

# Consumer Perspectives: PAYMENT SPEED & SECURITY

---

Claire Greene

NEACH Payments Management Conference

May 10, 2017

# 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

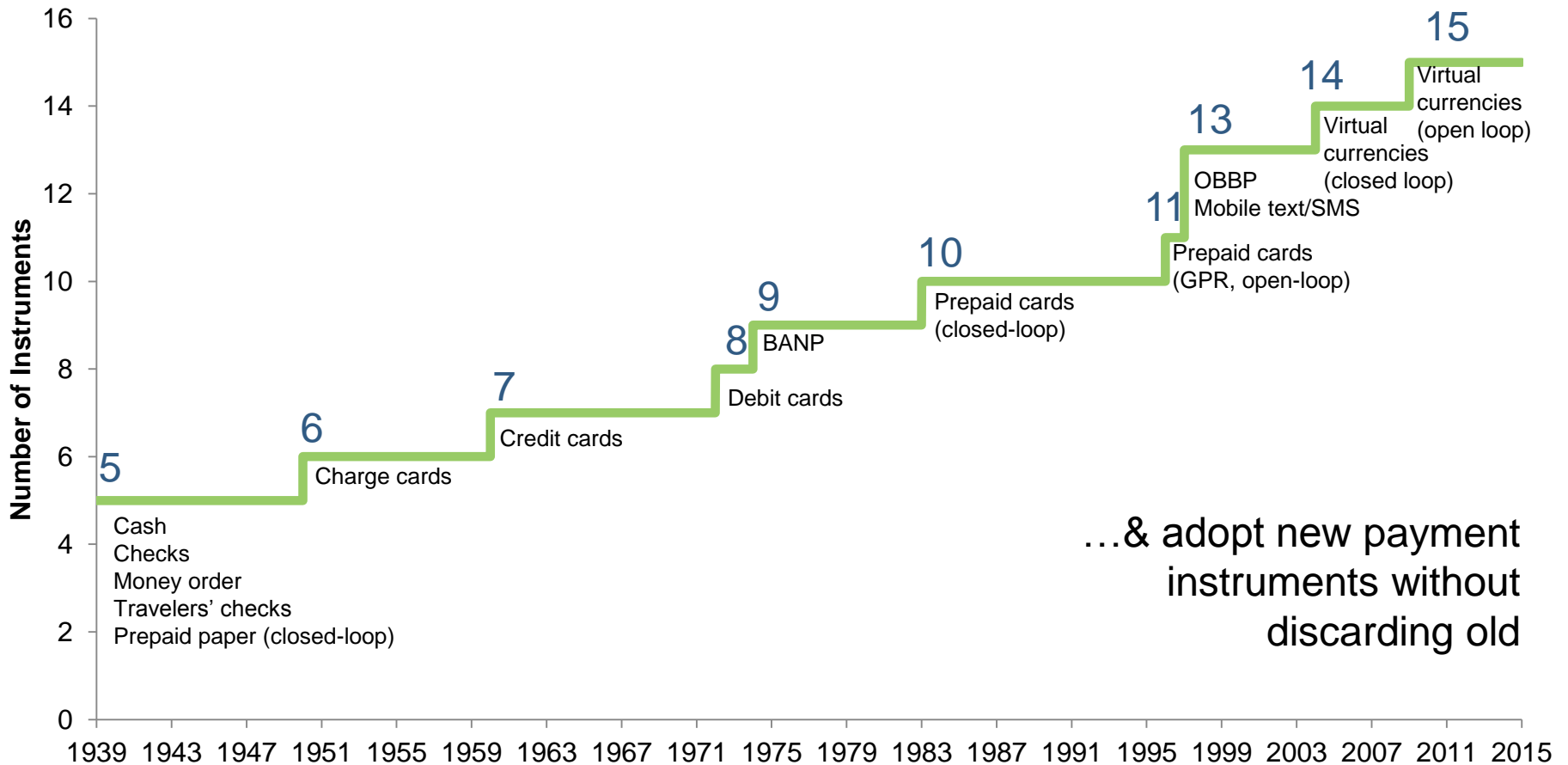
# Nationally representative samples

- **Survey of Consumer Payment Choice, SCPC (2008-2017)**
  - 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
- **Diary of Consumer Payment Choice, DCPC (2012, 2015-2017)**
  - 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**

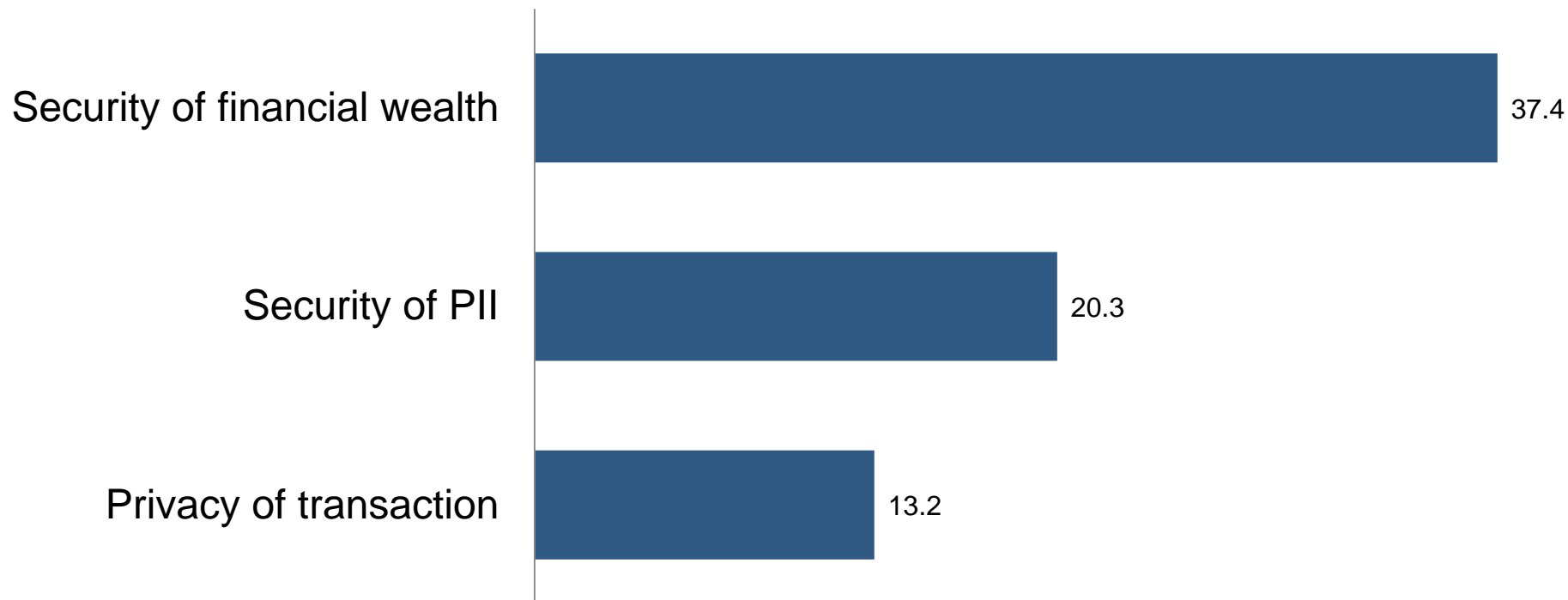


security of  
**personal info**



**privacy** of  
transaction

# What facet of security matters most?



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

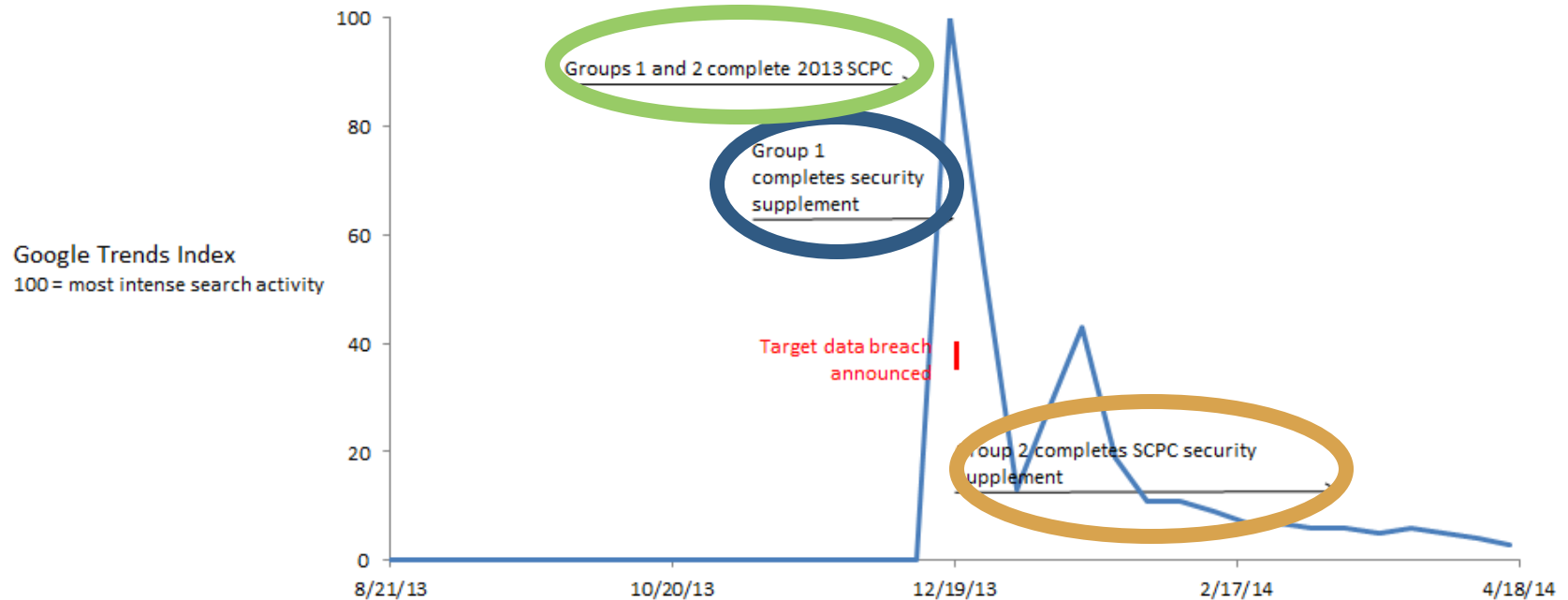
# Target data breach

- 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?

