

Past and Future: The Survey of Consumer Payment Choice

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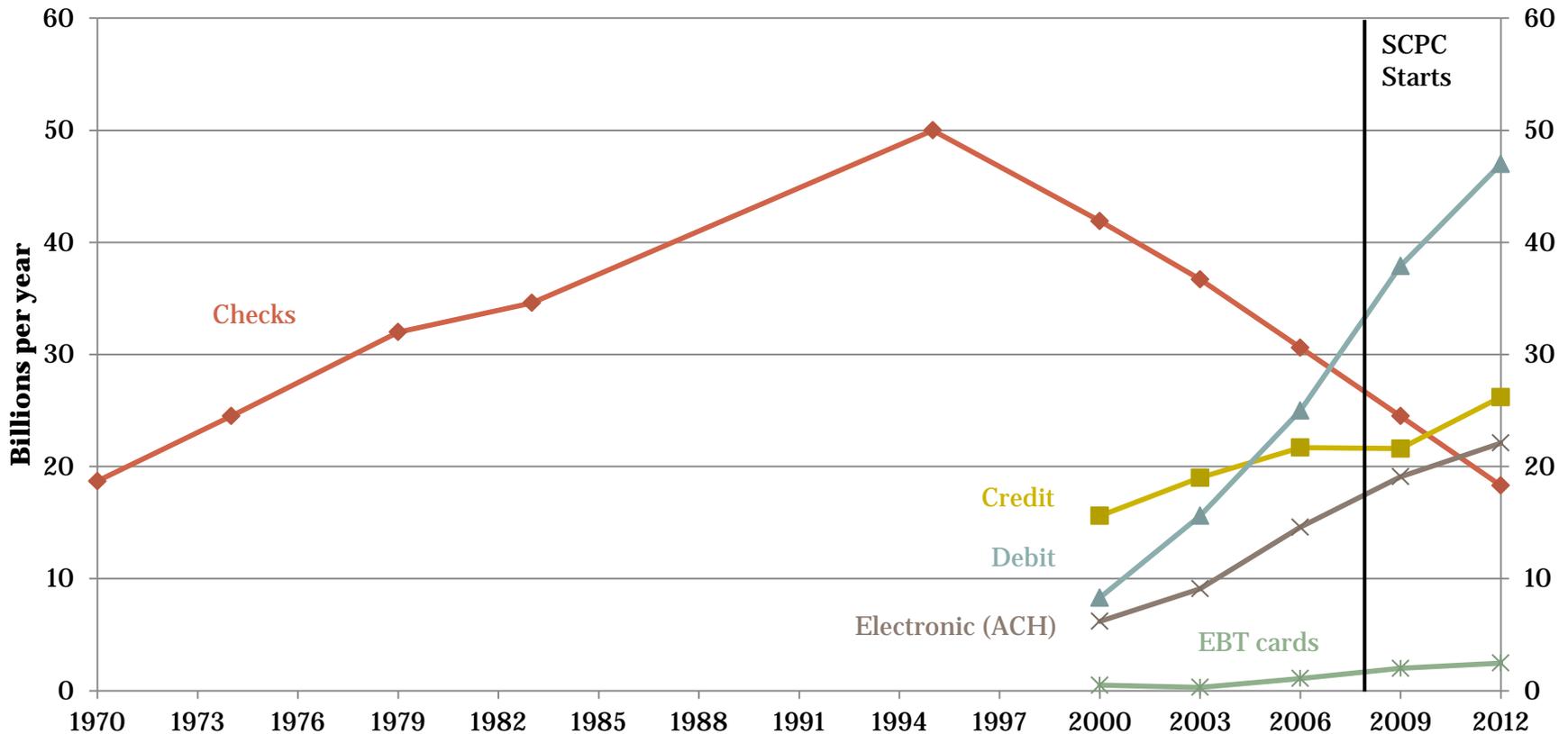
Consumer Payments Research Center

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Noncash payment trends: FRPS

Number of US payments by all sectors (household, business, government)



Source: Federal Reserve Payment Study (FRPS)

Consumer payments data program

Year	Survey of CPC (Boston Fed)	Diary of CPC (3 Fed Banks)	Electronic Transactions Data
2003	524 (Boston Fed employees)	--	--
2004	4,631 (Fed employees)	--	--
2005	--	--	--
2006	1,500*	--	--
2007	--	--	--
2008	1,010	--	--
2009	2,169	--	--
2010	2,102	353	--
2011	2,151	389	--
2012	3,176	2,547	--
2013	2,042 (est.)	--	--

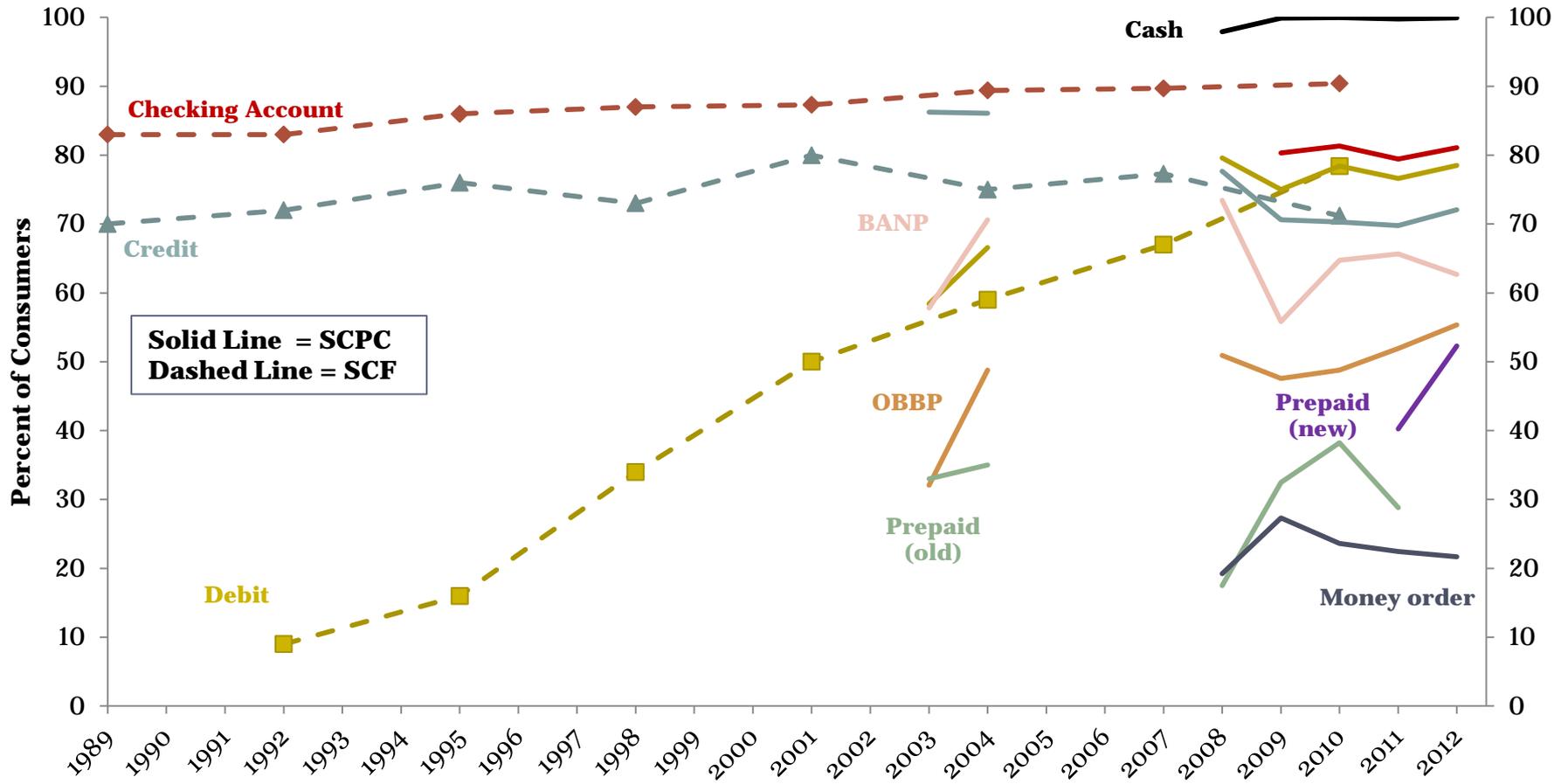
* Sponsored by the AARP. Red indicates pilot studies. All samples are U.S. consumers except where noted.

