

# Consumer Behaviour, Household Finance, and the role of Regulation

Sumit Agarwal



## The key issue in consumer credit...

**There is growing concern that consumers are ill-prepared to make sound decisions in an increasingly complex financial environment**

Numerous examples come to mind....

*Social security privatization*

*Under-participation in the 401K plans*

*Lack of sufficient portfolio diversification*

*Subprime mortgages*

*Optimal refinancing timing*

*Choosing the right mortgage ARM/FRM*

*Payday lending*

*Pawn lending*



*A bank in the US advertises that it has **3,000 different types of credit cards** with varying interest rates, fee rates, and reward options - travel, auto, gas, and hotel rewards.*

*To choose the right card that best suits a consumers needs seems like a daunting task....*

## The key issue in consumer credit... - Background

- Emerging literature documenting **suboptimal financial decision-making** by households
  - Payday loans: Agarwal et al. (2009a), Bertrand and Morse (2009)
  - Credit Cards: Agarwal et al. (2006)
  - Financial Markets: Korniotis and Kumar (2009a, 2009b)
- Costs to individuals and society may be very large
- The Global Financial Crisis had its roots in housing and mortgage defaults, and its plausible that **poor financial decision making played a role**
- The Crisis has also focused attention on the societal costs of poor consumer decisions
- A **wide range of potential effects** on individual welfare:
  - Human Capital Investment in Children
  - Retirement
  - Consumer Debt, Bankruptcy, Foreclosure



## ...which has material impact for the average consumer

- Some people argue that consumers make **wrong choices** and incur **high interest and fee payments**
- Others, however, argue that financial intermediaries are **extracting excess rents** from their customers
- Most agree that **consumers need education** in financial planning and financial literacy
- We also need **regulation** and policies to safe guard the consumers

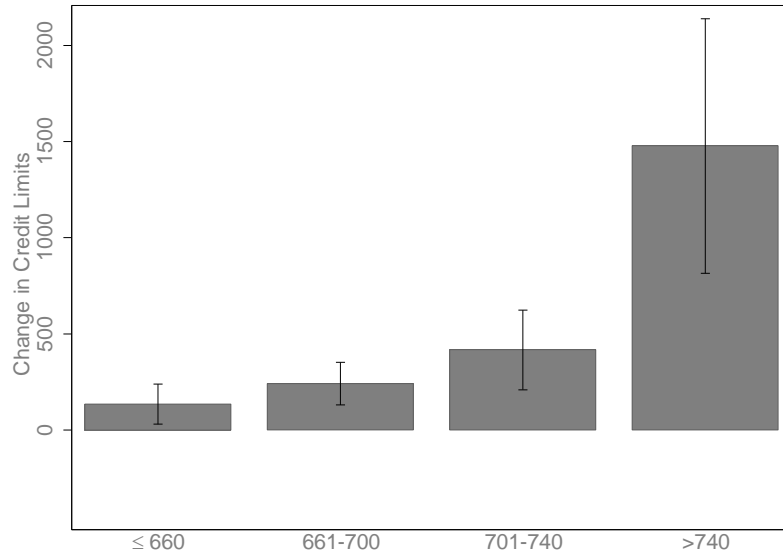


# Is it rational for lenders to give all consumers a fair and transparent deal? – Shrouded attributes theory

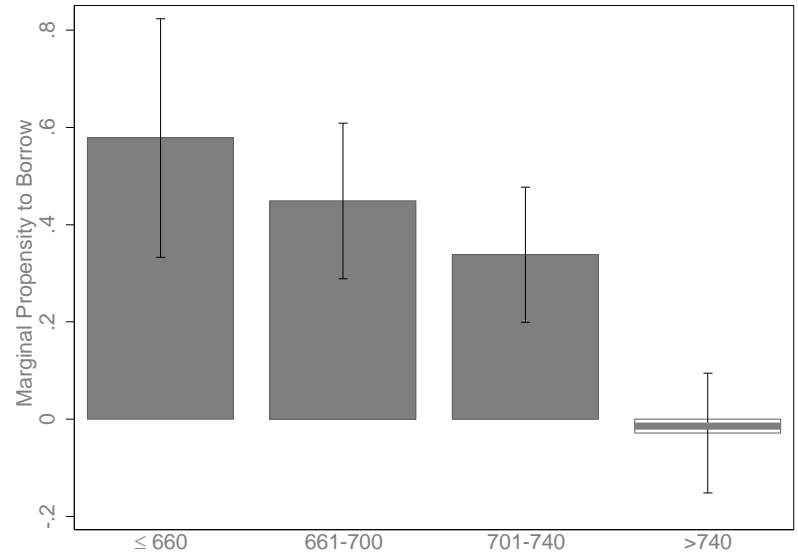
## Shrouded attributes, consumer myopia, and information suppression in competitive markets (Gabaix & Laibson 2006)

- Studied information shrouding in an economy with some myopic (or less informed) consumers and close substitutes
- “Curse of de-biasing” – firms not able to profitably de-bias consumers by unshrouding add-ons
- In equilibrium, optimizing firms exploit myopic consumers by shrouding high priced add-ons...
- ....while sophisticated customers were able to exploit these marketing schemes
- Practice continues because it is not possible to profitably drive away the business of the sophisticated or the myopic

# Do banks lend to the consumers who are most in need? – MPL lowest where MPB is highest



(a) MPL

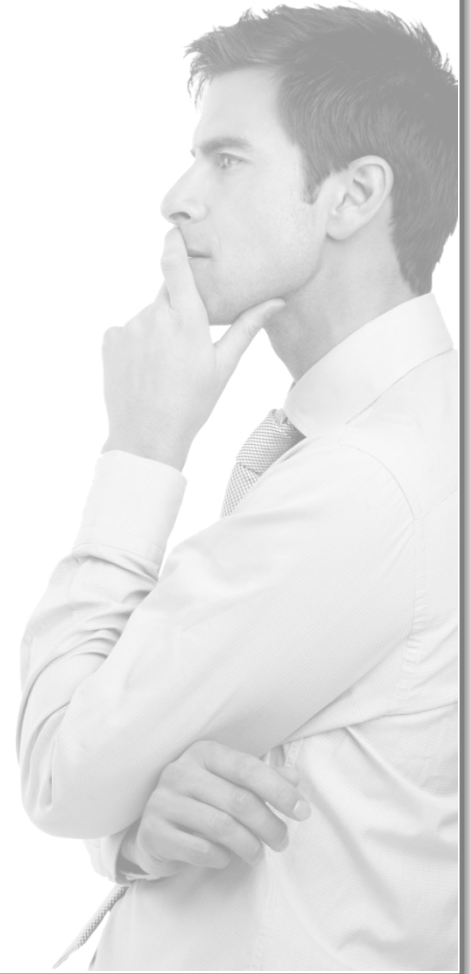


(b) MPB Across All Accounts, 12 Months

- Suppose calculate effect as avg MPL across FICO  $\times$  avg MPB across FICO
  - Accounting for correlation reduces effect by 68%

## Consumer behavior and biases – key issues

- Do consumers *make mistakes* in choosing a credit card contract? What mistakes do they make?
- What other inefficiencies and biases do consumers have in financial decision-making?
- Are the mistakes related to *nature or nurture*?
- Do financial mistakes vary by *age*?
- Do they *learn* from their mistakes?