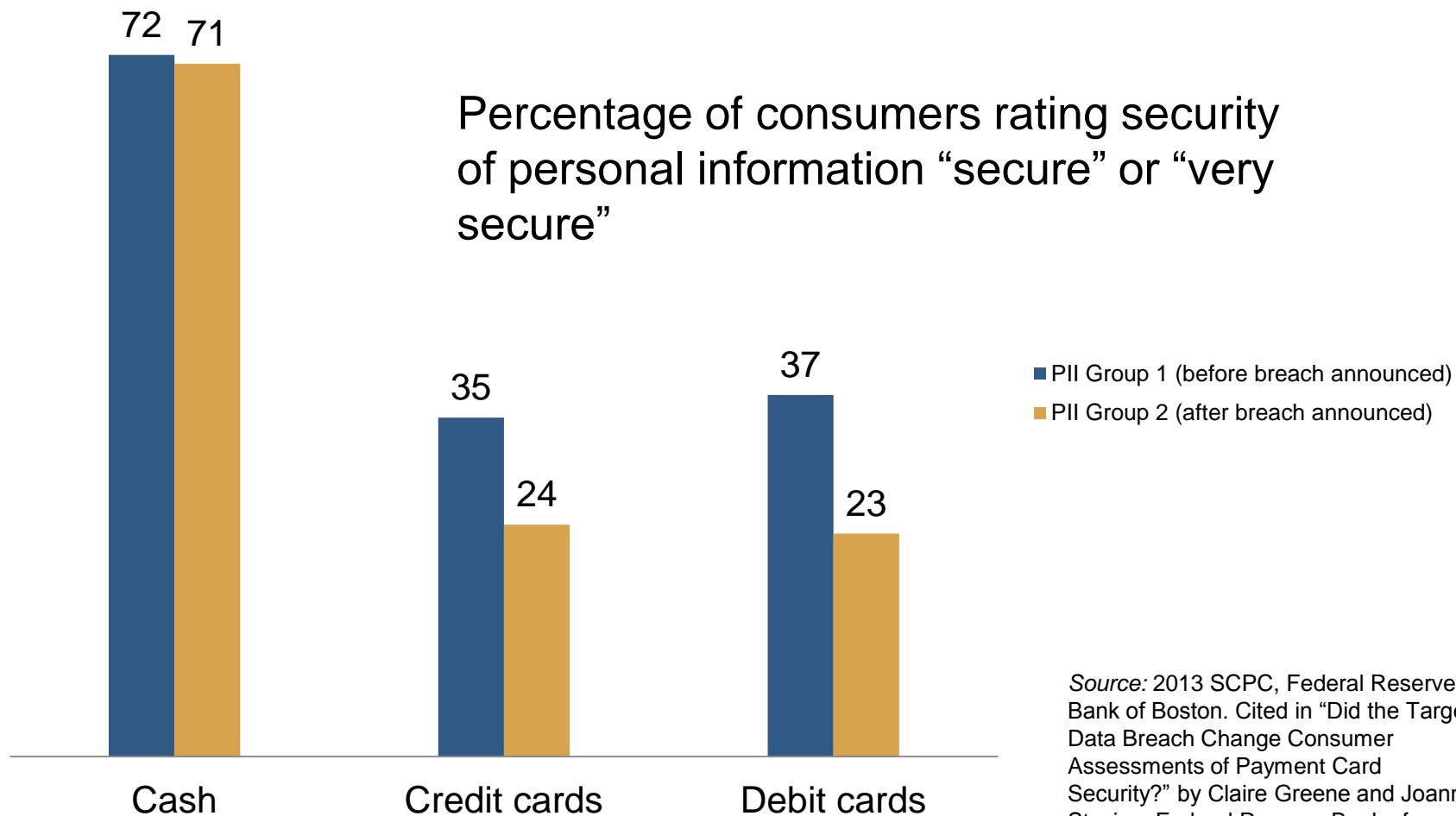
# Timeline of data collection



Source: Federal Reserve Bank of Boston, Google Trends.

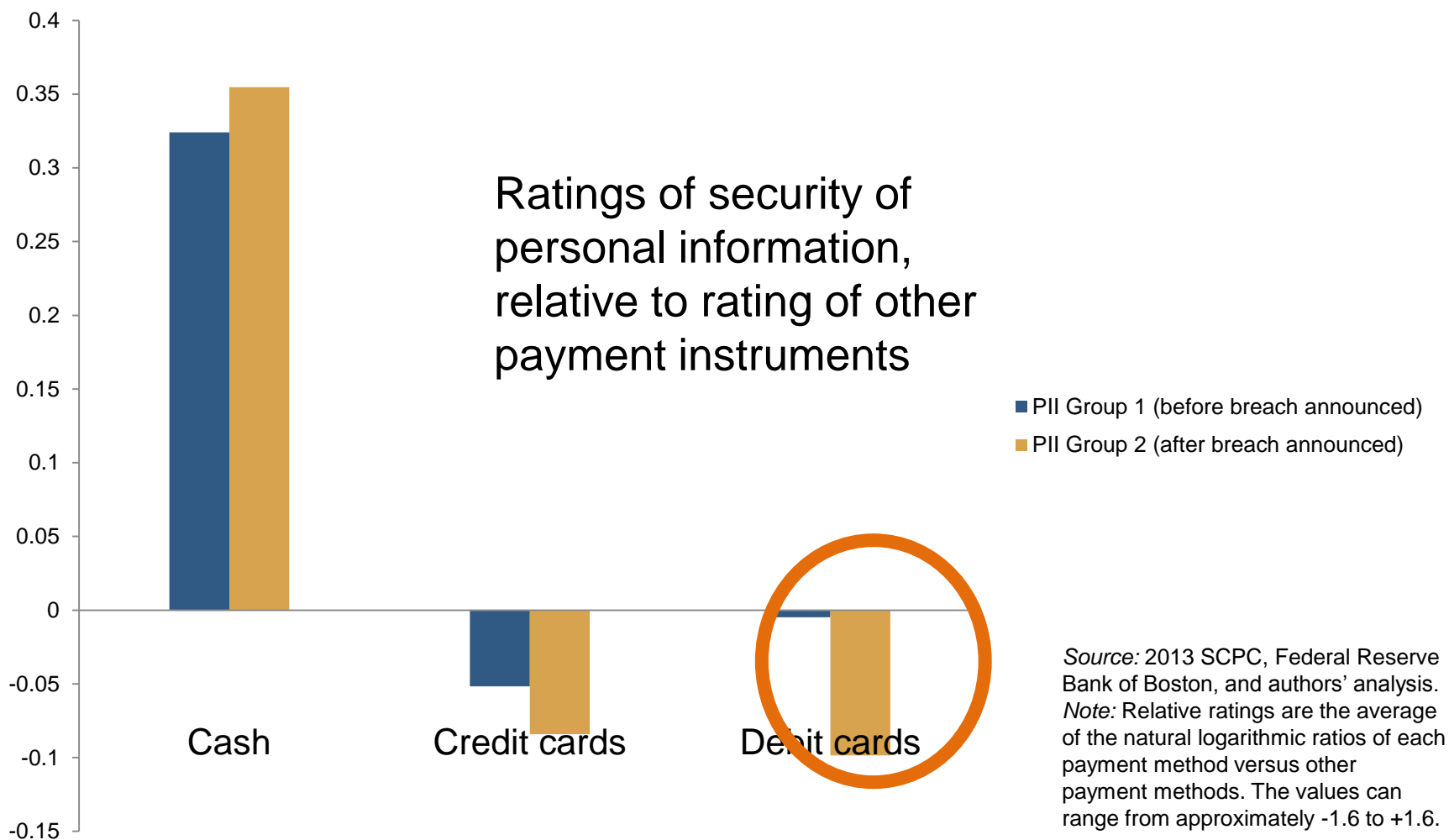
Note: 100 equals most intense search activity on "Target data breach." The spike in searches occurred almost instantaneously following announcement of the breach; software limitations cause it to appear on the figure to have begun slightly in advance of the announcement.