Survey of Consumer Payment Choice

Money vs. payment instruments, v2.0

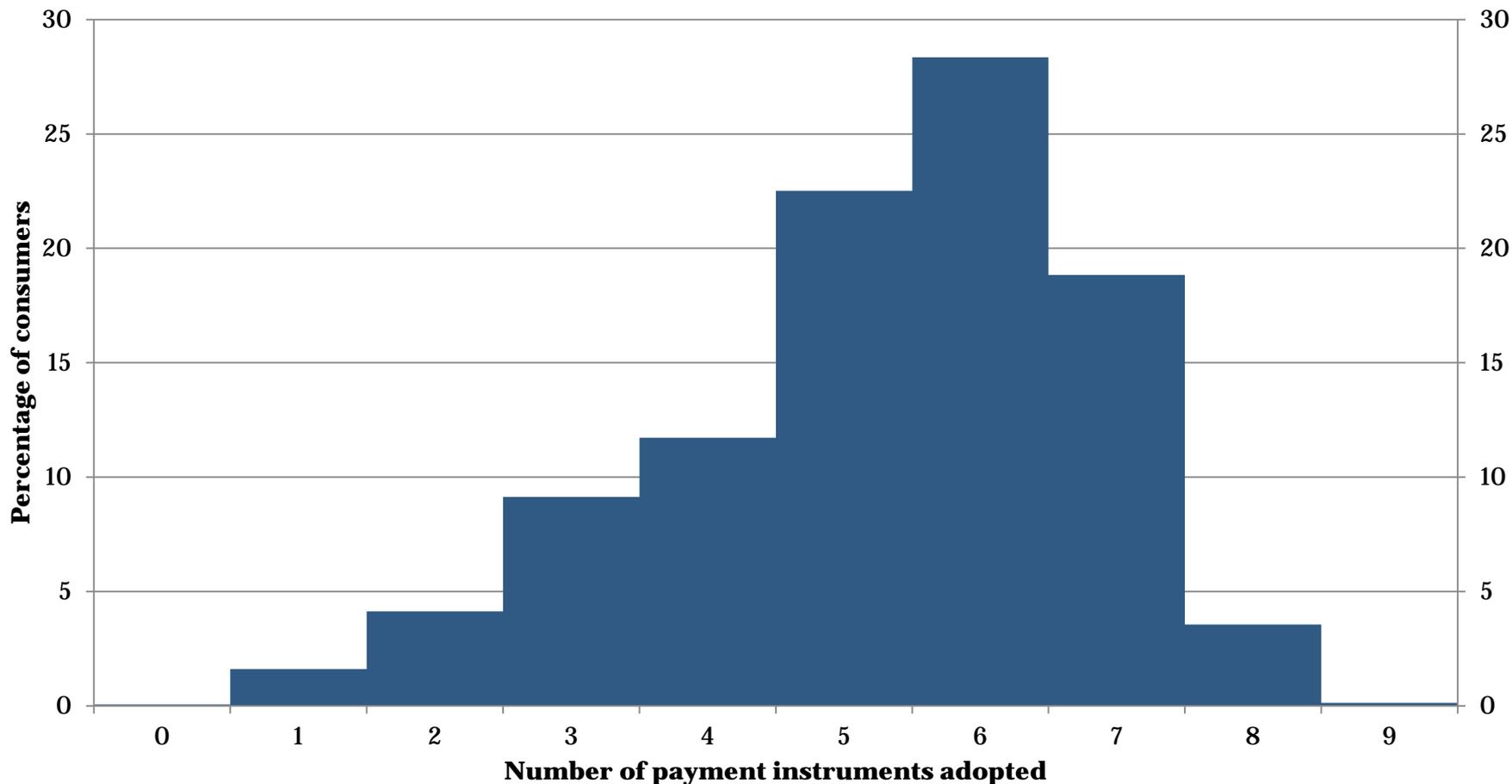
Asset or Liability	Basic Money or Debt	Instrument (derivative media)	Physical trait
Money (M1)	Currency in circulation	Currency	Paper / metal
	Travelers check	Travelers check	
	Demand deposit accounts & Other checkable deposits	Check	
		Money order	
		Online banking bill pay (OBBP)	Electronic
		Bank account number payment (BANP)	
		Debit card	Card
	Prepaid card		
	Credit	Revolving credit	Credit card