# Do consumers make mistakes in choosing a credit card?

- **Unique experiment: a large bank offers consumers 2 choices**

## **Credit Card 1:**

**12% Interest Rate**

**\$20 Annual Fee**

## **Credit Card 2:**

**15% Interest Rate**

**No Annual Fee**

**- Can switch at any time!**

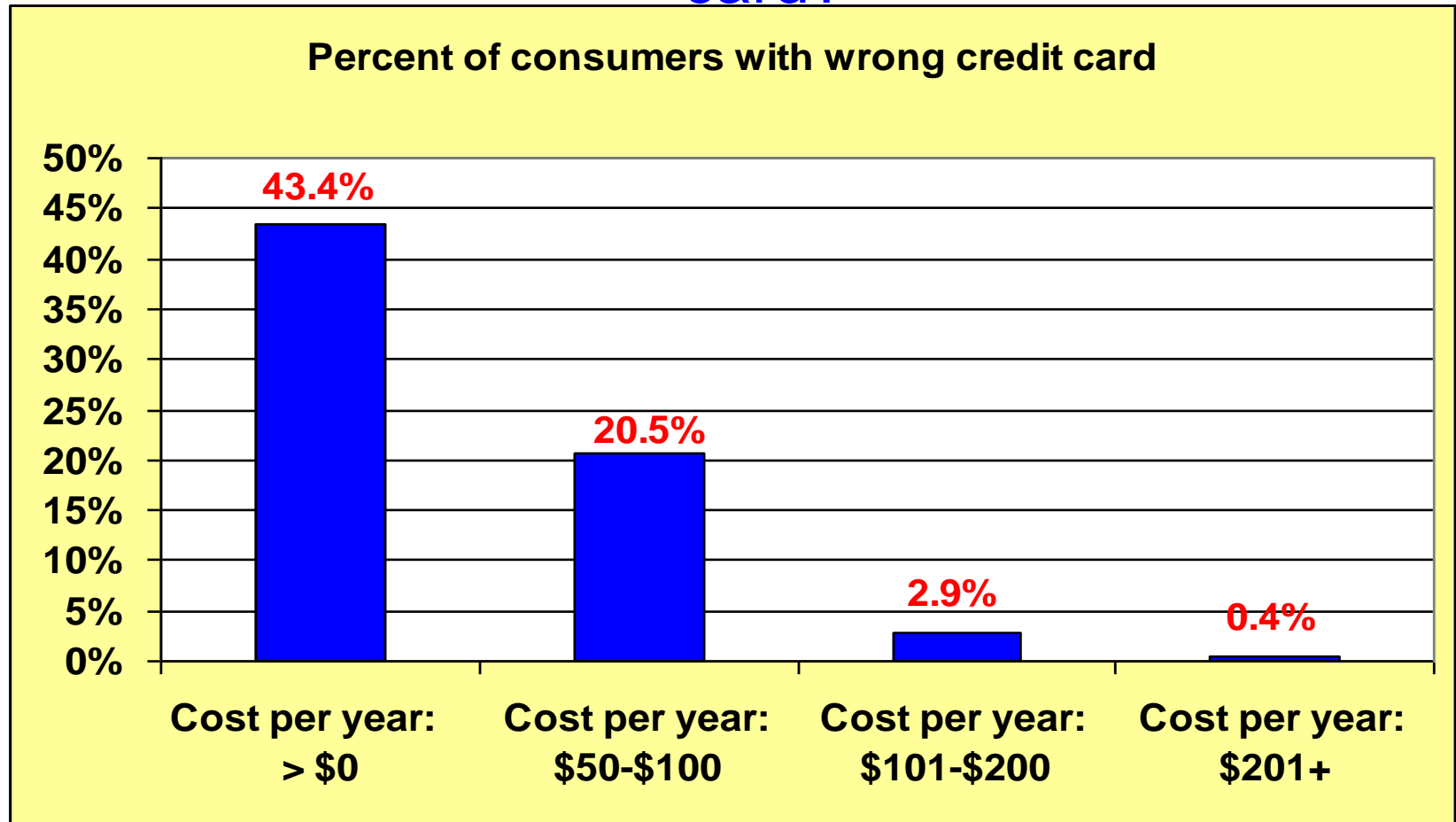