# Ratings of security of personal information



Source: 2013 SCPC, Federal Reserve Bank of Boston. Cited in “Did the Target Data Breach Change Consumer Assessments of Payment Card Security?” by Claire Greene and Joanna Stavins. Federal Reserve Bank of Boston Research Data Report 16-1.

# Ratings relative to all payment methods





# Debit rated poorly after a breach

For security of personal info



after Target 2013 data breach

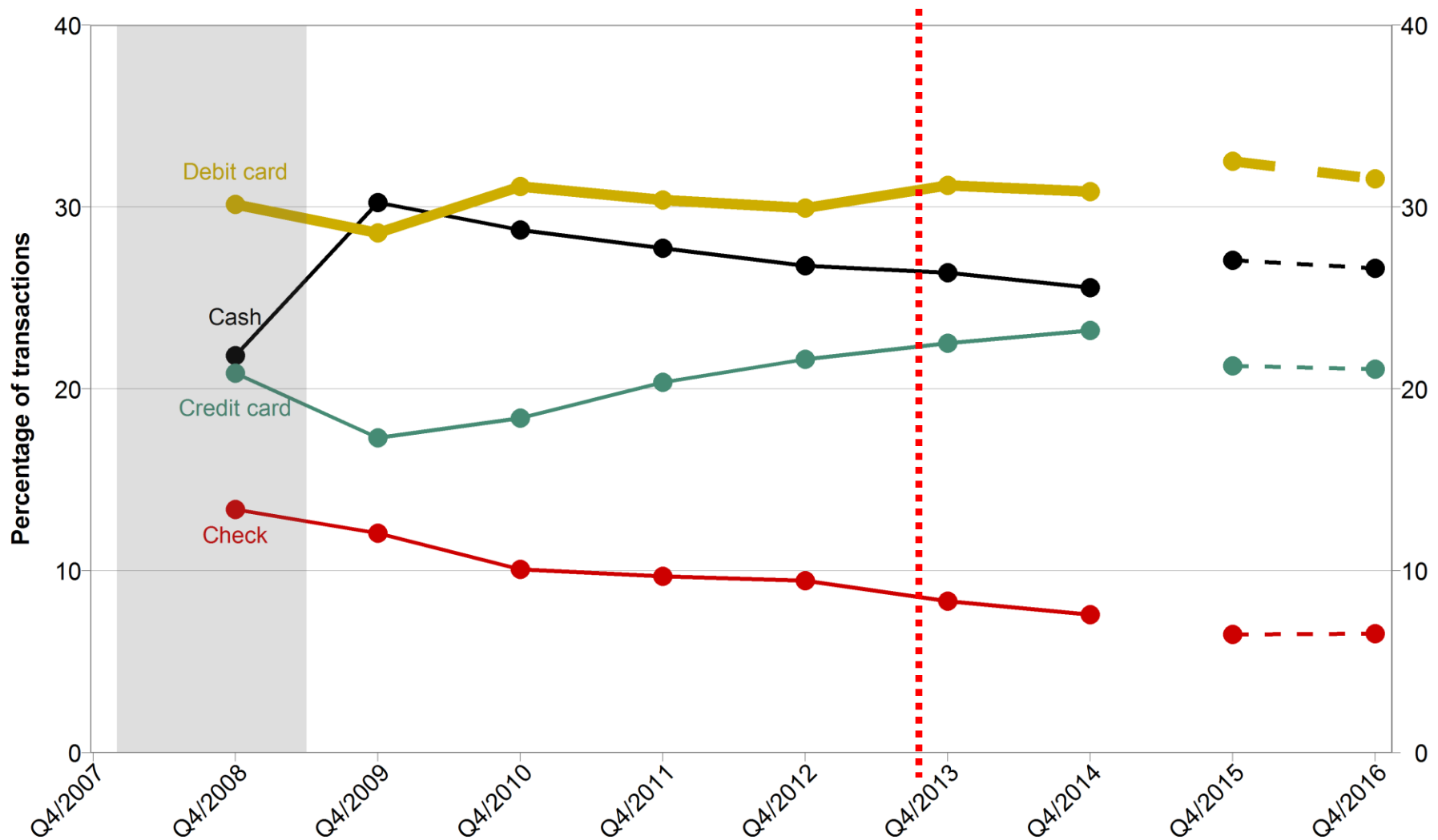


Relative to  
other  
payment  
instruments



Debit cards

# No long-term effects observed



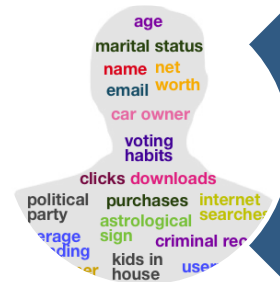
Source: Survey of Consumer Payment Choice.  
2015 & 2016 results are preliminary and not official.

# 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

Source: 2013 Survey of Consumer Payment Choice. Cited in "How Do Speed and Security Influence Consumers' Payment Behavior?" by Scott Schuh and Joanna Stavins forthcoming in *Contemporary Economic Policy*.

