Consumer Perspectives:
PAYMENT SPEED & SECURITY

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Disclaimers

• The views expressed in this presentation are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Boston or the Federal Reserve System.

• Results from the 2012 and 2015 Diary of Consumer Payment Choice (DCPC) and the 2015 Survey of Consumer Payment Choice (SCPC) are preliminary and subject to change.
Consumer perspectives

- Factors that are important for payment instrument choice
- What consumers say about security; what consumer do
- Focus on bill pay: What consumers say about speed
- P2P and checks
Nationally representative samples

  - Annual estimates of consumers’ *recall* of a “typical month”
    - Adoption of deposit accounts and payment instruments
    - Use (# per month) of payment instruments by seven payment types
    - Respondents also rate payment instruments on characteristic

  - Collaboration with the Federal Reserve Bank of San Francisco Cash Product Office and Federal Reserve Bank of Richmond
  - Daily *recording* of specific payments for three days in October (usually)
    - Use (# and $) of payment instruments for all payment types
    - Types of payees and consumer expenditures
HOW DO CONSUMERS CHOOSE?
Consumers have more choices...

...& adopt new payment instruments without discarding old

Source: Author’s research.
Q: What is the main reason that consumers have adopted so many payment instruments?

- Consumers value and demand large variety and choice
- No single fast, safe, and low-cost payment instrument can be used everywhere
- Acceptance of payment instruments by merchants and other payees is still far from universal
- Innovation and competition produces more payment instruments in the short run
Three factors important for choice

• Characteristics of the consumer
  • Income (individual and household)
  • Demographics

• Characteristics of the transaction
  • Dollar value
  • Type of expenditure
  • Type of merchant

• Characteristics of the payment instrument
  • Security
  • Cost
  • Convenience
Q: Which payment characteristic is most important when you decide which payment method to use?

- Acceptance for payment
- Getting and setting up
- Cost
- Convenience
- Payment records
- Security
- Speed
SECURITY OF PAYMENT INSTRUMENTS
Three kinds of security

security of **wealth**

security of **personal info**

privacy of **transaction**
What facet of security matters most?

- Security of financial wealth: 37.4%
- Security of PII: 20.3%
- Privacy of transaction: 13.2%

Source: Survey of Consumer Payment Choice 2013. Share of respondents rating each characteristic as "most important"
Target data breach

• Payment card data for 40 million credit and debit card accounts
• Used in Target stores in the 19 days between November 27 and December 15, 2013
• Announced December 19, 2013

Research question

• Does news about payment security breaches change the way consumers assess and use payment instruments?
Timeline of data collection

Source: Federal Reserve Bank of Boston, Google Trends.

*Note:* 100 equals most intense search activity on “Target data breach.” The spike in searches occurred almost instantaneously following announcement of the breach; software limitations cause it to appear on the figure to have begun slightly in advance of the announcement.
Ratings of security of personal information

Percentage of consumers rating security of personal information “secure” or “very secure”

<table>
<thead>
<tr>
<th></th>
<th>PII Group 1 (before breach announced)</th>
<th>PII Group 2 (after breach announced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>72</td>
<td>71</td>
</tr>
<tr>
<td>Credit cards</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>Debit cards</td>
<td>37</td>
<td>23</td>
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</tbody>
</table>

Ratings relative to all payment methods

Ratings of security of personal information, relative to rating of other payment instruments

Source: 2013 SCPC, Federal Reserve Bank of Boston, and authors’ analysis.
Note: Relative ratings are the average of the natural logarithmic ratios of each payment method versus other payment methods. The values can range from approximately -1.6 to +1.6.
Debit rated poorly after a breach

For security of personal info after Target 2013 data breach

Relative to other payment instruments

Debit cards
No long-term effects observed

Source: Survey of Consumer Payment Choice. 2015 & 2016 results are preliminary and not official.
Would better security increase use?

For credit & debit cards, the economic effect is small.

Small change: Increased security of wealth.

No change: Increased security of personal info.

No change: Increased privacy of transaction.

BILLs & SPEED OF PAYMENT INSTRUMENTS
4 kinds of speed

- At time of payment
- Of payment deduction
- Of notification of new balance
- Of recipient receiving
What facet of speed matters most?