- **Optimal choice:**

**⇒ consumers expecting to borrow should choose Card (1)**

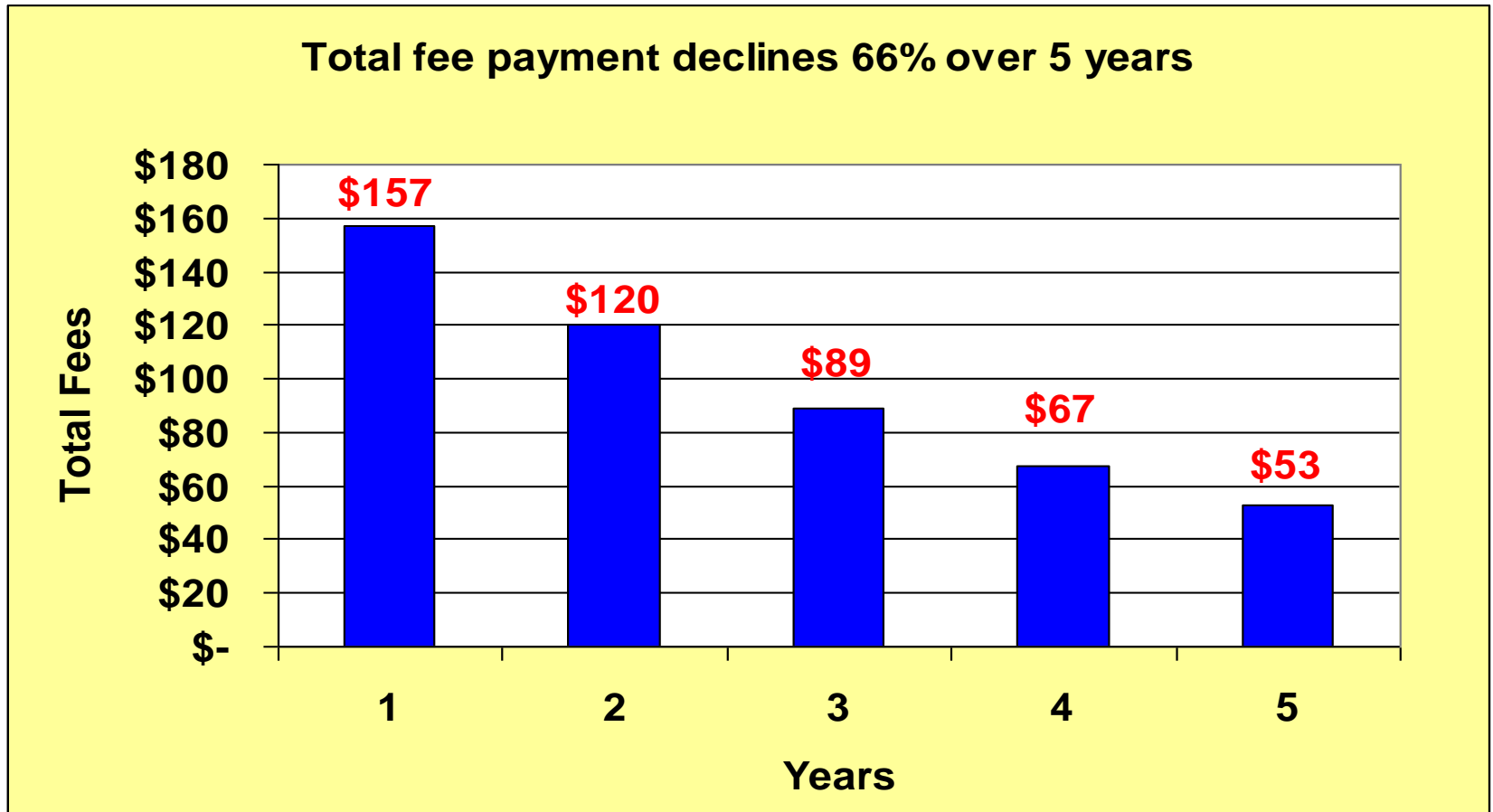
**⇒ consumers expecting not to borrow should choose Card (2)**



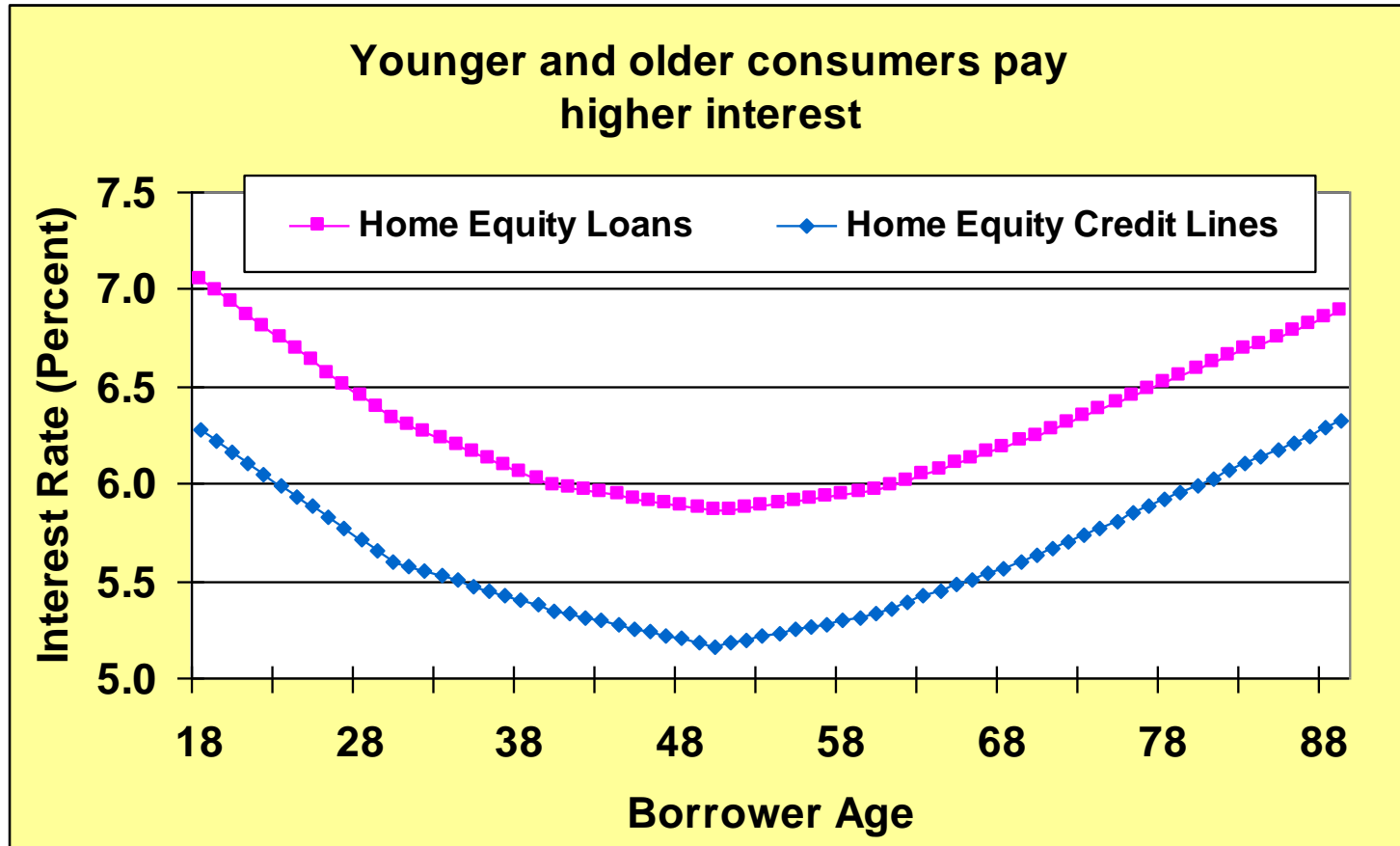
# Do consumers make mistakes in choosing a credit card?