# BILLS & SPEED OF PAYMENT INSTRUMENTS

---

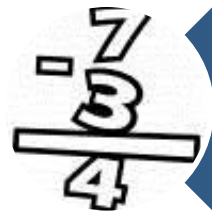
# 4 kinds of speed



At time of payment



Of payment deduction

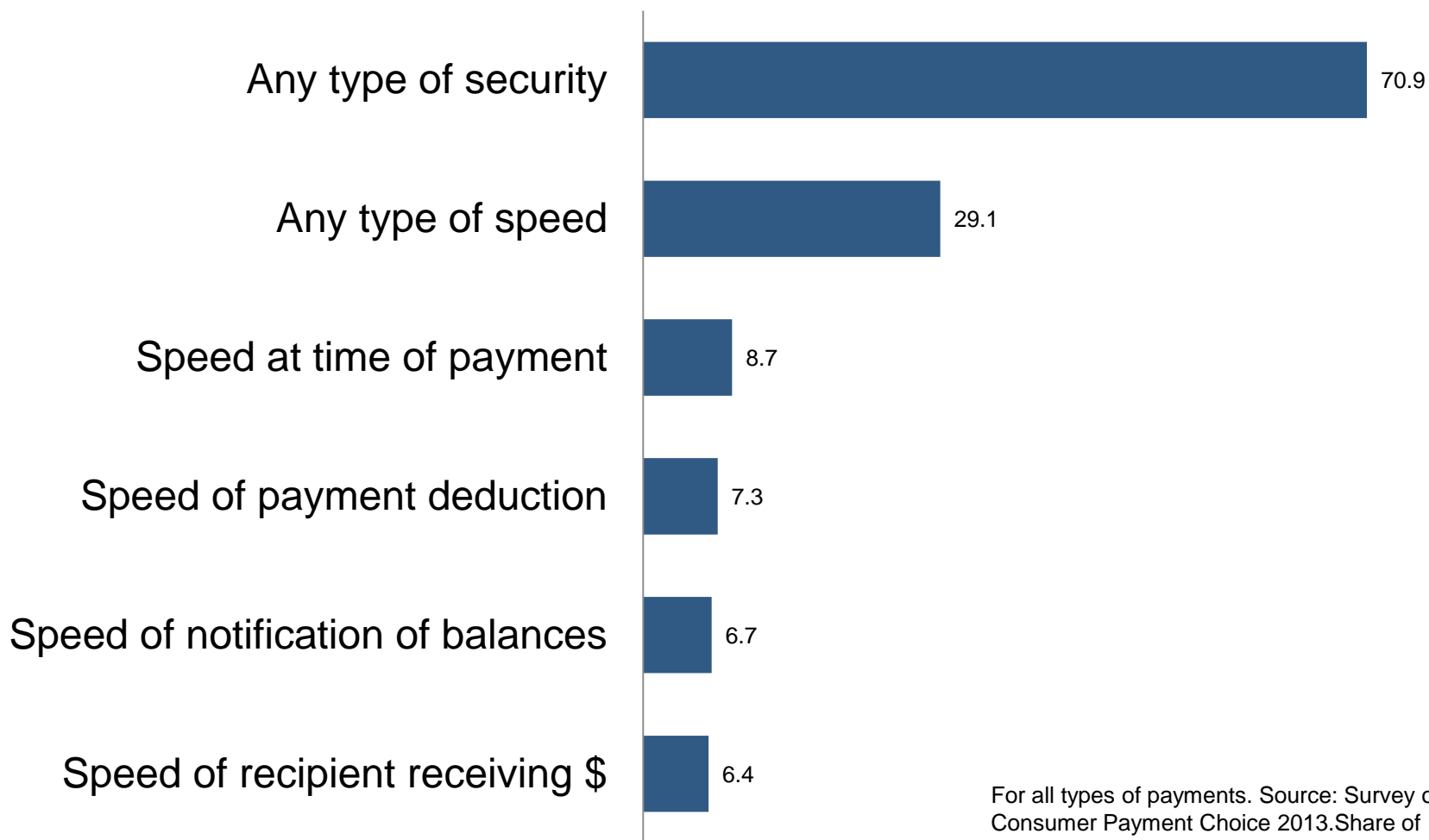


Of notification of new  
balance



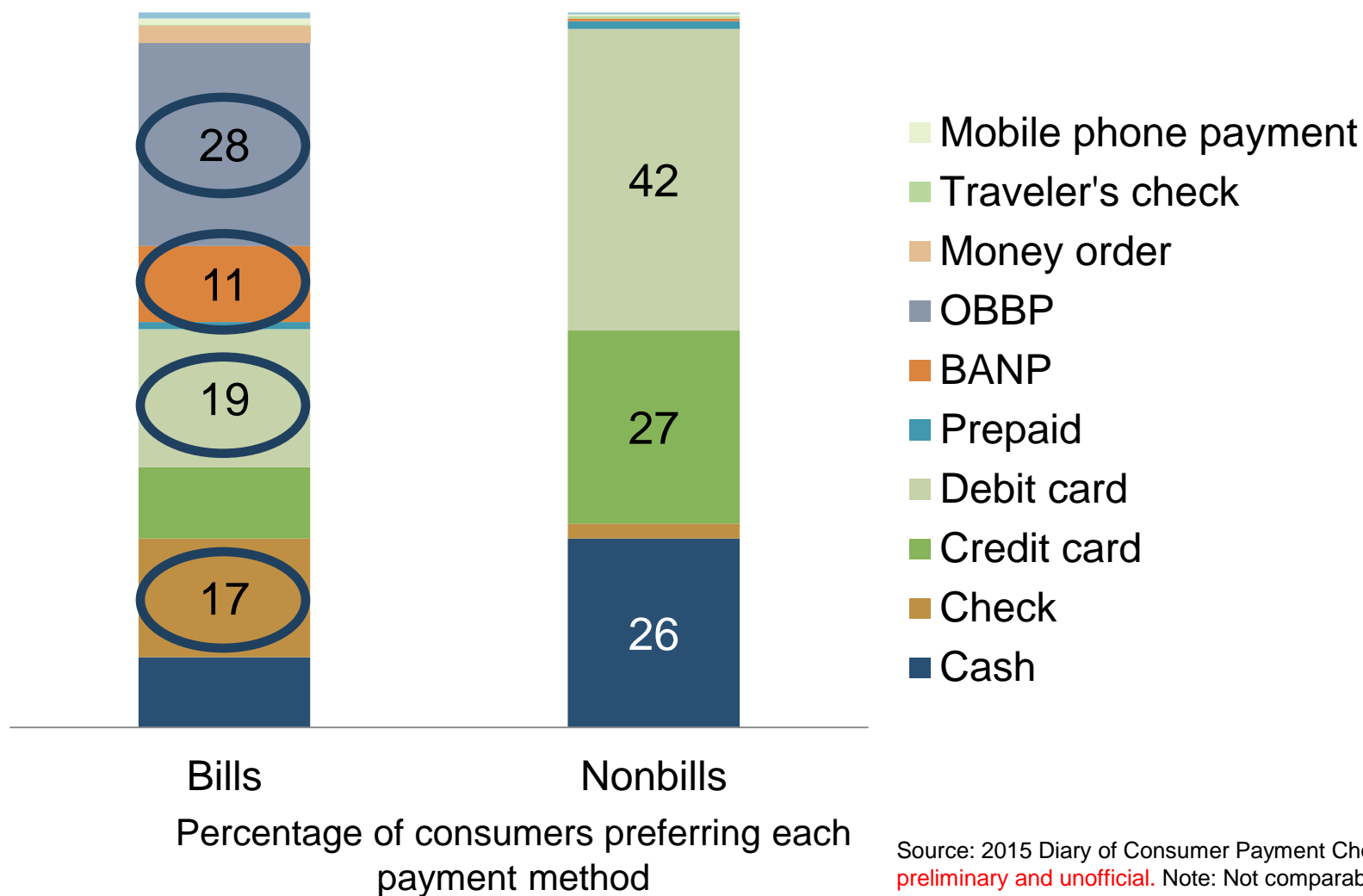
Of recipient receiving

# What facet of speed matters most?



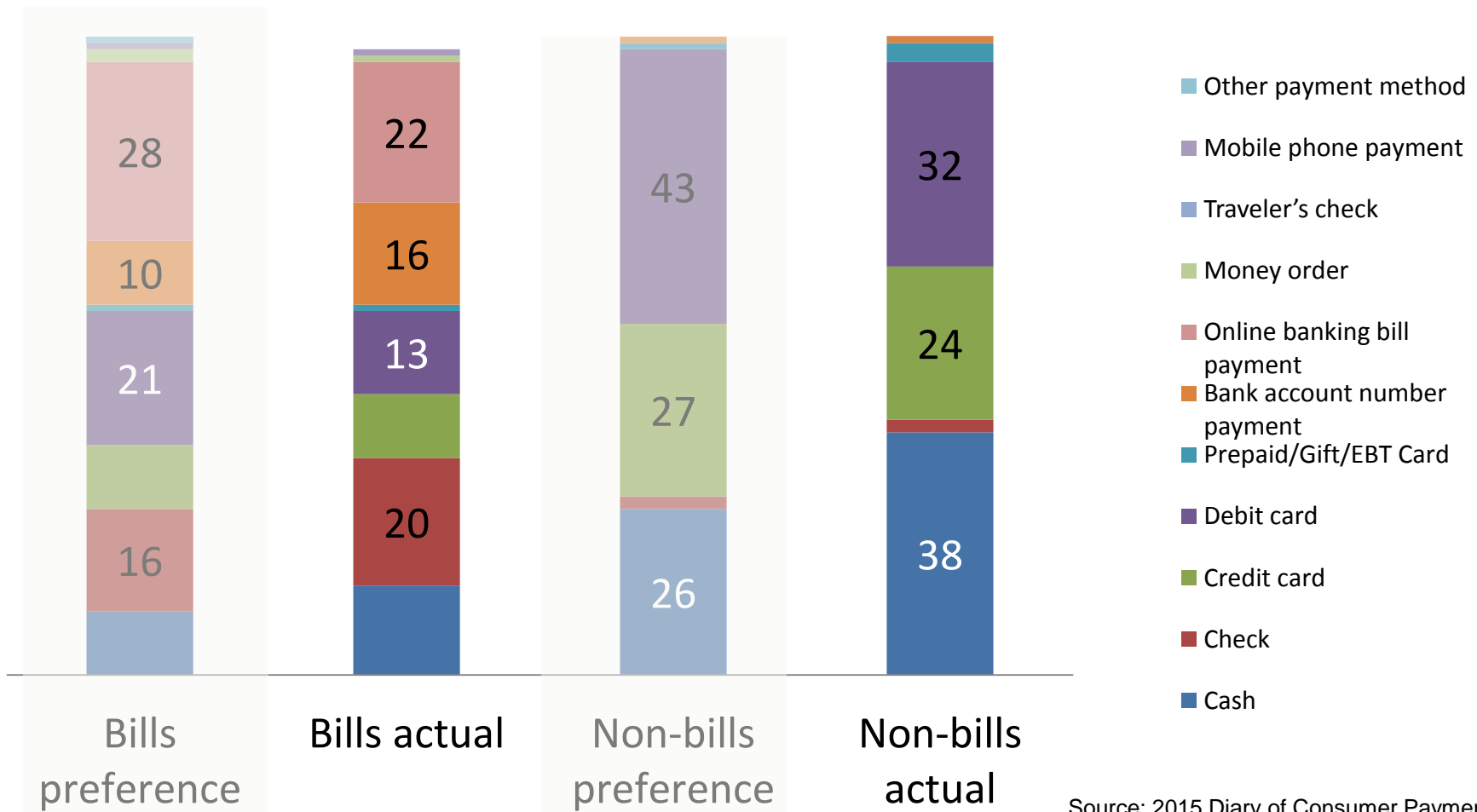
For all types of payments. Source: Survey of Consumer Payment Choice 2013. Share of respondents rating each characteristic as "most important."

