Unraveling Information Sharing in Consumer Credit Markets

Benedict Guttman-Kenney (JMP)¹ & Andrés Shahidinejad²

¹Chicago Booth ²Northeastern University

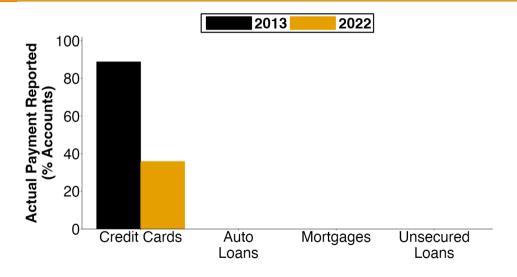
29 November 2023, Chicago Booth Household Finance Group

Thanks to NBER and Chicago Booth's Fama-Miller, Kilts, & Stigler Centers for supporting this research.

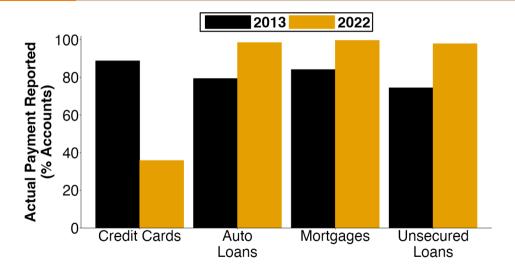
TransUnion (the data provider) has the right to review the research before dissemination to ensure it accurately describes TransUnion data, does not disclose confidential information, and does not contain material it deems to be misleading or false regarding TransUnion, TransUnion's partners, affiliates or customer base, or the consumer lending industry. Calculated (or derived) based on credit data provided by TransUnion through a relationship with the Kilts Center for Marketing at The University of Chicago Booth School of Business. No individual from are identified in these data.

Breakdown in information sharing

Breakdown in information sharing



Breakdown in information sharing in credit cards but not in other credit products



1. Empirically document fragility of information sharing in highly developed market

• Information sharing sensitive to innovations enabling targeting profitable customers (e.g., Diamond, 84; Ramakrishan & Thakor, 84; Pagano & Japelli, 93; Raith, 96; Bouckaert & Degryse, 06; Bergemann & Bonatti, 19; Jones & Tonetti, 20)

1. Empirically document fragility of information sharing in highly developed market

 Information sharing sensitive to innovations enabling targeting profitable customers (e.g., Diamond, 84; Ramakrishan & Thakor, 84; Pagano & Japelli, 93; Raith, 96; Bouckaert & Degryse, 06; Bergemann & Bonatti, 19; Jones & Tonetti, 20)

2. Two new insights on credit card market: importance of spending and card tenure

- Spending a 2nd source of uncertainty separate to default risk
- ullet Card tenure varies across and within credit score o need to measure lifetime profits

1. Empirically document fragility of information sharing in highly developed market

 Information sharing sensitive to innovations enabling targeting profitable customers (e.g., Diamond, 84; Ramakrishan & Thakor, 84; Pagano & Japelli, 93; Raith, 96; Bouckaert & Degryse, 06; Bergemann & Bonatti, 19; Jones & Tonetti, 20)

2. Two new insights on credit card market: importance of spending and card tenure

- Spending a 2nd source of uncertainty separate to default risk
- ullet Card tenure varies across and within credit score o need to measure lifetime profits
- High spending cards can be profitable (on interchange) when consider card tenure
 (e.g., Ausubel, 91; Evans & Schmalensee, 04; Agarwal, Chomsisengphet, Mahoney, & Stroebel,
 15,18; Mukharlyamov & Sarin, 19; Nelson, 23; Wang, 23; Agarwal, Presbitero, Silva, & Wix, 23)

1. Empirically document fragility of information sharing in highly developed market

 Information sharing sensitive to innovations enabling targeting profitable customers (e.g., Diamond, 84; Ramakrishan & Thakor, 84; Pagano & Japelli, 93; Raith, 96; Bouckaert & Degryse, 06; Bergemann & Bonatti, 19; Jones & Tonetti, 20)

2. Two new insights on credit card market: importance of spending and card tenure

- Spending a 2nd source of uncertainty separate to default risk
- ullet Card tenure varies across and within credit score o need to measure lifetime profits
- High spending cards can be profitable (on interchange) when consider card tenure
 (e.g., Ausubel, 91; Evans & Schmalensee, 04; Agarwal, Chomsisengphet, Mahoney, & Stroebel,
 15,18; Mukharlyamov & Sarin, 19; Nelson, 23; Wang, 23; Agarwal, Presbitero, Silva, & Wix, 23)