# Do consumers learn from their credit card choice mistake?



# Do financial mistakes vary by age?

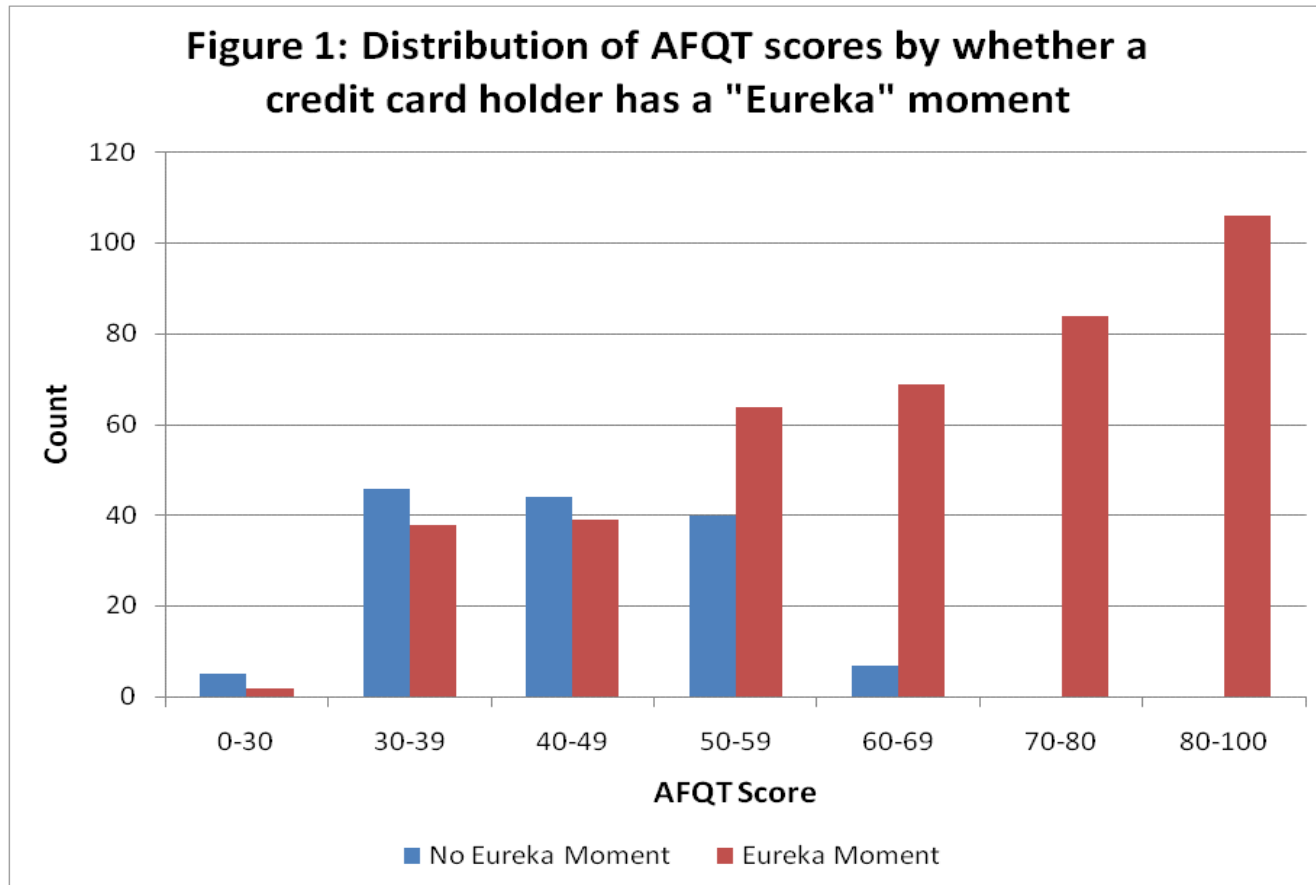


# U-shape for financial mistakes in 10 examples

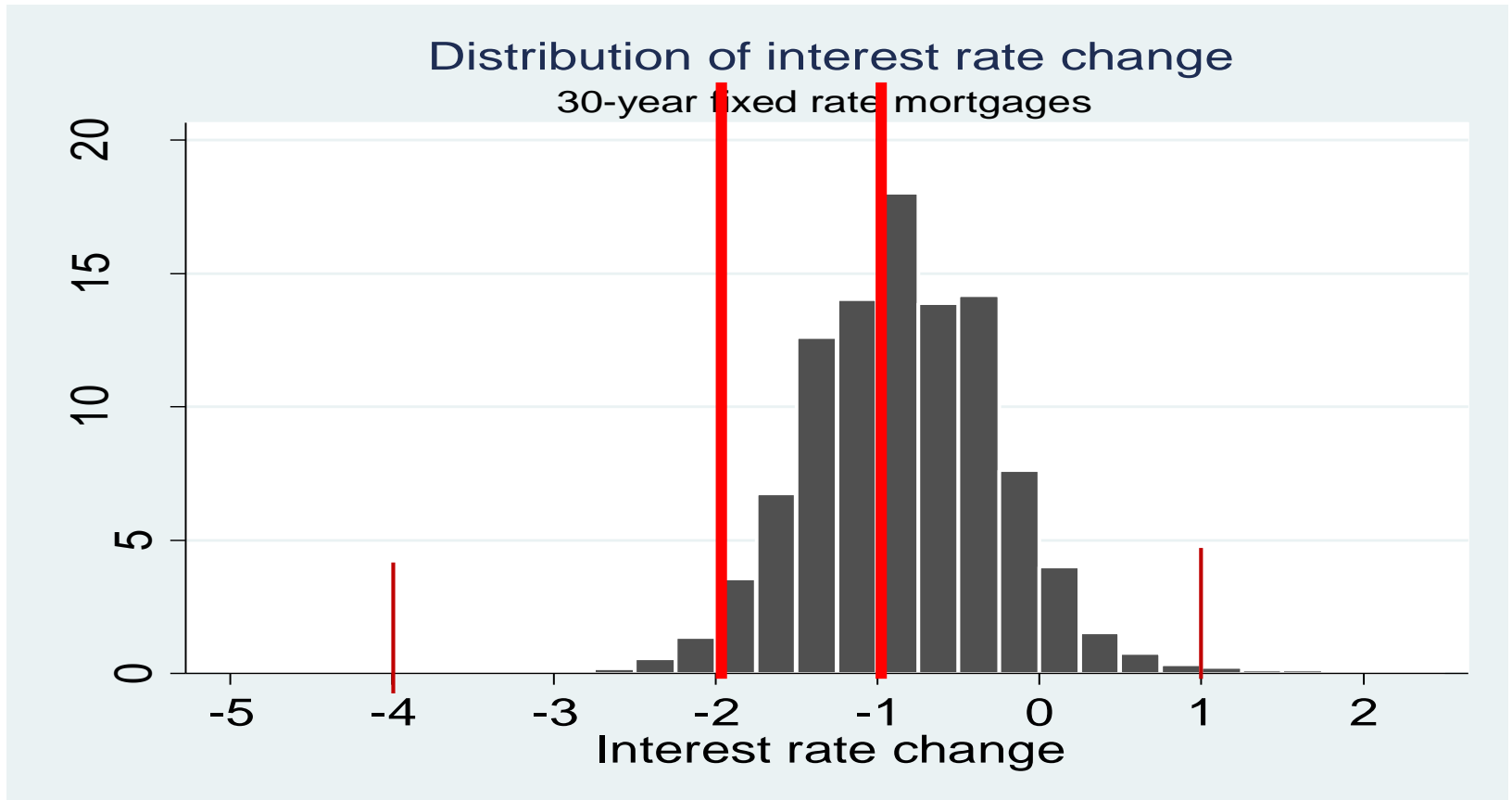
- Home equity loans
- Home equity lines of credit
- Eureka moments for balance transfers
- Late payment fees
- Over credit limit fees
- Cash advance fees
- Auto loans
- Credit cards
- Small business credit cards
- Mortgages