# Stated preferences differ by purpose



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

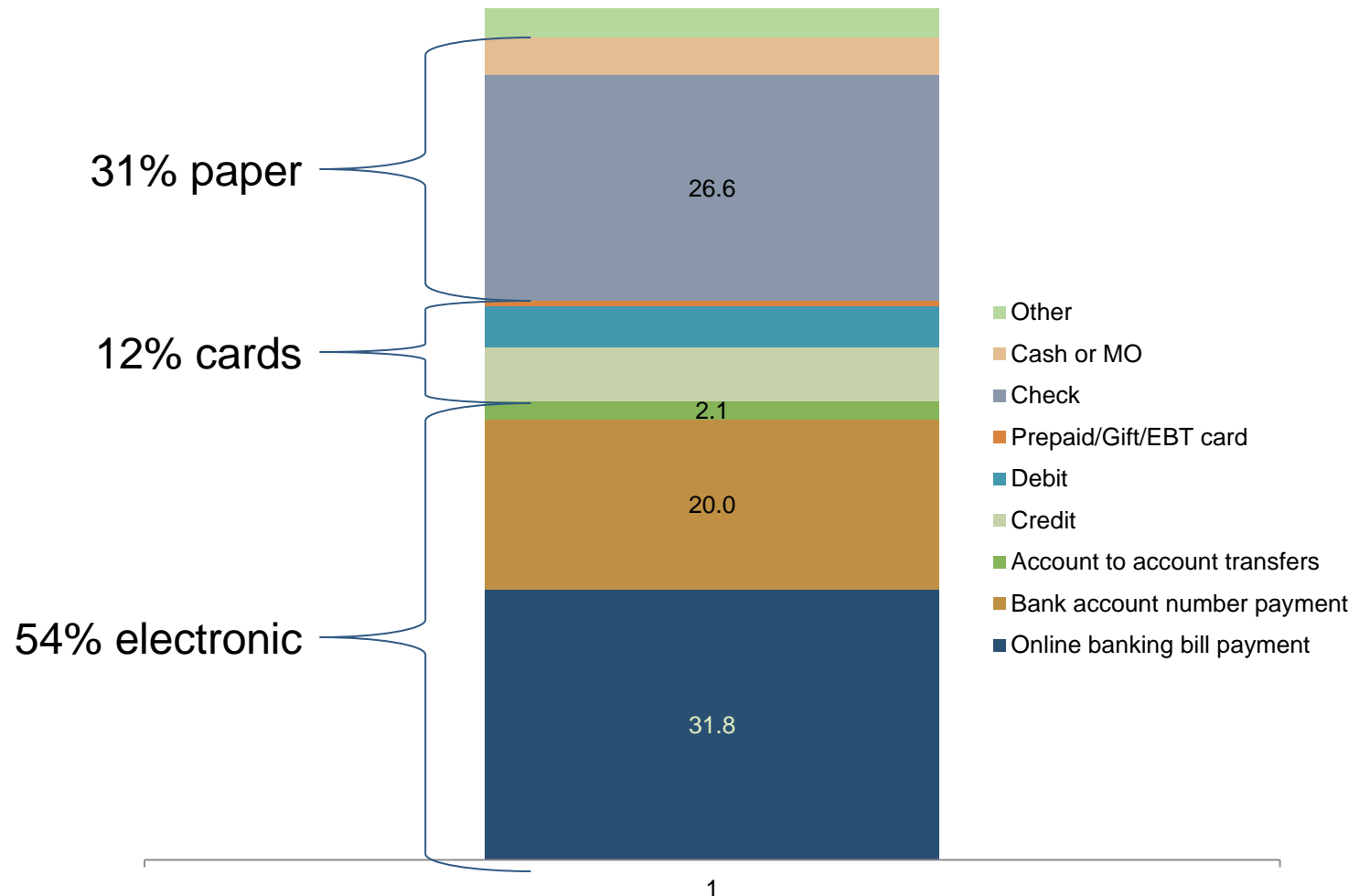


Percentage of consumers preferring each payment method and actual shares of payments (by number)

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.



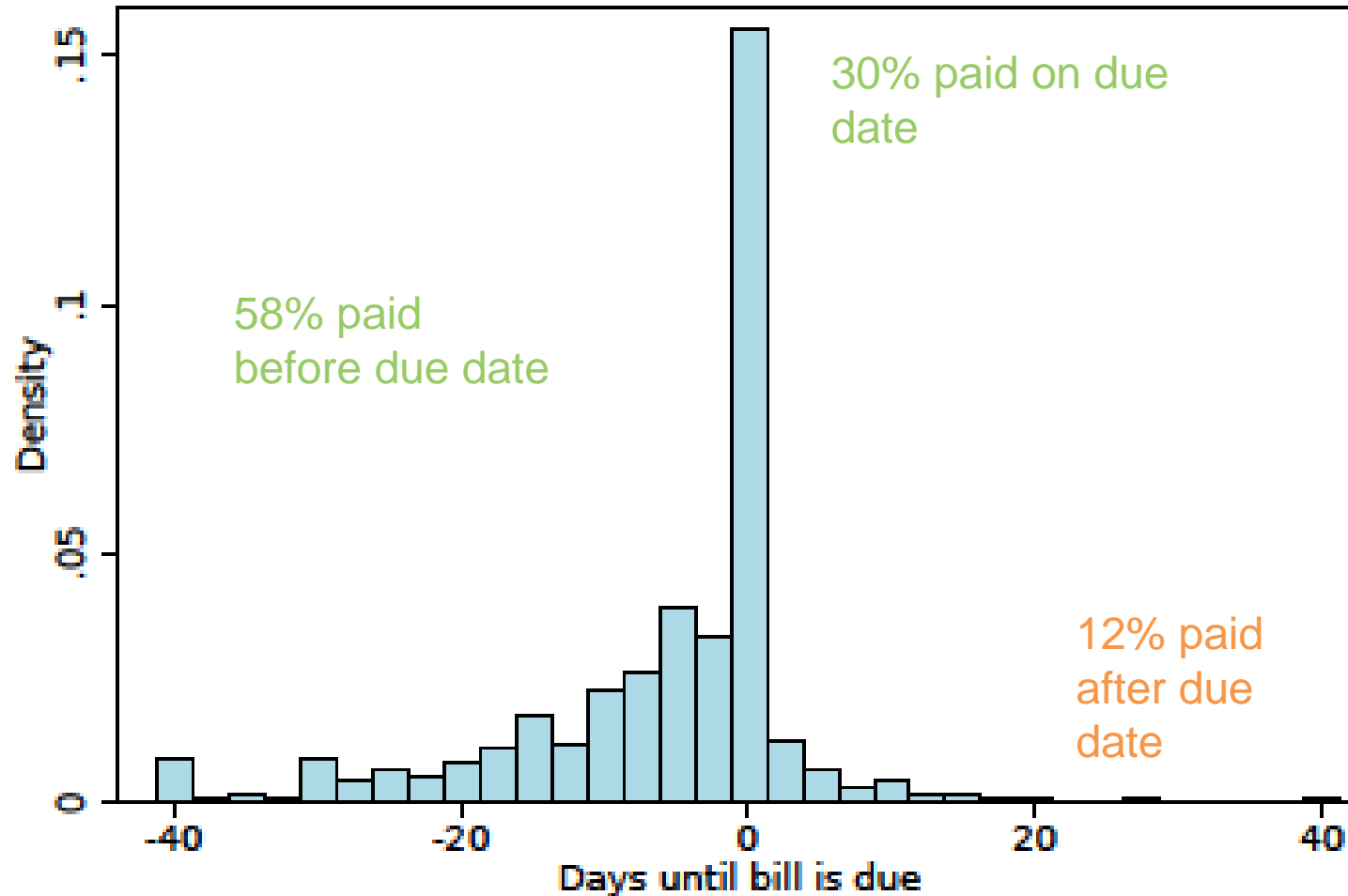
# By value, most bills paid electronically



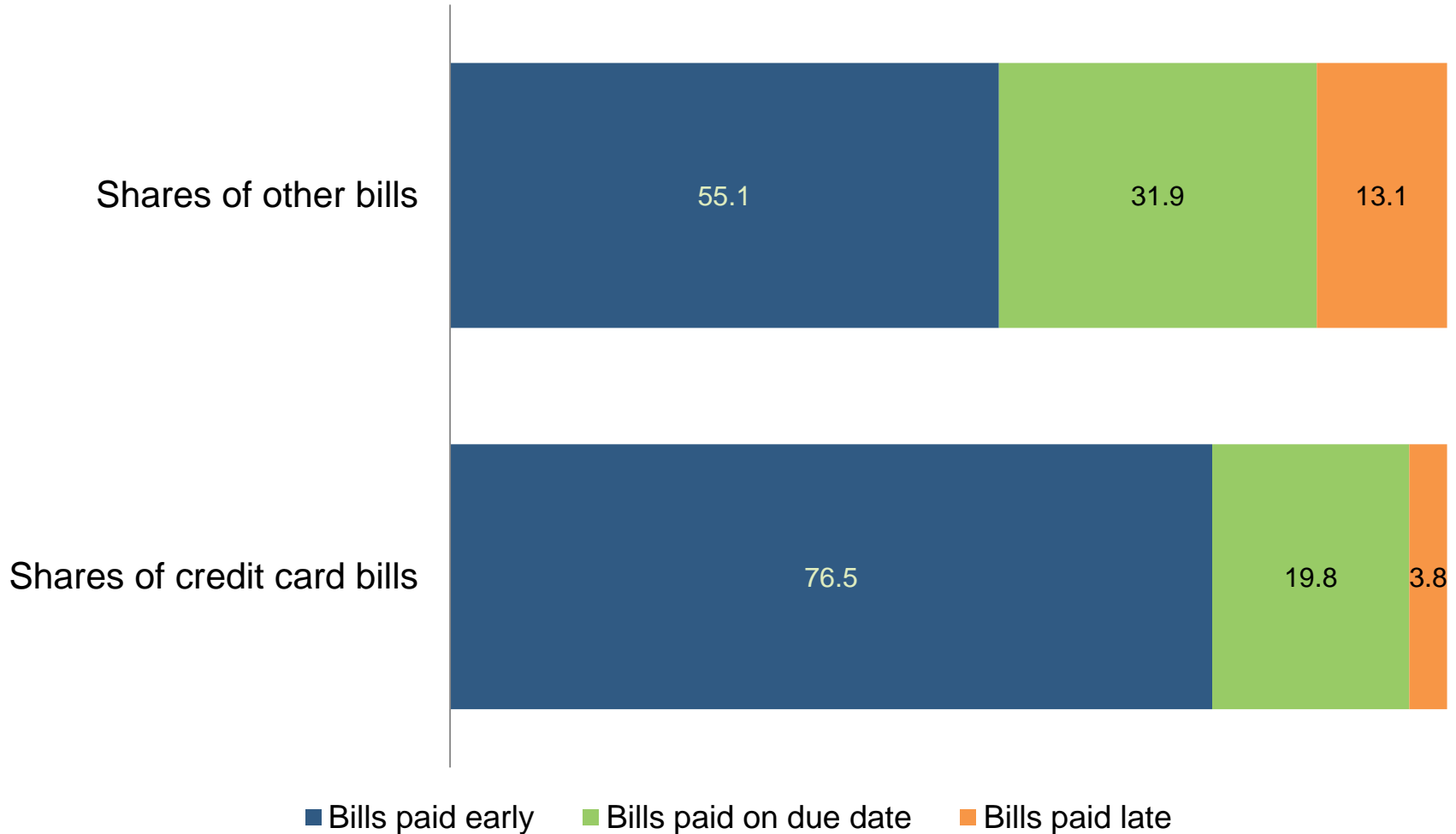
Source: 2015 Diary of Consumer Payment Choice, **preliminary and unofficial**. Note: Not comparable to 2012 DCPC due to questionnaire and sample changes.

