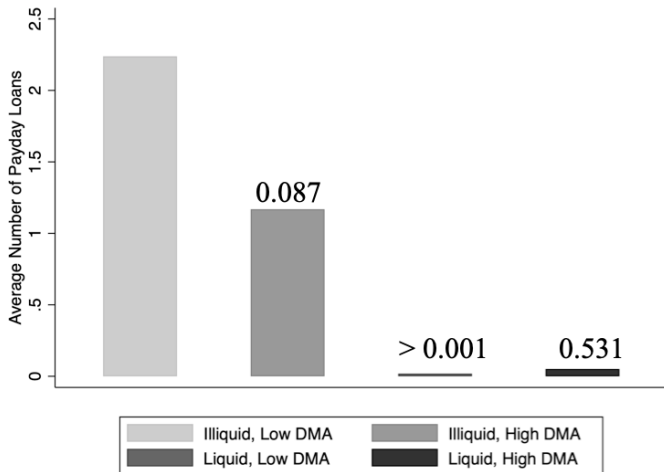
	Number of Payday Loans			
DMA $\times$ Liquidity		0.06	0.06	0.06
		(0.02)	(0.02)	(0.02)
DMA	-0.16	-0.16	-0.15	-0.12
	(0.08)	(0.08)	(0.07)	(0.06)
Liquidity	-0.48	-0.47	-0.46	-0.46
	(0.09)	(0.09)	(0.08)	(0.08)
Impatience			0.02	0.02
			(0.04)	(0.04)
Present Bias			0.06	0.07
			(0.07)	(0.07)
Risk Aversion				0.07
				(0.05)

Non-Sufficient Funds Charges and Decision-Making Ability
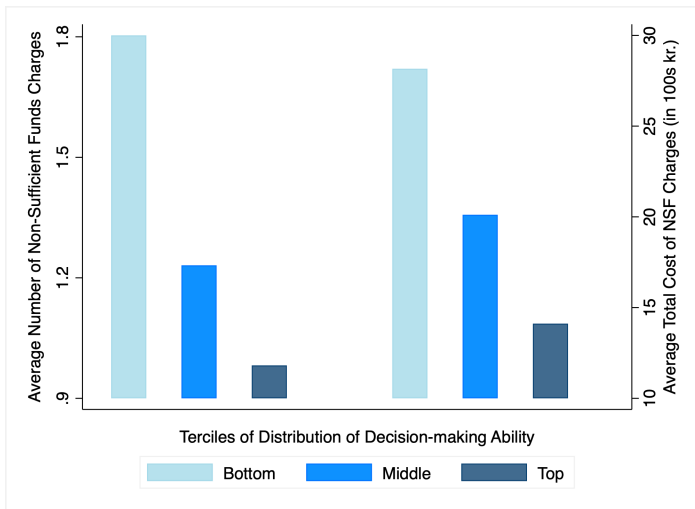
Conclusion: Misfortune and Mistake Are Both Important

▶ Most borrowers are out of other liquidity when loan is taken but substantial fraction spend loans on non-urgent items.

▶ Borrowers have much lower decision-making ability
   ▷ 28% of loan dollars lent to bottom 10% of DMA distribution
   ▷ 53% lent to the bottom 20%

▶ Relationship not explained by financial circumstances, time or risk preferences and is mirrored in relationship between DMA and an unambiguous "mistake" (NSF)

Conclusion: Policy Implications

▶ Policy that better equips consumers to avoid any harm from mistakenly choosing to take a high-cost loan may be justified

▶ Efforts at consumer protection should seek ways to avoid limiting trade in this market entirely

▶ Regulators ought to consider lighter forms of paternalism
  ▷ Cooling off periods (supported by spending patterns)
  ▷ Certification that the borrower understands a loan's terms

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Thank you!

The financial aggregation app

The financial aggregation app

Payday Loans - Online Interface
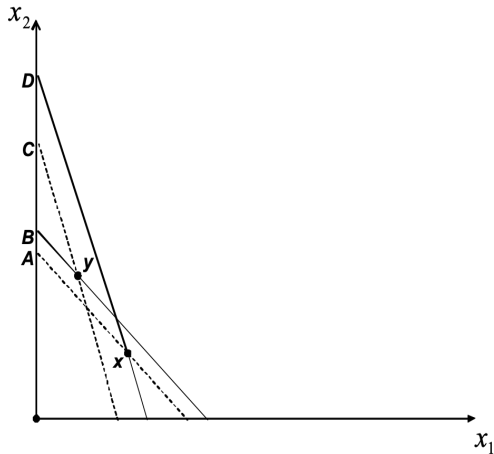
The Experiments: Choice Under Risk
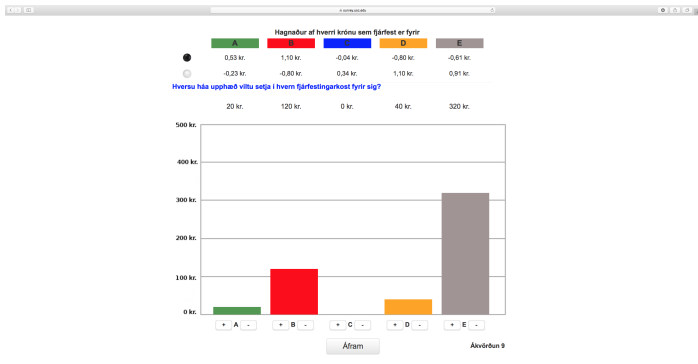
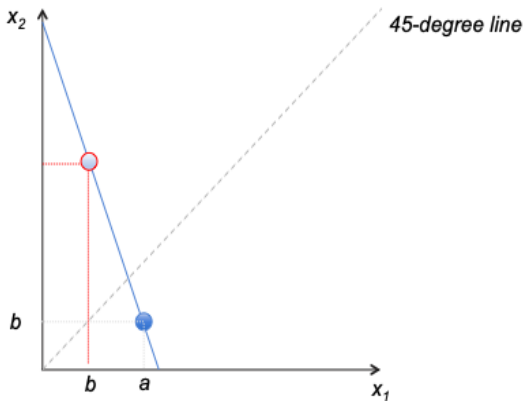# The Experiments: Intertemporal Choice
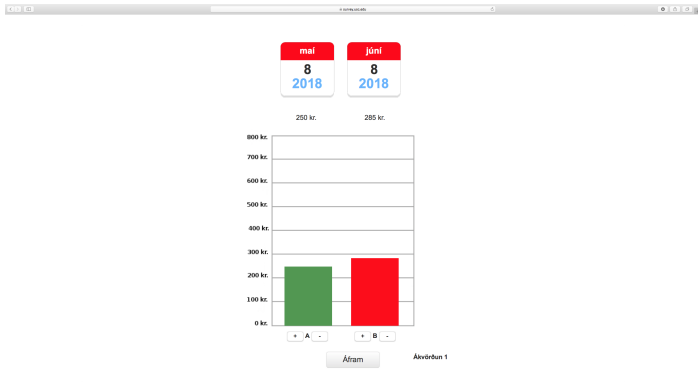
Decision-making Quality

Literature offers several scores to measure degree of compliance with GARP. Classic is Afriat's CCEI

Decision-making Quality

Violating Monotonicity wrt FOSD

Polisson et al. (2018) offers revealed preference, score to measure degree of compliance with GARP and FOSD. Like Afriat's GARP measure it ranges from 0 to 1