Consumer adoption of payments: 1989-2012



Source: Survey of Consumer Payment Choice; Survey of Consumer Finance

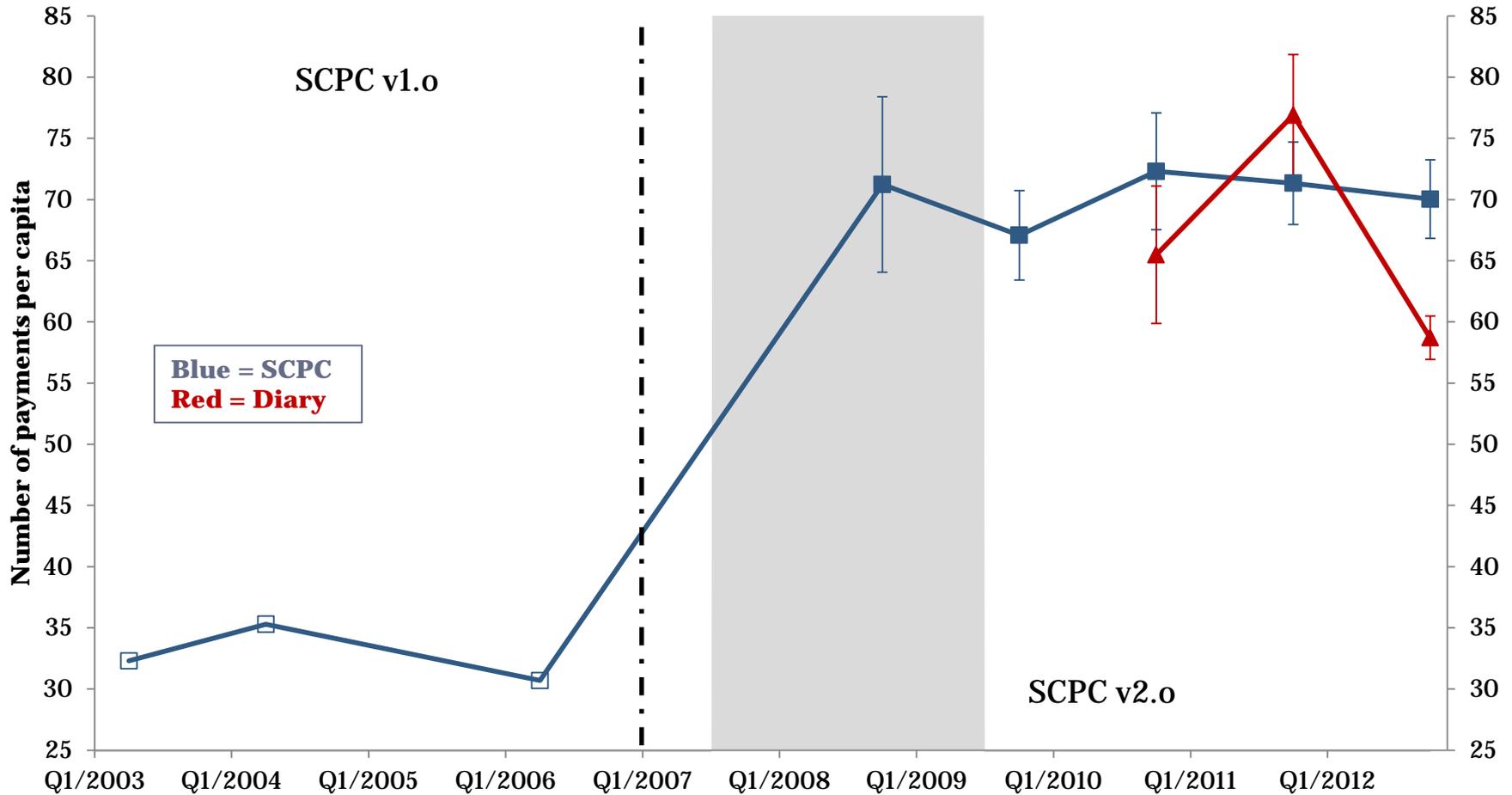
Most Consumers Hold 5 or 6 Instruments



2012 Survey of Consumer Payment Choice

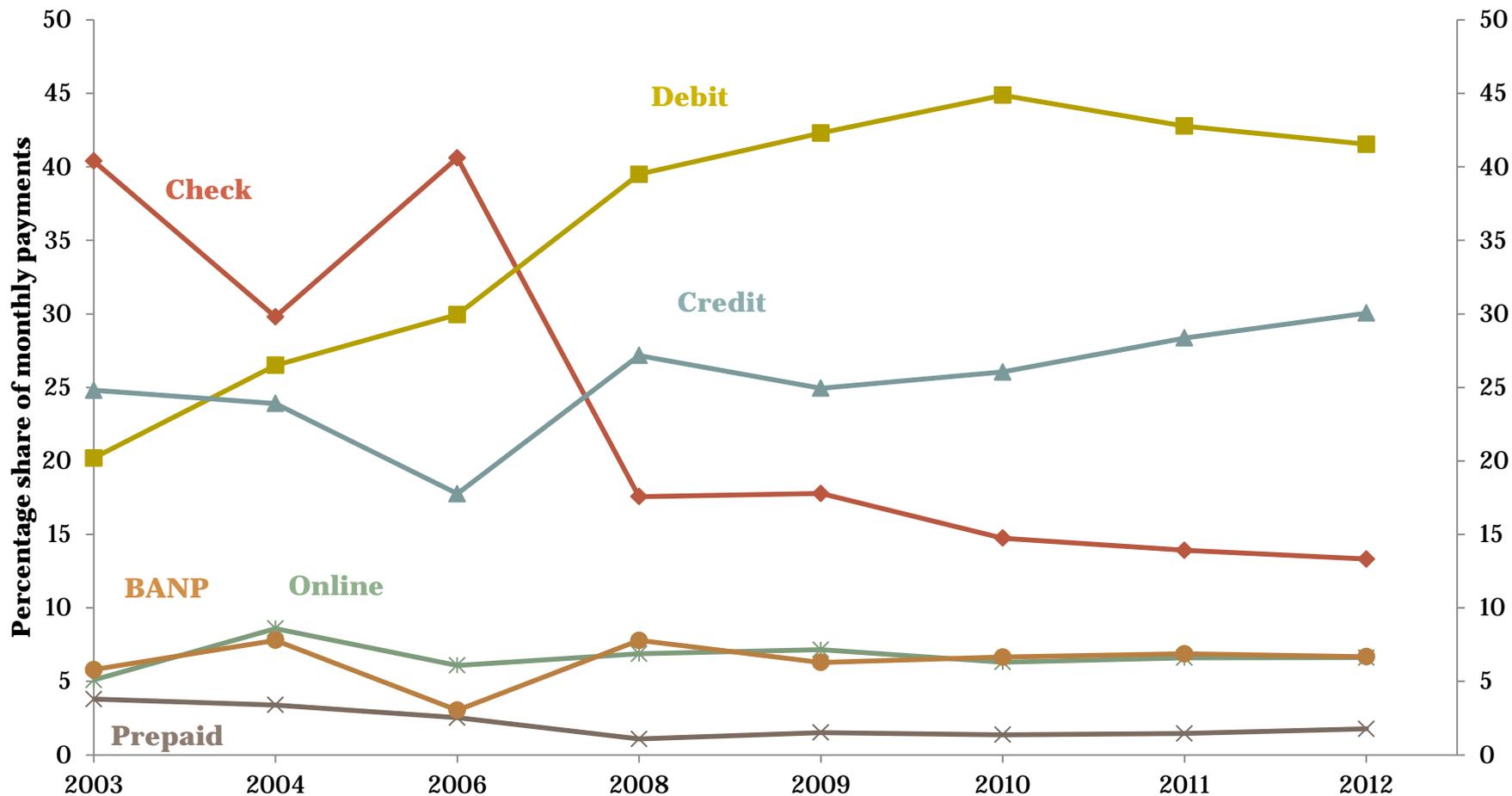
Monthly payments per capita

Survey aggregation issues

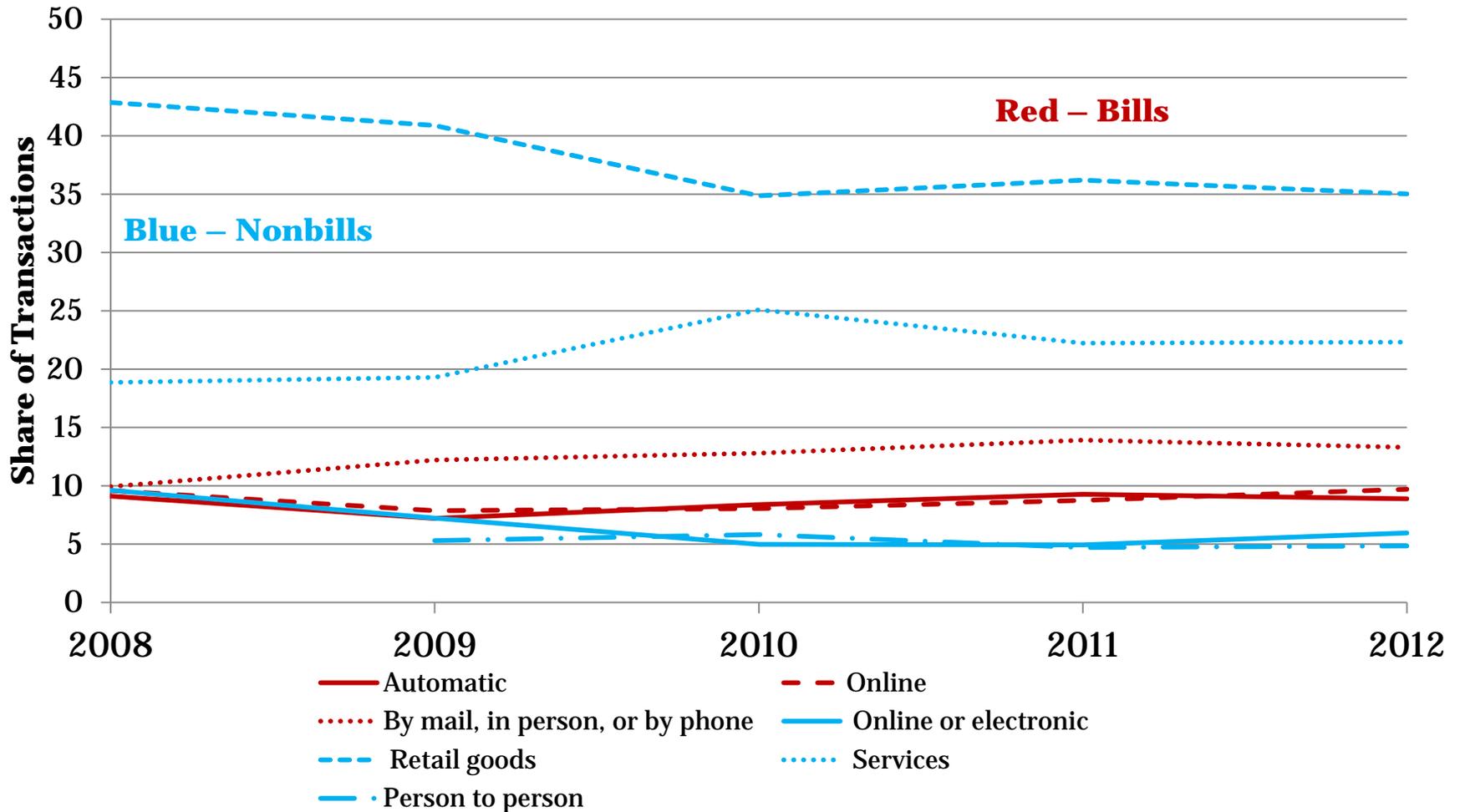


Notes: Payments is the number of times consumers made a payment for consumption and non-consumption transactions.