**Age of peak reason is 53 years!**

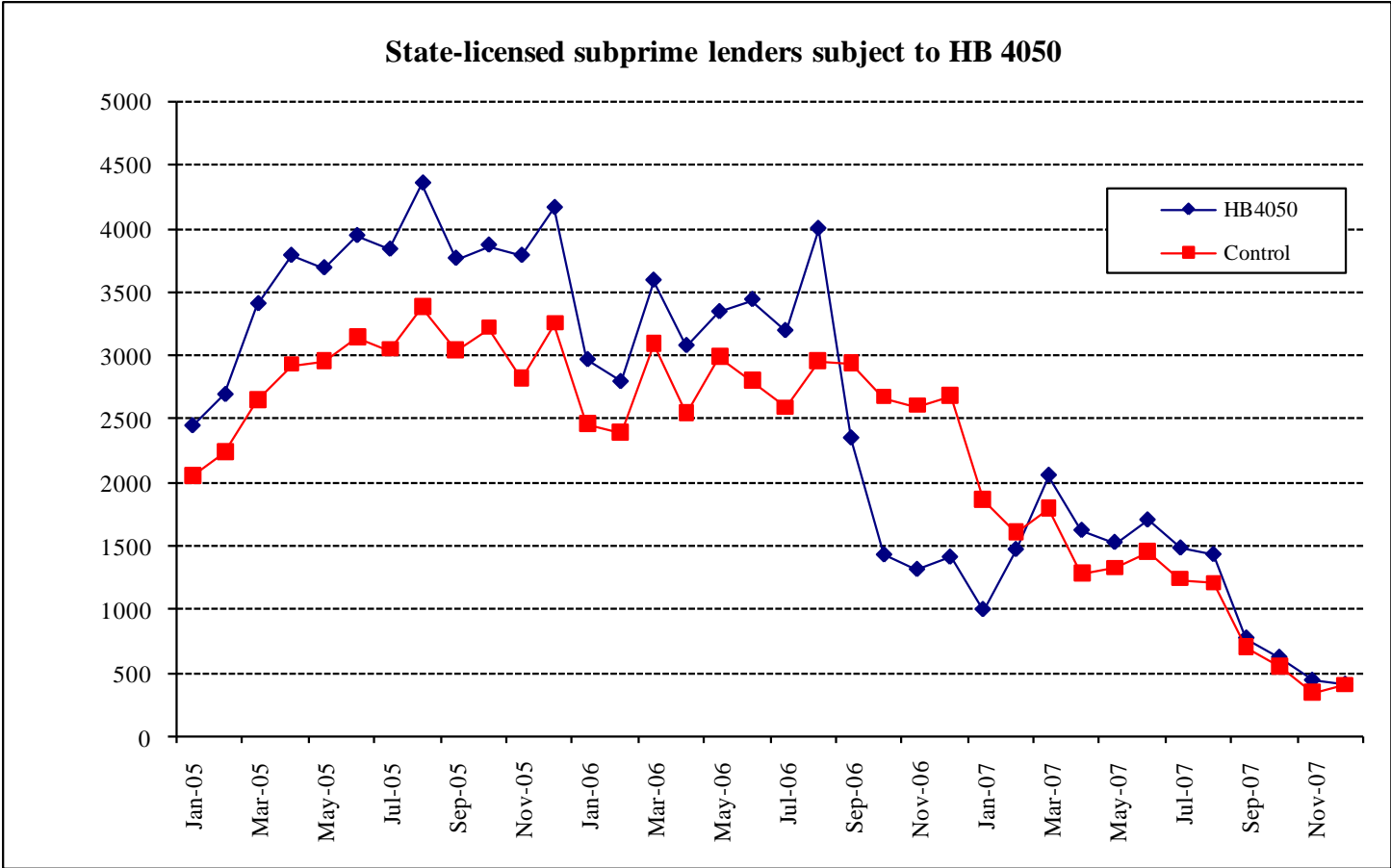
## Are mistakes related to cognitive abilities?



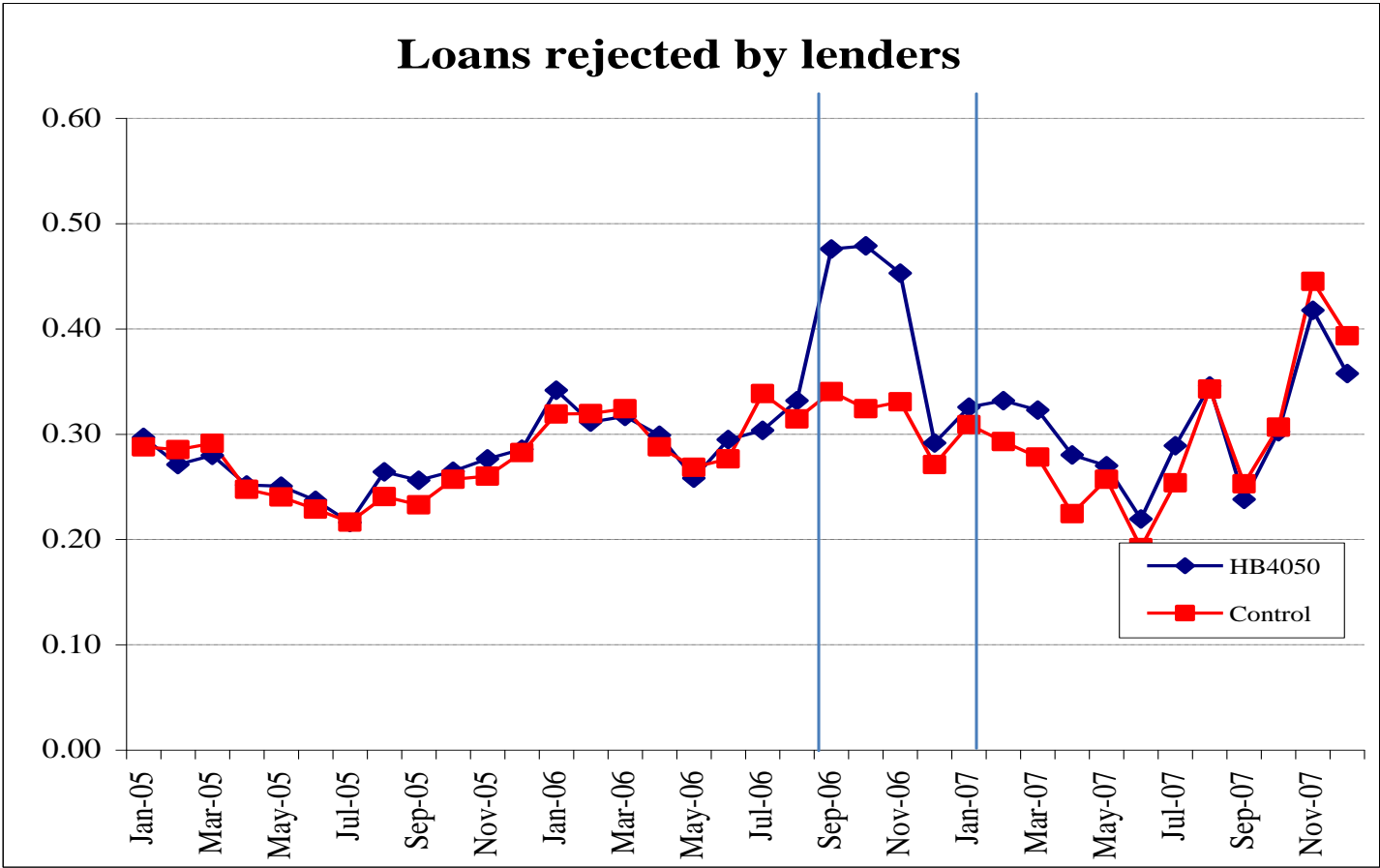
# Do consumers optimally refinance their mortgages?