# Most bills paid on due date or early

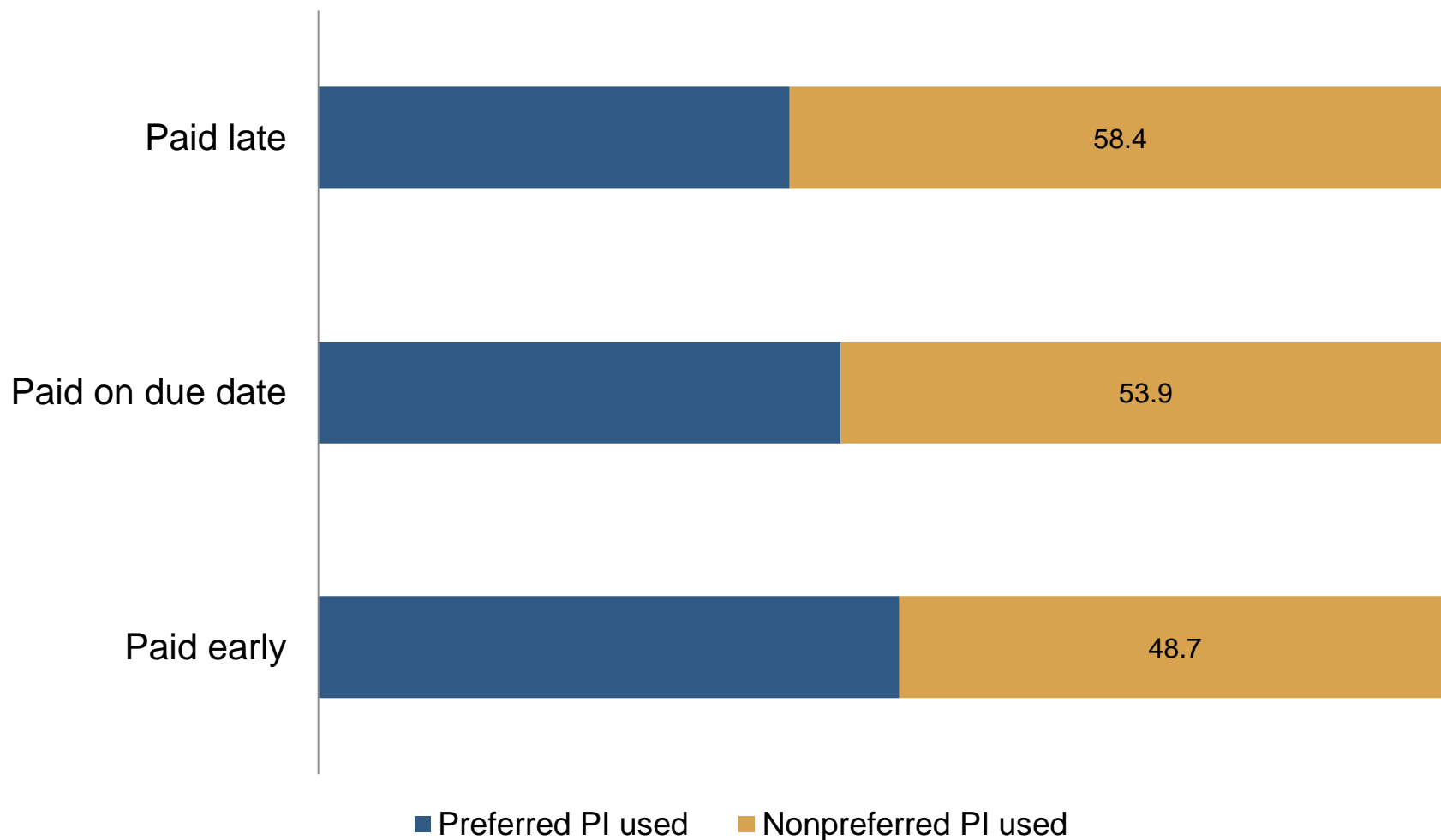
Distribution of bill payment date relative to due date