Consumer payment use by instrument: 2003 – 2012, SCPC

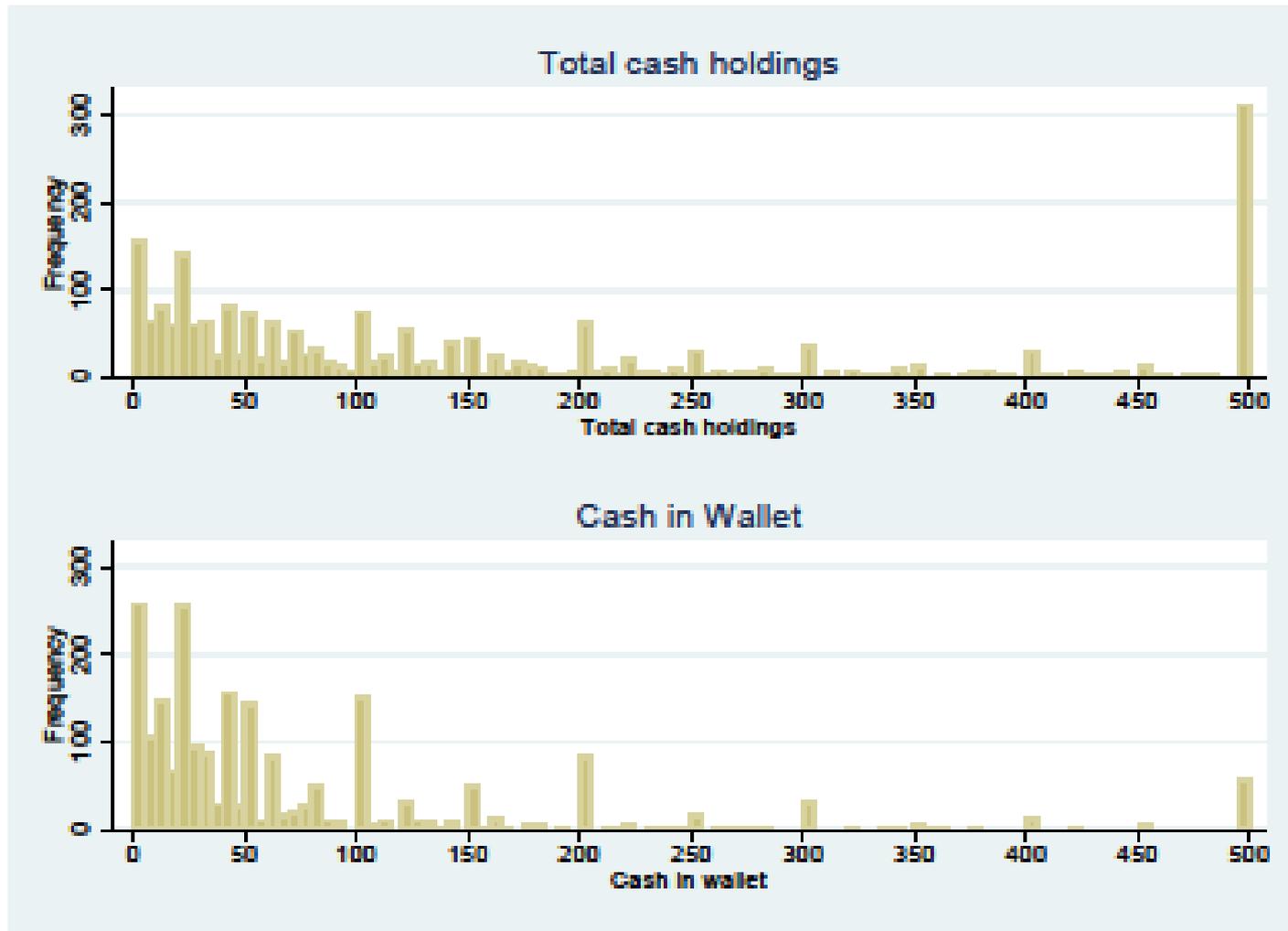


Consumer payment use by transaction: 2008-2012

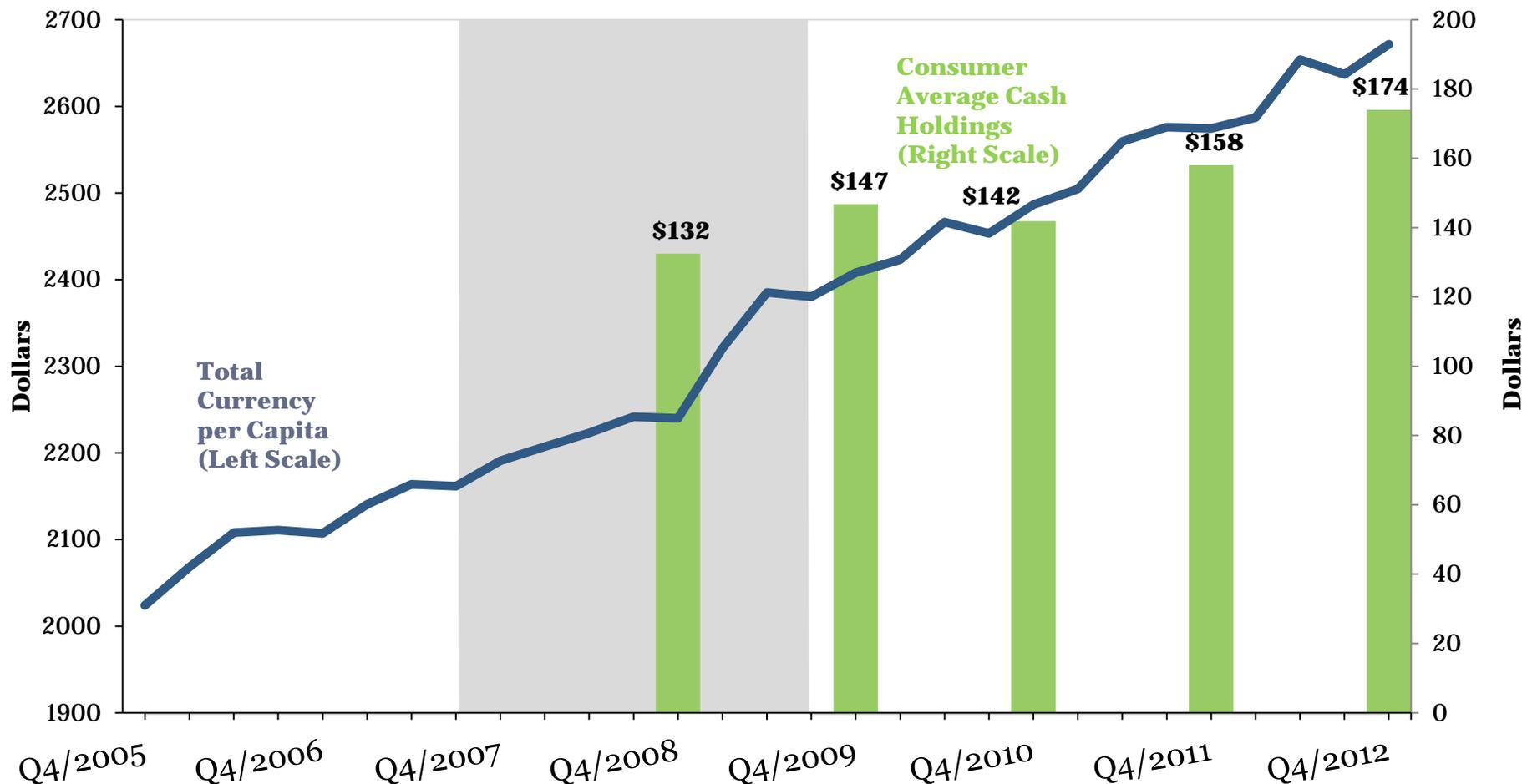


2008-2012 Survey of Consumer Payment Choice

Cash Holdings