# Does Financial Education Work?



# Does Financial Education Work?





# Summary of the Findings

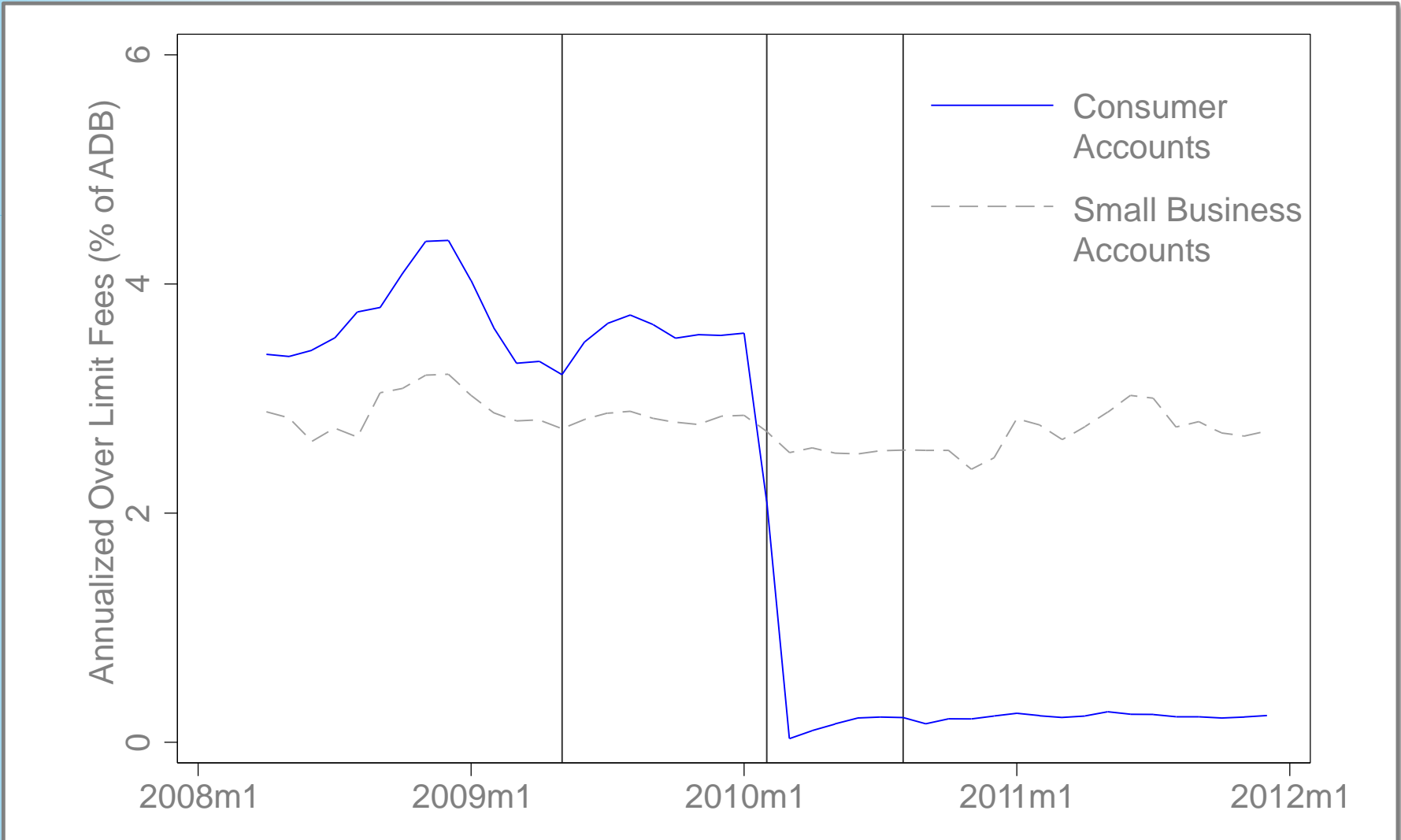
- Over 40% of consumers make mistakes.
  - About 40% chose the wrong credit contract
  - About 40% of the consumers are persuaded by the advertisement and choose the wrong contract
  - About 40% of consumers refinance their mortgages too quickly.
- But, the bigger the mistake, the more likely they learn.
  - Consumer learn to pay 66% lower fee over a five years period.
- The young and the old tend to make more mistakes.
- Mistakes can partially be explained by cognitive abilities.
- Financial education reduces supply and demand for credit.