3. Inform policymaking by Consumer Financial Protection Bureau (CFPB)

• Research shows limits of voluntary information sharing and supports policy to mandate

1. Empirically document fragility of information sharing in highly developed market

 Information sharing sensitive to innovations enabling targeting profitable customers (e.g., Diamond, 84; Ramakrishan & Thakor, 84; Pagano & Japelli, 93; Raith, 96; Bouckaert & Degryse, 06; Bergemann & Bonatti, 19; Jones & Tonetti, 20)

2. Two new insights on credit card market: importance of spending and card tenure

- Spending a 2nd source of uncertainty separate to default risk
- ullet Card tenure varies across and within credit score o need to measure lifetime profits
- High spending cards can be profitable (on interchange) when consider card tenure
 (e.g., Ausubel, 91; Evans & Schmalensee, 04; Agarwal, Chomsisengphet, Mahoney, & Stroebel,
 15,18; Mukharlyamov & Sarin, 19; Nelson, 23; Wang, 23; Agarwal, Presbitero, Silva, & Wix, 23)

3. Inform policymaking by Consumer Financial Protection Bureau (CFPB)

- Research shows limits of voluntary information sharing and supports policy to mandate
- 4. What information is missing in YOUR credit report and why missing?

Four Parts to Paper

- 1. Unraveling Information Sharing
- 2. Consumer Credit Profitability
- 3. Selection in Credit Card Lenders Sharing Information
- 4. Effects of Mandating Information Sharing

Four Parts to Paper

- 1. Unraveling Information Sharing
- 2. Consumer Credit Profitability
- 3. Selection in Credit Card Lenders Sharing Information
- 4. Effects of Mandating Information Sharing

Data: TransUnion US consumer credit reports

Part 1. Unraveling Information Sharing

Describe breakdown of sharing information on actual payments in US consumer credit markets

Institutional details of innovation ("Trended Data")

"The most important tool developed...since the credit score"

- Innovation harnesses actual payments for revealing profitable consumers to target marketing
- Unraveling an unintended response to innovation

Part 1. Unraveling Information Sharing

Describe breakdown of sharing information on actual payments in US consumer credit markets

Institutional details of innovation ("Trended Data")
"The most important tool developed...since the credit score"

- Innovation harnesses actual payments for revealing profitable consumers to target marketing
- Unraveling an unintended response to innovation

Difference-in-differences: innovation \rightarrow information sharing \downarrow

• \$\psi\$ 65 p.p. for credit cards vs. auto loans

Part 2. Consumer Credit Profitability

Framework for consumer credit profitability

Part 2. Consumer Credit Profitability

Framework for consumer credit profitability

Measurement error by not observing actual payments data

- Credit card spending $R^2 = 0.51$
- Revolving credit card debt $R^2 = 0.94$

Part 2. Consumer Credit Profitability

Framework for consumer credit profitability

Measurement error by not observing actual payments data

- Credit card spending $R^2 = 0.51$
- Revolving credit card debt $R^2 = 0.94$

Predict profitability in credit cards, auto loans, & unsecured loans

- Actual payments information \rightarrow predicting lifetime profits \uparrow
 - +31% interchange net of rewards
 - +4% financing charges (interest + fees) net of charge-offs

Part 3. Selection in Credit Card Lenders Sharing Information

Higher profitability & higher spending lenders stop sharing

- Spending: +31% mean & +41% variance
- Worst residual types remain sharing information (Akerlof-esque)

Part 3. Selection in Credit Card Lenders Sharing Information

Higher profitability & higher spending lenders stop sharing

- Spending: +31% mean & +41% variance
- Worst residual types remain sharing information (Akerlof-esque)

Difference-in-differences: innovation \rightarrow switching \uparrow

- Heterogeneous exposure by % card balances with lenders who share information
- ullet More exposed o more information revealed
 - ightarrow +13% new credit cards openings

Part 4. Effects of Mandating Information Sharing: Evidence from Credit Card Limits

Effects of mandating sharing information on credit card limits

- Mandate by Federal Trade Commission
- Heterogeneous exposure by institutional feature of utilization

Part 4. Effects of Mandating Information Sharing: Evidence from Credit Card Limits

Effects of mandating sharing information on credit card limits

- Mandate by Federal Trade Commission
- Heterogeneous exposure by institutional feature of utilization
- ↑ 23 point credit score moving from 0 to 100% exposure
- † competition with substitution from inside to outside lenders

Roadmap

- 1. Unraveling Information Sharing
- 2. Consumer Credit Profitability
- 3. Selection in Credit Card Lenders Sharing Information
- 4. Effects of Mandating Information Sharing

Thank you!



☑ benedict@chicagobooth.edu