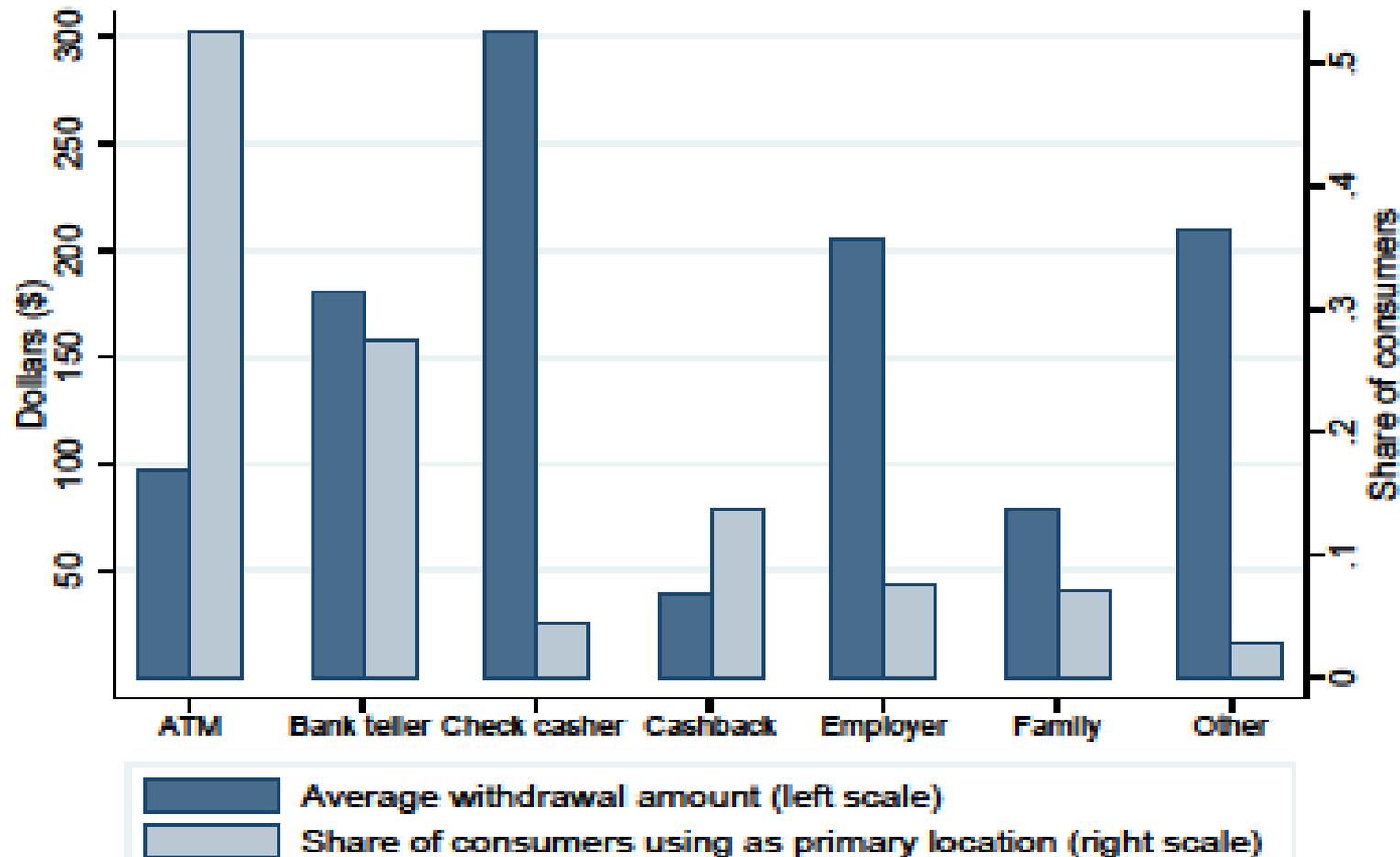
U.S. domestic currency in circulation



Source: Federal Reserve Statistical Release, 2008-2012 Survey of Consumer Payment Choice (SCPC)

Note: Capita is defined as 18+ non-institutionalized civilians. Cash holdings exclude large values.