# Consumer financial regulation – arguments for and against

- 
- Surge of interest in **regulating consumer financial products** (CFPB)
    - Mortgages, Payday Lending, Student Loans, Credit Cards
  - **Proponents**
    - Firms exploit behavioural biases, especially among the poor
    - Regulation and additional information can protect consumers
  - **Skeptics**
    - Hard to transfer surplus from producers to consumers (Whac-A-Mole)
    - “The reduced revenue stream to lenders from these fees would mean that other rates and fees would be adjusted to compensate” (Mullainathan et al., 2009)

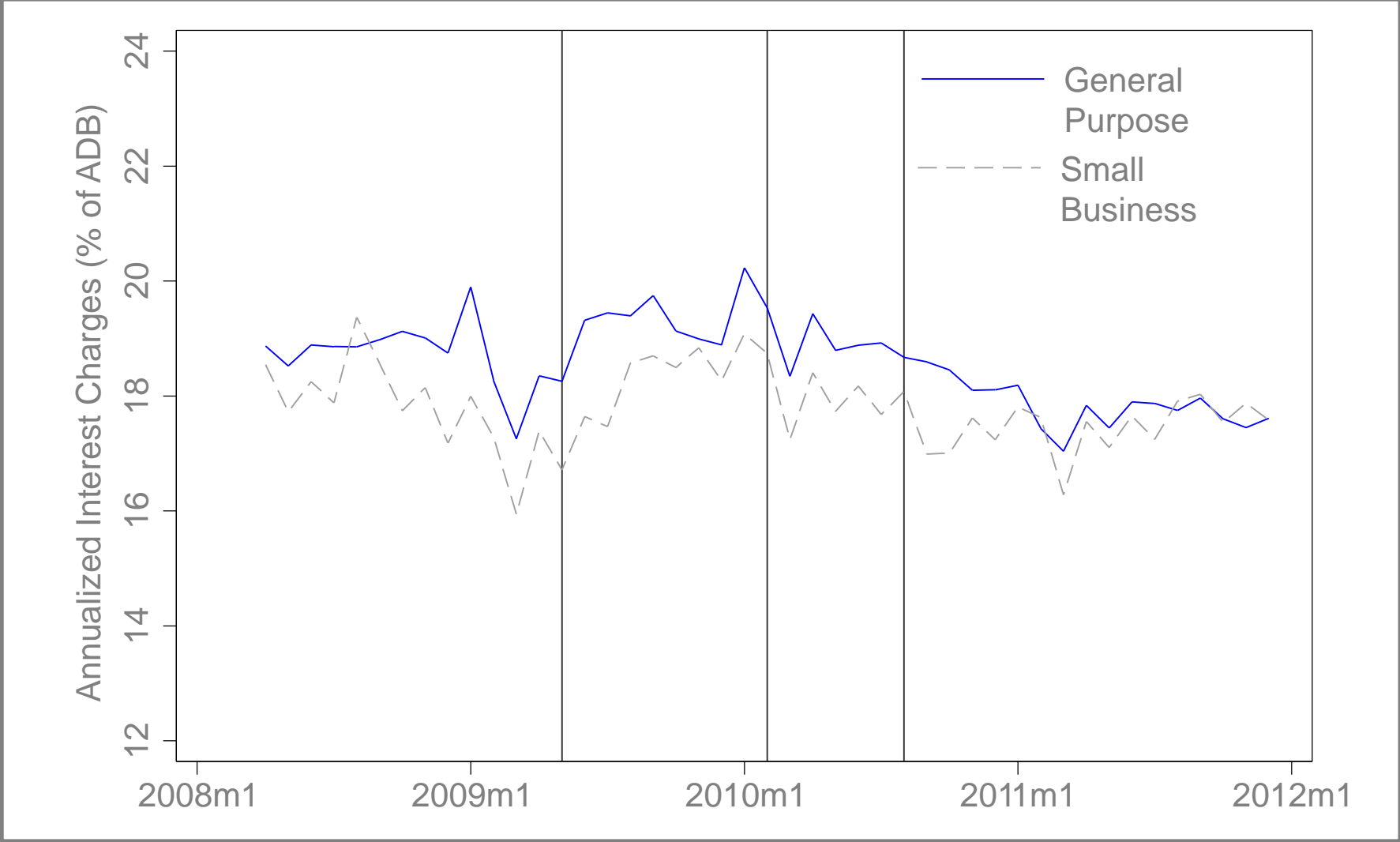
# The Card ACT Intended effects - Over Limit Fees: FICO <660

## Raw Data



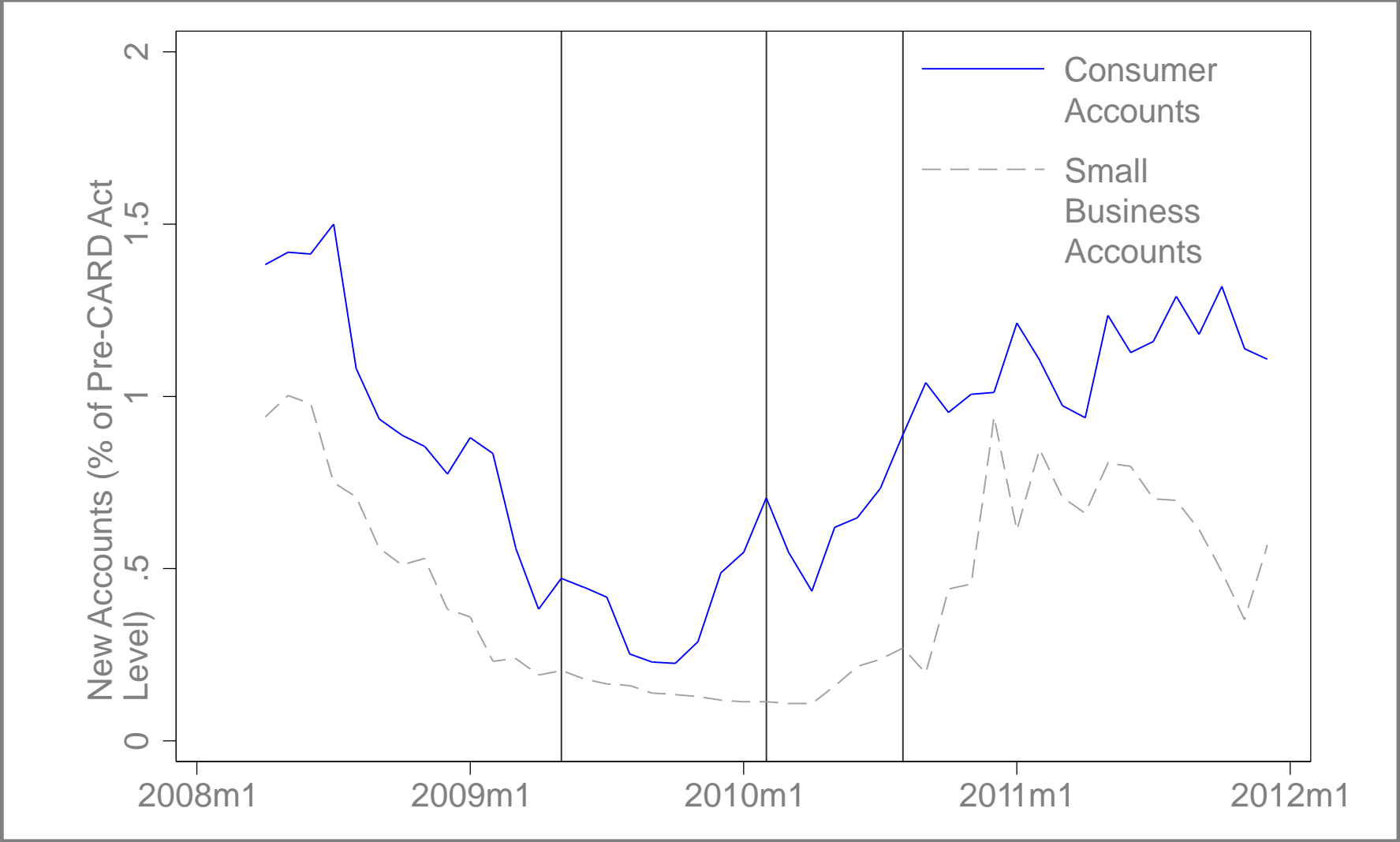
# Unintended consequences - Interest Charges: FICO < 660