# Credit card bills less likely to be late

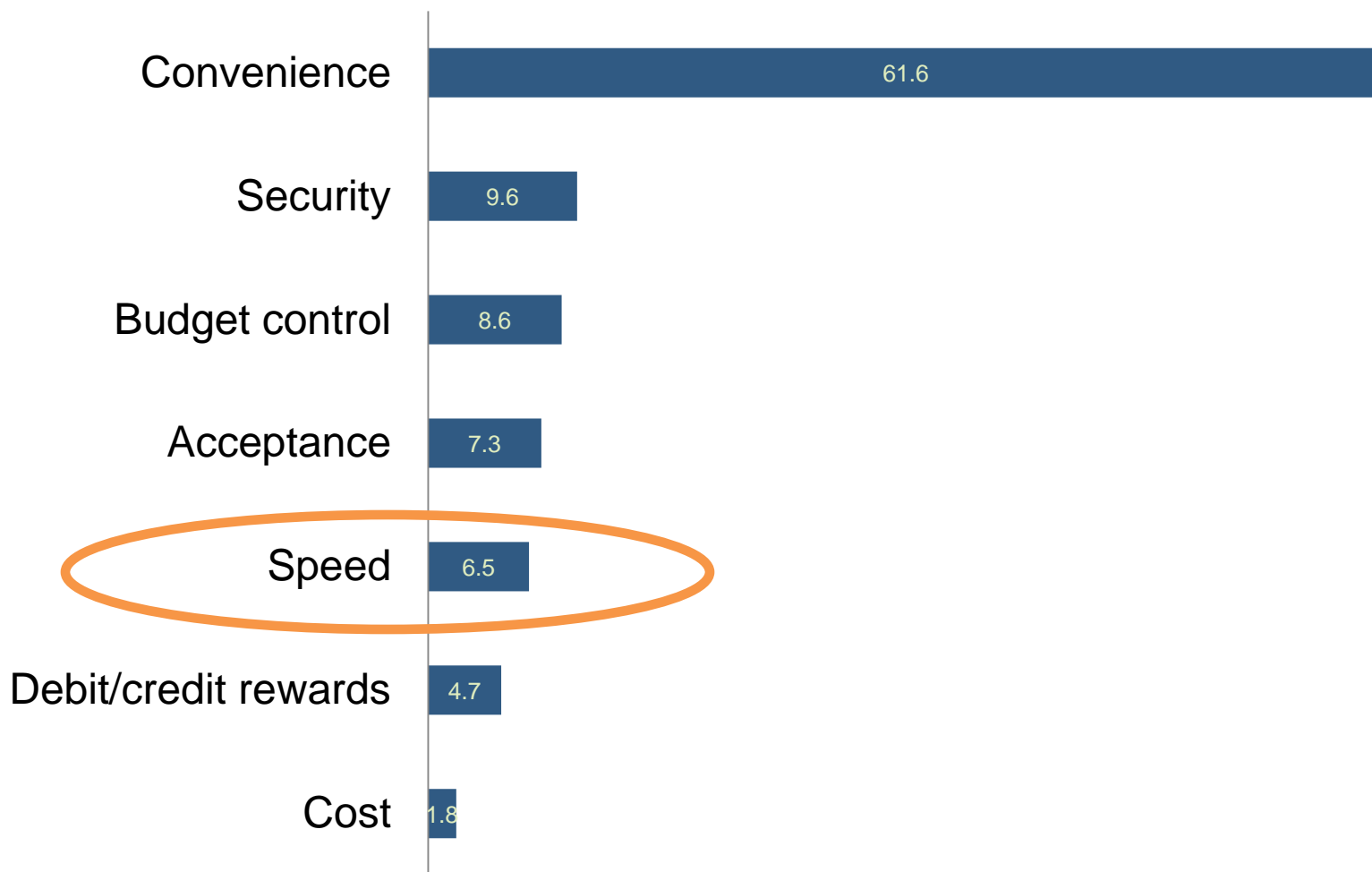


# PI choice relative to bill due date



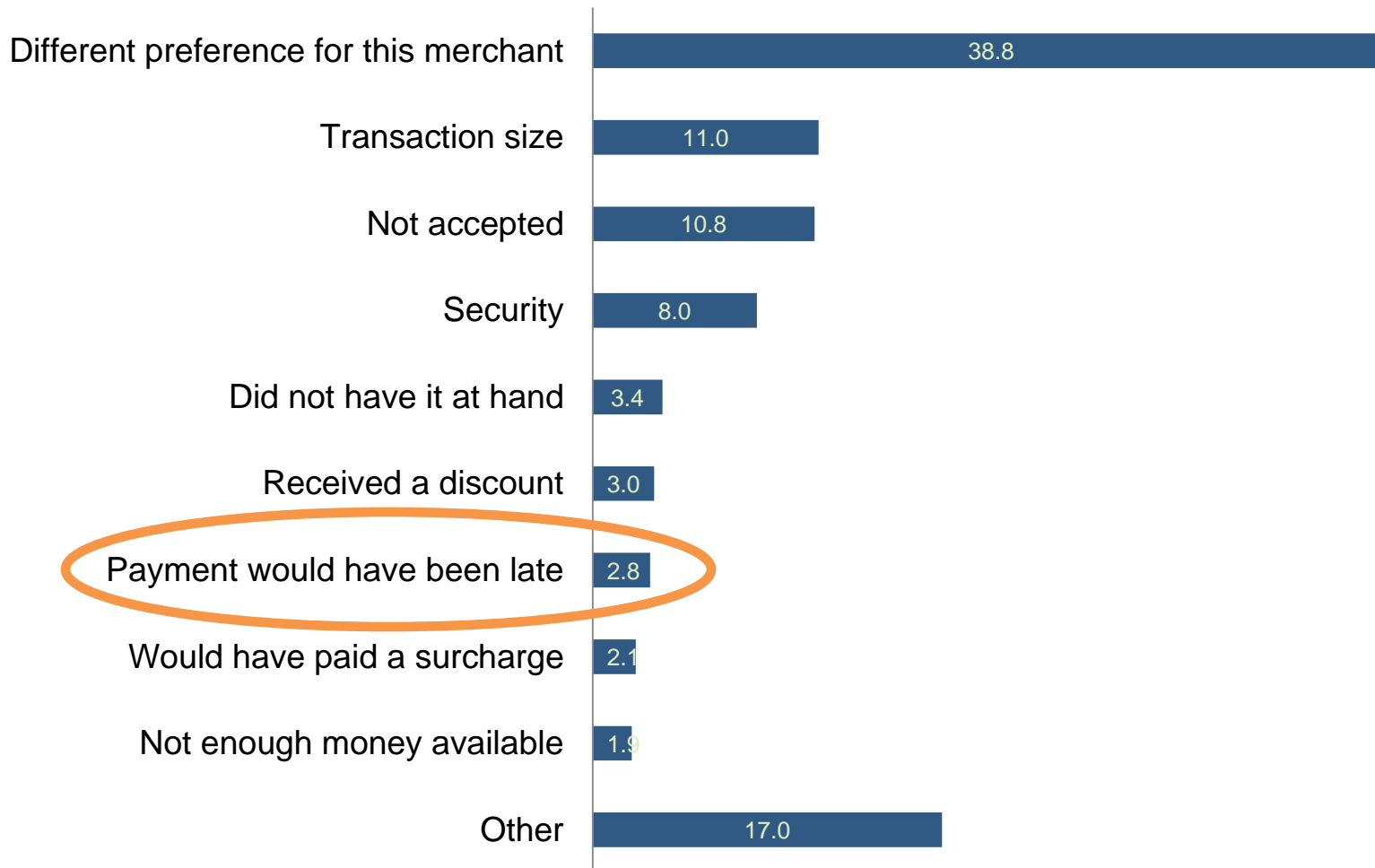
Source: 2015 Diary of Consumer Payment Choice preliminary and unofficial.

# Why is bill pay method preferred?



Source: 2015 Diary of Consumer Payment Choice, preliminary and unofficial.

# Why switch from bill pay preference?



# Would adoption & use go up with speed?

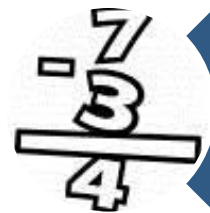
Some  
effect for  
ACH-  
based  
payment  
methods



At time of payment



Of payment deduction



Of notification of new  
balance



Of recipient receiving

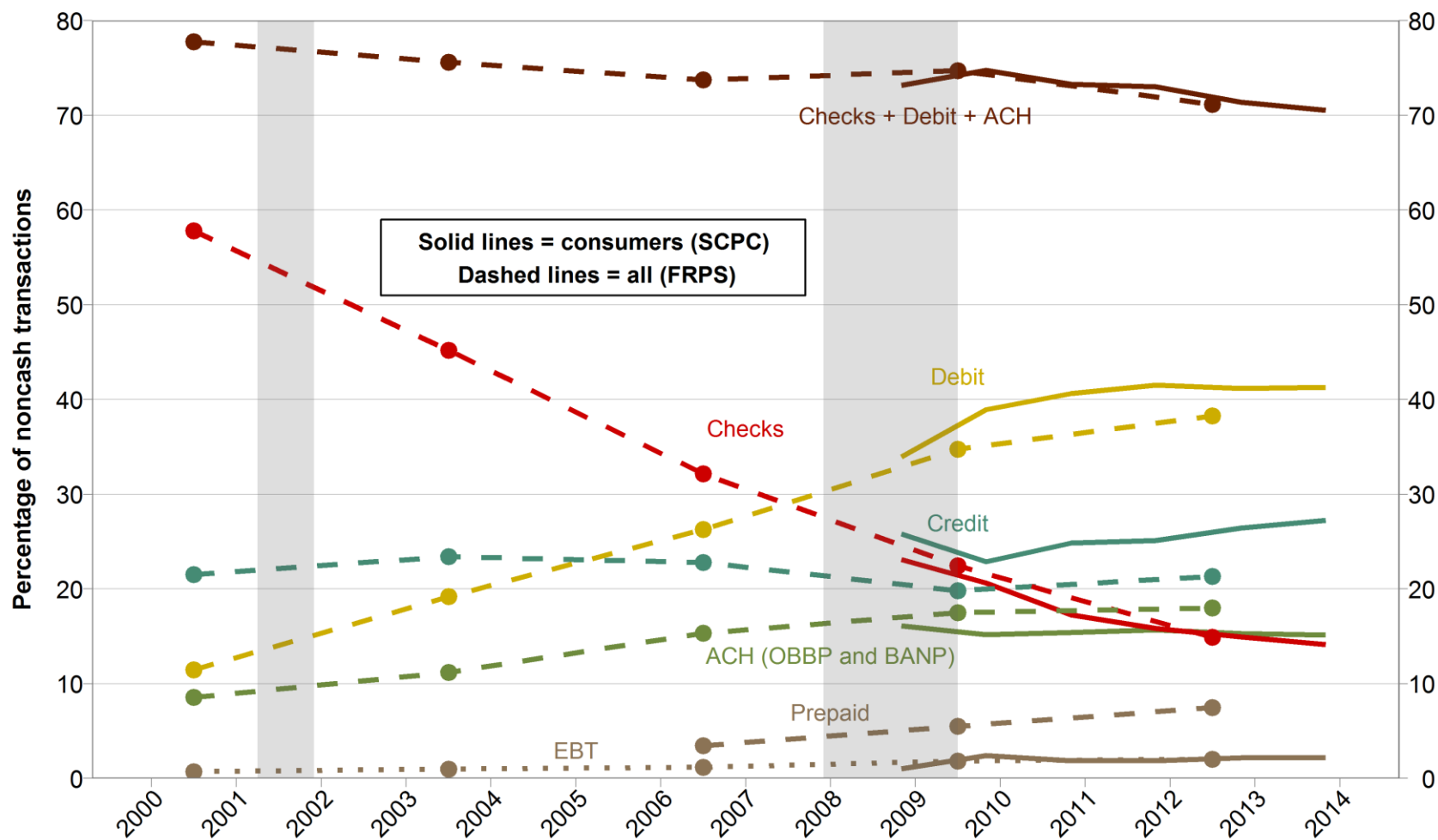
Source: 2013 Survey of Consumer Payment Choice. Cited in "How Do Speed and Security Influence Consumers' Payment Behavior?" by Scott Schuh and Joanna Stavins forthcoming in *Contemporary Economic Policy*.