- Any type of security: 70.9%
- Any type of speed: 29.1%
- Speed at time of payment: 8.7%
- Speed of payment deduction: 7.3%
- Speed of notification of balances: 6.7%
- Speed of recipient receiving $: 6.4%

For all types of payments. Source: Survey of Consumer Payment Choice 2013. Share of respondents rating each characteristic as “most important.”
Stated preferences differ by purpose

Percentage of consumers preferring each payment method

**Bills**
- Mobile phone payment: 28%
- Traveler's check: 11%
- Money order: 19%
- OBBP: 11%
- BANP: 11%
- Prepaid: 19%
- Debit card: 17%
- Credit card: 17%
- Check: 28%
- Cash: 17%

**Nonbills**
- Mobile phone payment: 42%
- Traveler's check: 27%
- Money order: 27%
- OBBP: 26%
- BANP: 26%
- Prepaid: 26%
- Debit card: 26%
- Credit card: 26%
- Check: 26%
- Cash: 26%

Source: 2015 Diary of Consumer Payment Choice, preliminary and unofficial. Note: Not comparable to 2012 DCPC due to questionnaire and sample changes.
Preferred PIs used most of the time

Bills preference

Bills actual

Non-bills preference

Non-bills actual

Percentage of consumers preferring each payment method and actual shares of payments (by number)

Source: 2015 Diary of Consumer Payment Choice, 10/16/2015-12/15/2016 preliminary and unofficial. Note: Not comparable to 2012 DCPC due to questionnaire and sample changes.
By value, most bills paid electronically

54% electronic

31% paper

12% cards

Source: 2015 Diary of Consumer Payment Choice, preliminary and unofficial. Note: Not comparable to 2012 DCPC due to questionnaire and sample changes.
Most bills paid on due date or early

Credit card bills less likely to be late

Shares of other bills

Bills paid early: 55.1%
Bills paid on due date: 31.9%
Bills paid late: 13.1%

Shares of credit card bills

Bills paid early: 76.5%
Bills paid on due date: 19.8%
Bills paid late: 3.8%

PI choice relative to bill due date

- **Paid late**: 58.4%
- **Paid on due date**: 53.9%
- **Paid early**: 48.7%

Why is bill pay method preferred?

- Convenience: 61.6
- Security: 9.6
- Budget control: 8.6
- Acceptance: 7.3
- Speed: 6.5
- Debit/credit rewards: 4.7
- Cost: 1.8

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Different preference for this merchant</td>
<td>38.8</td>
</tr>
<tr>
<td>Transaction size</td>
<td>11.0</td>
</tr>
<tr>
<td>Not accepted</td>
<td>10.8</td>
</tr>
<tr>
<td>Security</td>
<td>8.0</td>
</tr>
<tr>
<td>Did not have it at hand</td>
<td>3.4</td>
</tr>
<tr>
<td>Received a discount</td>
<td>3.0</td>
</tr>
<tr>
<td>Payment would have been late</td>
<td>2.8</td>
</tr>
<tr>
<td>Would have paid a surcharge</td>
<td>2.1</td>
</tr>
<tr>
<td>Not enough money available</td>
<td>1.9</td>
</tr>
<tr>
<td>Other</td>
<td>17.0</td>
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</tbody>
</table>
Would adoption & use go up with speed?

Some effect for ACH-based payment methods

- At time of payment
- Of payment deduction
- Of notification of new balance
- Of recipient receiving

P2P & CHECKS
Noncash spending (all) shift from checks

P2P use ($ value): 58% checks

P2P use (#): 60% cash

Q: In the past 30 days, have you written a paper check to pay another person?

- Yes
- No
The Consumer Role

• Technology changes quickly; people may not
  • Assessments & preferences are sticky

• 3 aspects influence choice
  • Consumer characteristics
  • Payment instrument characteristics
  • Transaction characteristics
Further reading

How Data Breaches Affect Consumer Credit


Do Patients Care about Data Breaches?

Using the data

• Reports, data tables, raw data for download
  • [https://www.bostonfed.org/payment-studies-and-strategies.aspx](https://www.bostonfed.org/payment-studies-and-strategies.aspx)
  • “Did the Target Data Breach Change Consumer Assessments of Payment Card Security?”
  • “How Do Speed and Security Influence Consumers' Payment Behavior?”

Thank you!

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