## Raw Data



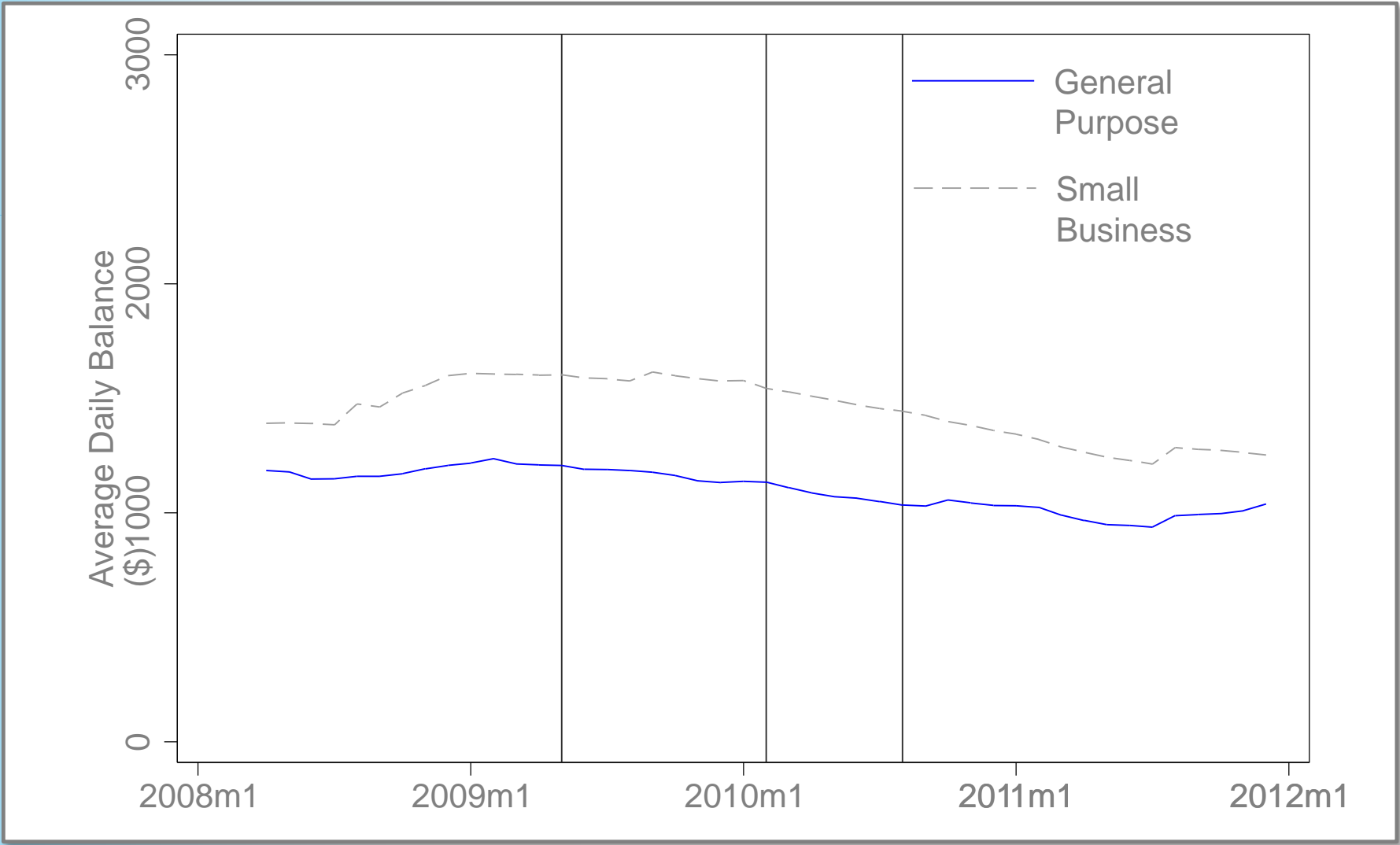
# New Accounts: FICO < 660

## Raw Data



# Average Daily Balances: FICO < 660

## Raw Data



# So, what can help the consumer? – Policy implications



# Policy Implications – Financial Education

Require consumers to go through financial counseling before they could take a mortgage.

- Examples:

- Cook county, Illinois required subprime borrowers to go through financial counseling before taking a mortgage.
- Marian county, Indiana has a program for the low-income borrowers to go through months of financial education program before they are eligible for a mortgage.
- Both of them work to some extent.



# Policy Implications – Financial Advisors

Financial advisors can be helpful:

- Provide suggestion on the optimal timing for refinancing, choice between an ARM and FRM, and optimal credit card contracts based.
- But they are costly
- And time-consuming
- And rely on consumer input

# Policy Implications – Simplification

Mistakes are small when contracts are simple.

- **Choice between two credit cards.**

Large mistakes in decisions to refinance, choose between ARM/FRM.

- **Maybe, provide a web based calculator that can optimally solve the mortgage refinancing problem.**

[www.nber.org/mortgage-refinance-calculator](http://www.nber.org/mortgage-refinance-calculator)

# Policy Implications – Defaults

To avoid paying fees (late, over-limit, cash advance)

- Default option to make a minimum payment fee from the direct checking account.
- Default option to not allow purchases over the limit.

Implemented through the CFPB in the US

# Policy Implications - Disclosure

## Disclosures in financial transactions

- Truth-In-Lending
- Good Faith Estimate
- Privacy disclosures

## Benefits:

- Educate consumers and prevent deception
- Reduce search costs and facilitate comparison shopping