# P2P & CHECKS

---

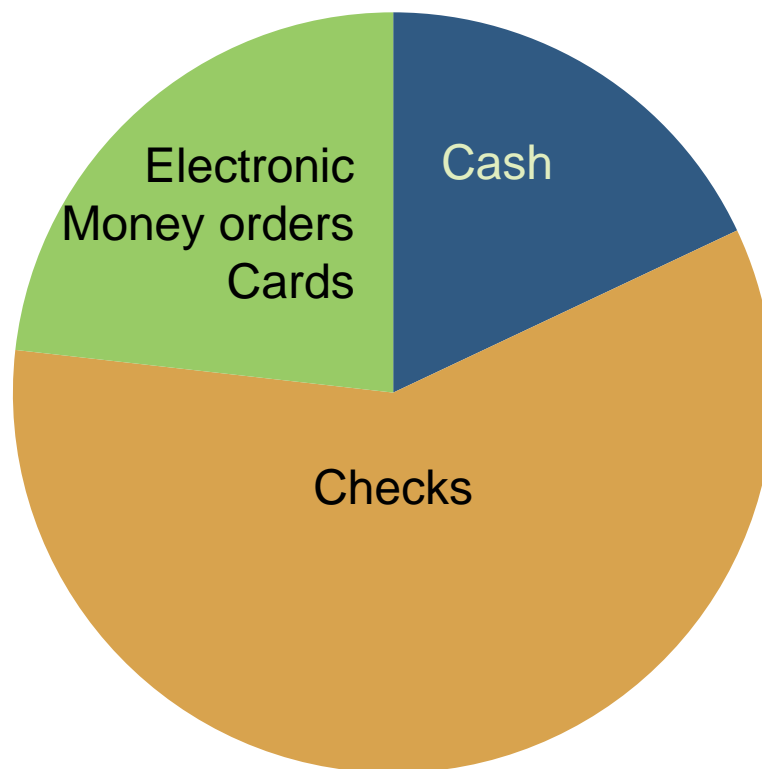


# Noncash spending (all) shift from checks

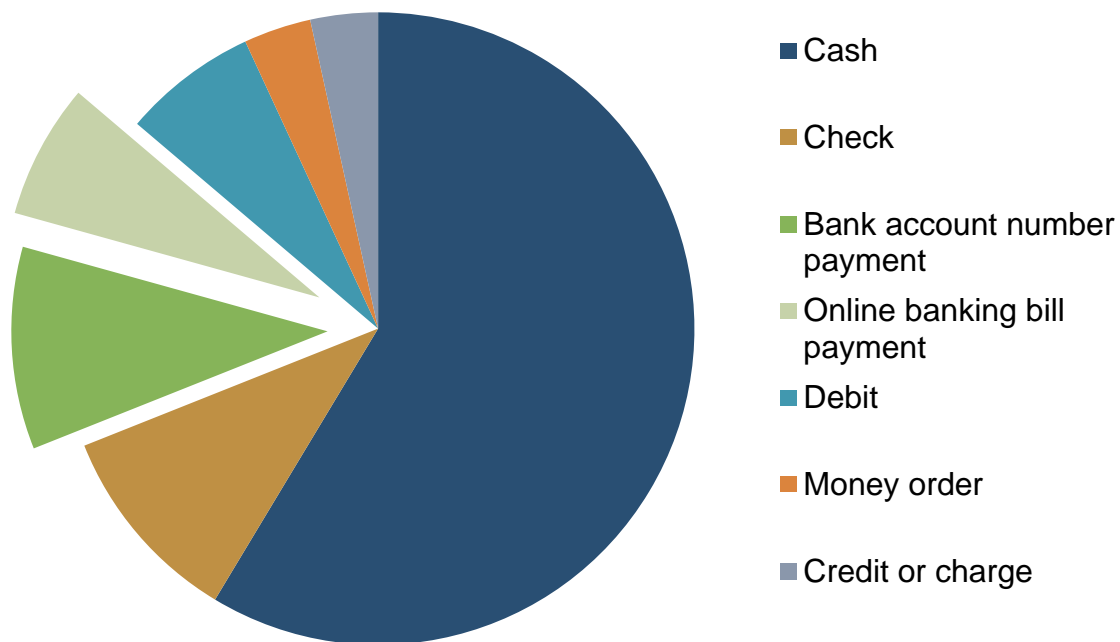


Sources: 2009–2014 Survey of Consumer Payment Choice; 2000–2012 Federal Reserve Payments Study, 2000–2012 data (reported 2001–2013).

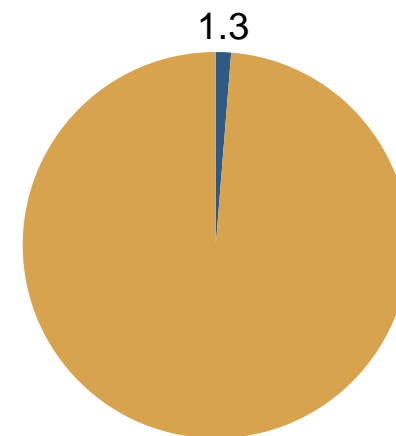
# P2P use (\$ value): 58% checks



# P2P use (#): 60% cash



## Adopted Venmo



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

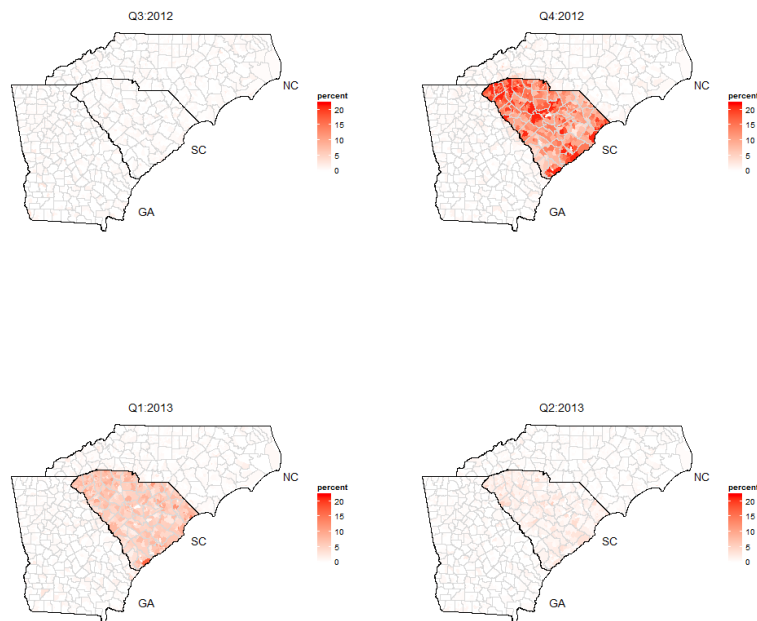
- Yes
- No

# The Consumer Role

- Technology changes quickly; people may not
  - Assessments & preferences are sticky
- 3 aspects influence choice
  - Consumer characteristics
  - Payment instrument characteristics
  - Transaction characteristics

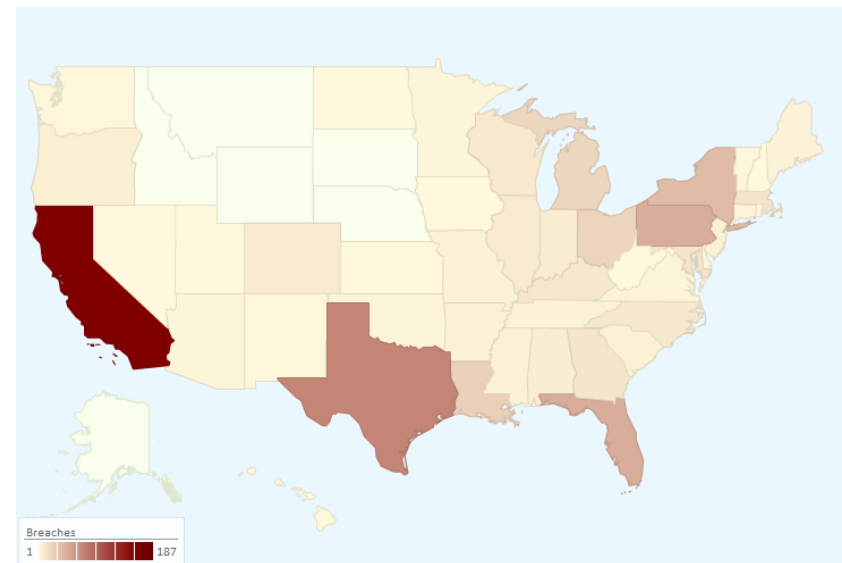
# Further reading

## How Data Breaches Affect Consumer Credit



Slava Mikhed and Michael Vogan,  
<https://www.philadelphiafed.org/-/media/research-and-data/publications/working-papers/2017/wp17-06.pdf>

## Do Patients Care about Data Breaches?



M. Eric Johnson and Juhee Kwon,  
[http://www.econinfosec.org/archive/weis2015/papers/WEIS\\_2015\\_kwon.pdf](http://www.econinfosec.org/archive/weis2015/papers/WEIS_2015_kwon.pdf)

# Using the data

- Reports, data tables, raw data for download
  - <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!

Claire Greene, payments analyst  
Consumer Payments Research Center  
Federal Reserve Bank of Boston  
Claire.m.greene@bos.frb.org