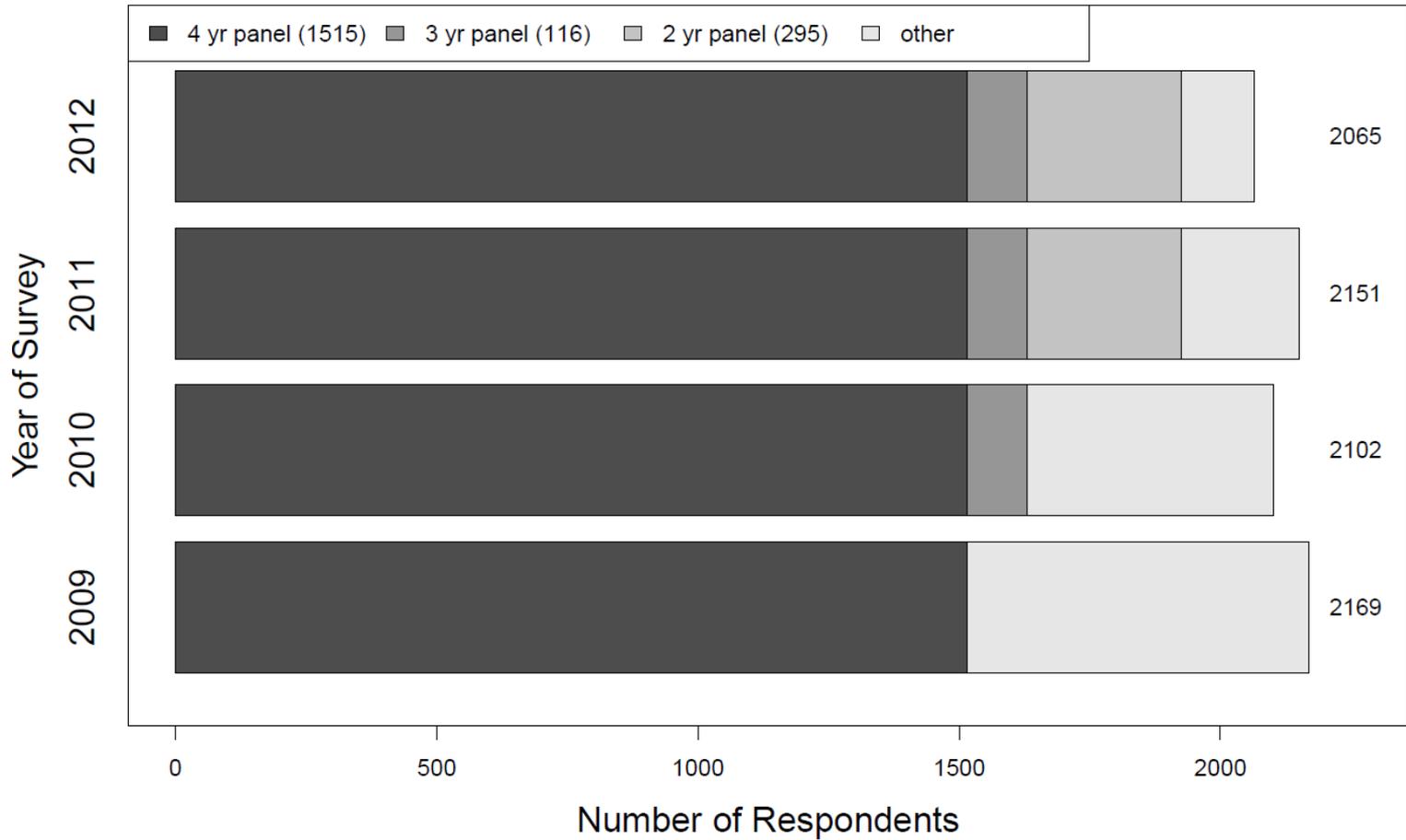
Cash Withdrawals by Location



SCPC Questions on Assets and Liabilities

		2003	2004	2006	2008	2009	2010	2011	2012	2013
Checking accounts	Adoption	X	X	X	X	X	X	X	X	X
	Value	--	--	--	--	--	--	--	--	--
Saving accounts	Adoption	--	--	X	X	X	X	X	X	X
	Value	--	--	--	--	--	--	--	--	--
Cash	Adoption	X	X	X	X	X	X	X	X	X
	Value	--	--	--	X	X	X	X	X	X
Prepaid cards	Adoption	X	X	X	X	X	X	X	X	X
	Value	--	--	--	--	X	X	X	X	--
Nonbank online services	Adoption	--	--	--	--	X	X	X	X	X
	Value	--	--	--	--	--	--	--	--	--
Credit cards	Adoption	X	X	X	X	X	X	X	X	X
	Value (debt not limit)	--	--	--	X	X	X	X	X	X

SCPC Panel



CPRC Website

The screenshot shows the website for the Consumer Payments Research Center (CPRC) at the Federal Reserve Bank of Boston. The header features the bank's logo and a search bar. A navigation menu includes links for About the Fed, Banking Information, Community Development, Consumer Information, Education Resources, News & Events, Research & Data, and Publications. The main content area is titled "Consumer Payments Research Center" and includes a sidebar with "Research & Data" categories like Conferences and Events, Data, Economists, National Economy and Monetary Policy, Papers and Publications, Recruiting, Regional Economy, and Research Units. The main text area features a "2010 Survey of Consumer Payment Choice" with a bar chart showing a 9% increase in consumer payments, a "Security of Retail Payments: The New Strategic Objective" with a magnifying glass over security-related text, and a "U.S. Consumer Demand for Cash" section with an image of money. There are also "Updates" and "Payments Resources" sections. The right sidebar contains "CPRC Links" and "Payments Resources" with various external links.

Diary of Consumer Payment Choice

General information

	2012 Survey	2012 Diary
Mode	Online	Paper diary with nightly online survey
Number of required log-ins	One	Nightly for three nights
Median time burden	37.7 minutes	12 minutes online each night <ul style="list-style-type: none"> • ??? per transaction in paper diary
Cognitive burden	Prompted recall	Recording activity
Administrative burden	Self determined <ul style="list-style-type: none"> • 93.5% respond within 30 days of invite 	Must start on assigned date
N	2065	2468

SCPC and DCPC Comparison

Feature	Survey	Diary
Financial responsibility	X	
Characteristics of payment instruments (PI)	X	
Adoption of PI	X	X (implied)
Cash activity	X	X
Frequency of use of PI	X	X
Payment (expend.) types	7 (3 bills+4 other)	45 (linked to NAICS)
Dollar values of payment activity		X
Miscellaneous	X ^S	X ^D
Demographics	X	X

DCPC Long-Form Memory Aid

Count your paper cash!

First, tell us the NUMBER OF BILLS of each denomination in your pocket, wallet or purse at the start of Day 1.

Next, tell us the TOTAL DOLLAR AMOUNT of all cash in your pocket, wallet or purse at the start of Day 1.

- Do not include coins
- Enter 0 in Total Dollar Amount if you do not have any cash

NUMBER OF:

\$1 bills _____ \$20 bills _____

\$2 bills _____ \$50 bills _____

\$5 bills _____ \$100 bills _____

\$10 bills _____

TOTAL DOLLAR AMOUNT = \$ _____ .00

Time	Amount Spent	Payment Method	Location	Device	Merchant Type	Merchant Name
am pm	\$ _____	11	2	6	44	
am pm	\$ _____	P	L	D	M	
am pm	\$ _____	P	L	D	M	
am pm	\$ _____	P	L	D	M	
am						

Receiving or getting cash:

Time	Cash Amount	Cash Location	Cash Source	Did you pay a fee?
am pm	\$ _____ .	8	8	Y/N
am pm	\$ _____ .	C	S	Y/N

DCPC Long-Form Memory Aid (cont.)

Payment Method Codes

P1: Cash	P7: Bank account number payment
P2: Check	P8: Online banking bill payment
P3: Credit card	P9: Money order
P4: Debit card (Used PIN)	P10: Traveler's check
P5: Debit card (Did not use PIN)	P11: Text message payment
P6: Prepaid/Gift/EBT card	P12: Other payment method

Location Codes

L1: Payment in person	L2: Payment not in person
-----------------------	---------------------------

Device Codes

D1: Computer (laptop or desktop)	D4: Landline phone
D2: Tablet (e.g., iPad, Kindle)	D5: Mail or delivery service
D3: Mobile phone	D6: None of the above

Cash Location Codes

C1: ATM	C5: Check cashing store
C2: Cash back at a retail store	C6: Employer
C3: Bank teller	C7: Cash refund from returning goods
C4: Family or friend	C8: Other location

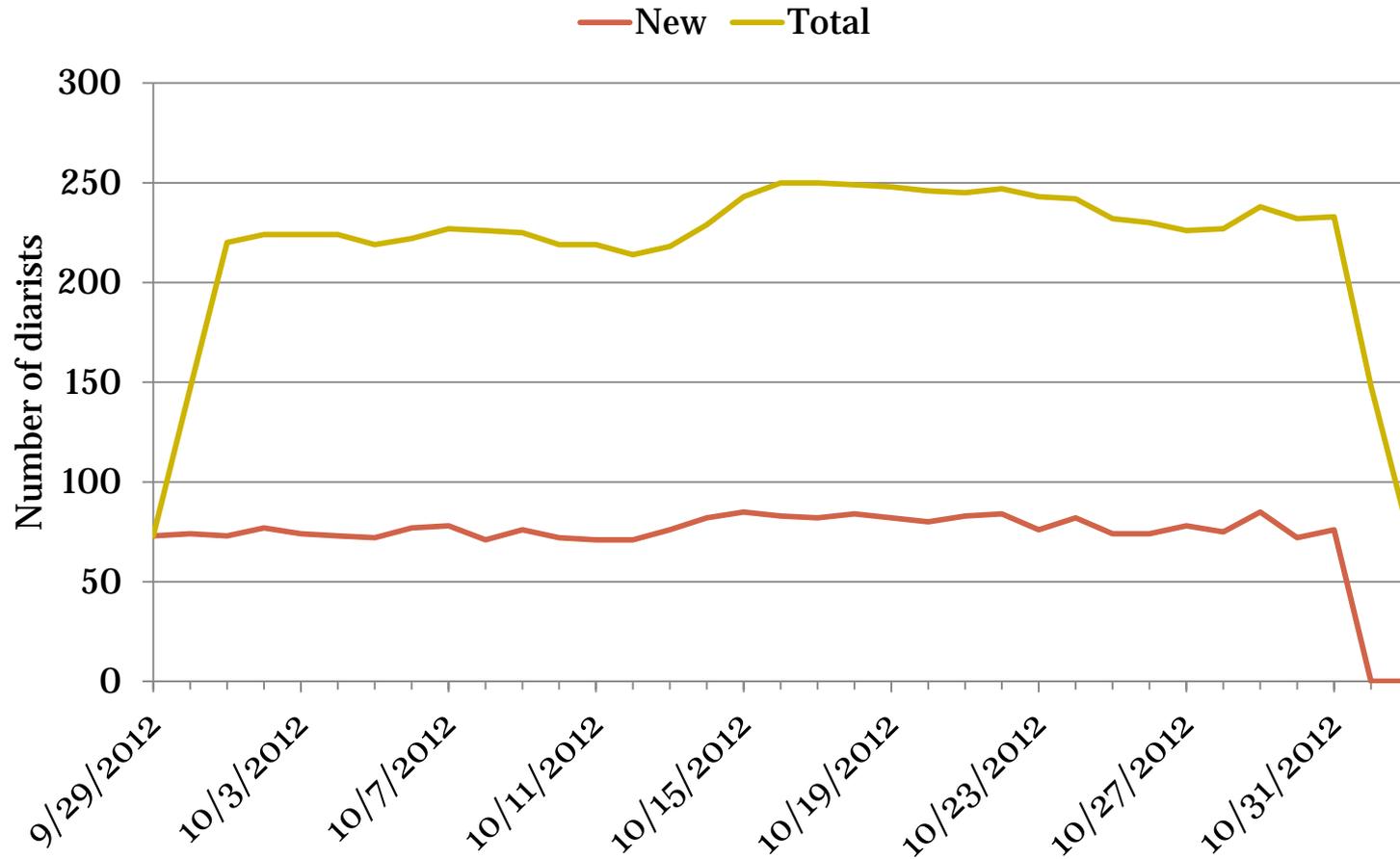
Cash Source Codes

S1: Checking account	S5: Credit card cash advance
S2: Savings or other bank account	S6: Prepaid card cash withdrawal
S3: Salary/wages/tips	S7: Another person
S4: Cashing a check	S8: Other source

Consumer Expenditure Diary (BLS)

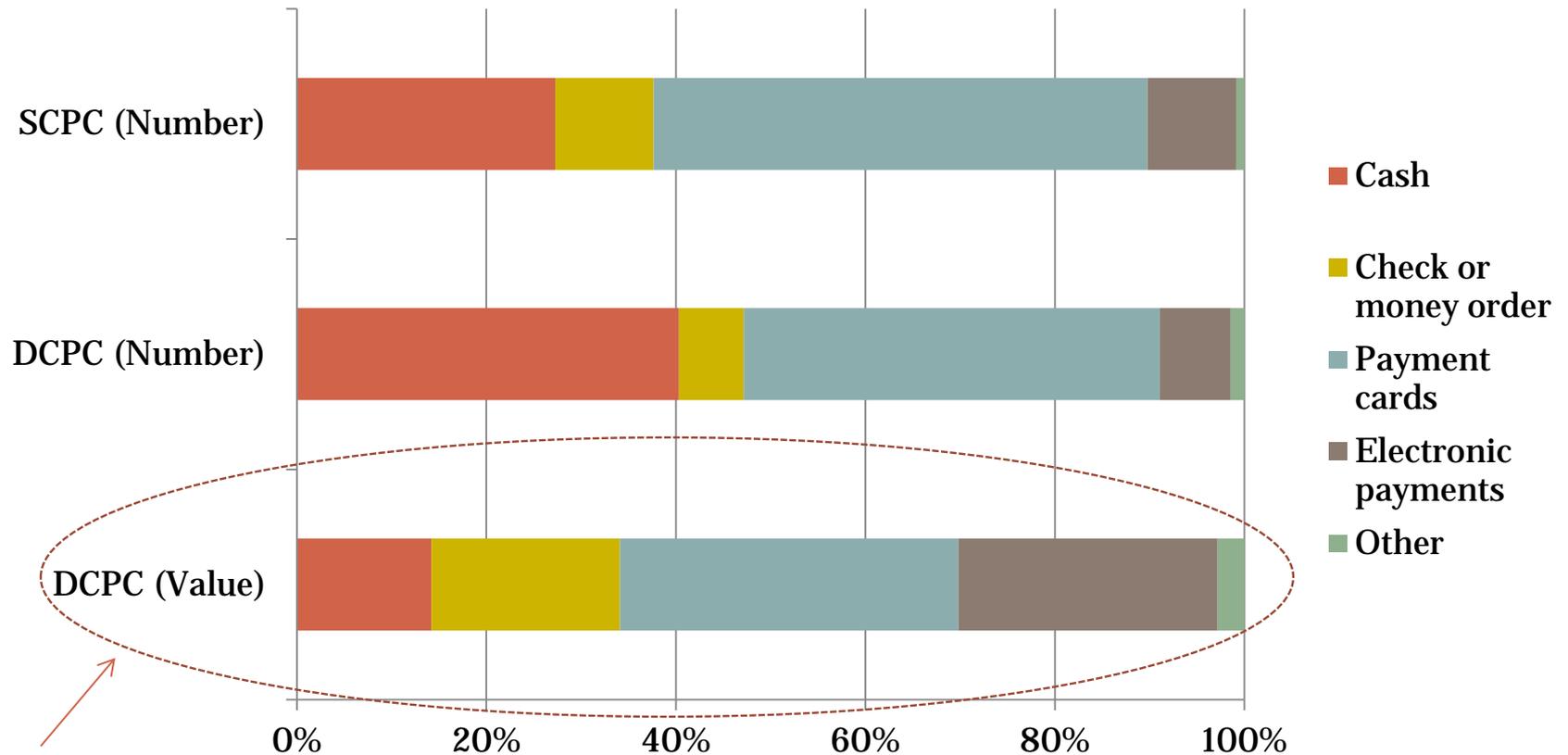
EXAMPLE		SUN	MON	TUE	WED	THU	FRI	SAT		
1. Food and Drinks Away from Home										
Examples:		breakfast buffet carry-out lunch dinner & cocktails at restaurant	pizza delivery Chinese takeout child's school lunch	beer at happy hour pretzels at ballpark wine at tavern	croissant from cafe ice cream from truck wedding reception caterer	soda from vending machine hot dog from convenience store popcorn and soda at movies	Please unfold the LEFT FLAP to see Additional Examples			
Mark (X) one that best describes the type of meal	Description (See examples above and on the flap)	Mark (X) one that best describes where you made this purchase				Total Cost with tax & tip	If alcoholic beverages included, mark (X) all that apply			Enter the total cost of the alcohol
		Fast Food Take-out Delivery Concession	Full Service Places	Vending Machines or Mobile Vendors	Employer or School Cafeteria		wine	beer	other	
1 2 3 4										
X	bagel, juice					X				
		Level of detail needed: briefly describe the meal.								
X	pizza	X								
			X							
X	coffee		X							
X	sandwich, soda			X			X			
X	chips				X					
X	elem.school lunch - month						X			
X	soda				X					
X	buffet			X				X		12 00
X	drinks from cash bar			X				X	X	15 00
X	caterer - Family Reunion			X				X	X	95 00

Diary participation 9/29-11/2



Source: 2012 Diary of Consumer Payment Choice (DCPC), preliminary results

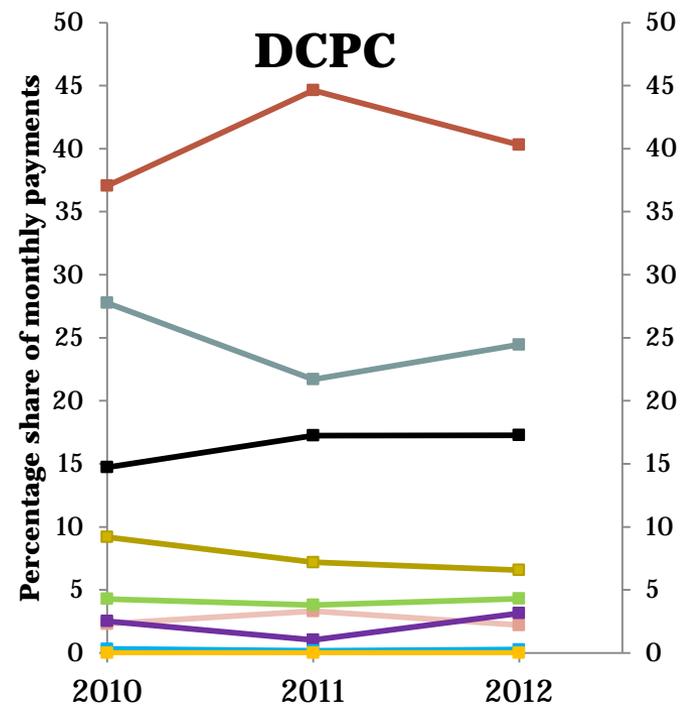
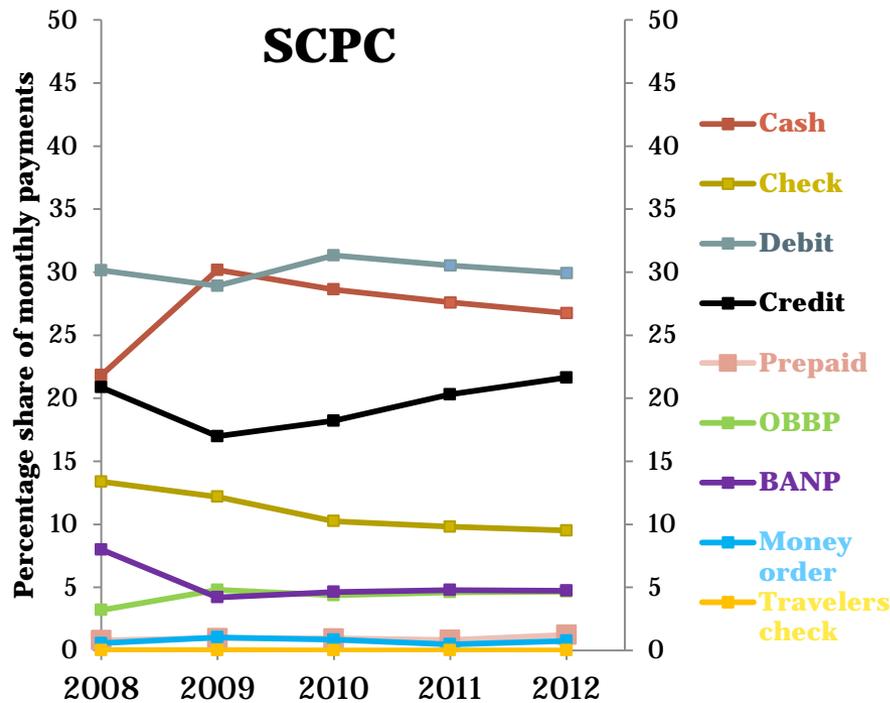
Summary of 2012 Survey and Diary Results



A "game changer..."

Source: 2012 Survey of Consumer Payment Choice; 2012 Diary of Consume Payment Choice

Consumer payment use by instrument: 2008 – 2012, SCPC and DCPC



Source: 2008-2012 Survey of Consumer Payment Choice
2010-2012 Diary of Consumer Payment Choice

Grocery Payments Then and Now

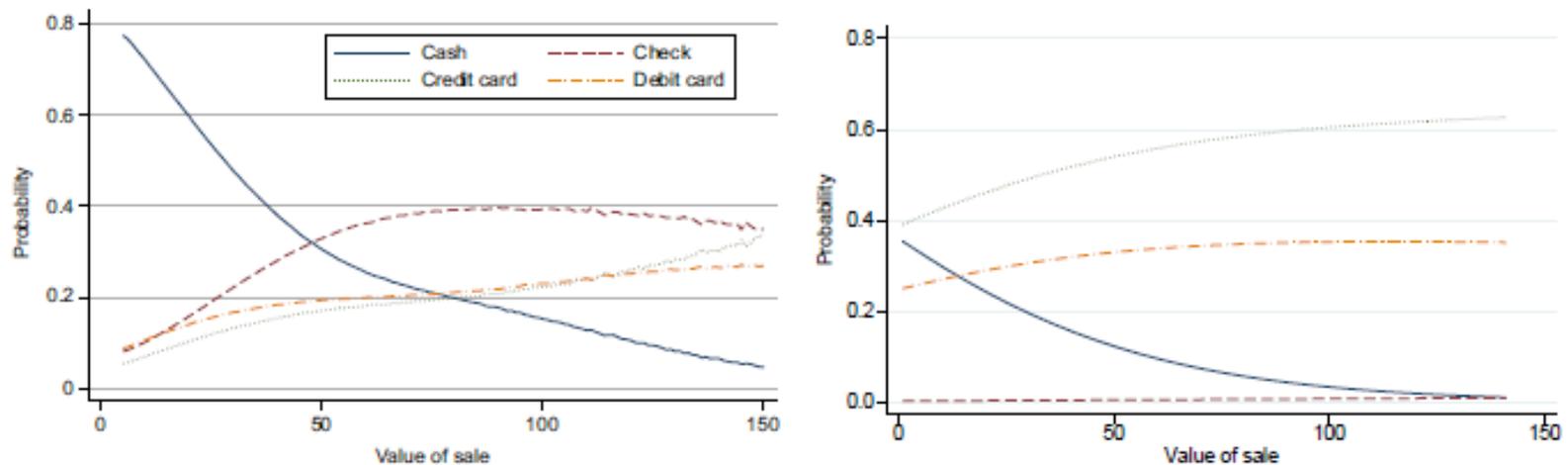


Figure: Payment instrument choice in 2001 (left, from Klee (2008)) and 2012 (right)

A fork in the road

A simple payment
instrument survey?

OR

A complete HH
consumption and ST
saving survey?



SCPC+DCPC \approx SCF + CES ?

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Survey of Consumer Finances (Fed Board)

- **HH finance**
- **Income**
- **Balance sheets**
 - Long run (lots)
 - Short run (some)
 - ✦ Some payments
- **Demographics**

Consumer Expenditure Survey (BLS)

- **Consumption expenditures**
 - Detailed quantities
 - Price per unit
- **Income**
- **Demographics**

Expenditures and income

$$\text{Expenditures} = \text{Income} - \text{Savings}$$

Source	\$ tr	% of APDI
Personal disposable income (NIPA, 2012 Q4) Total	12.5	
Excl. imputed rent and Medicare/aid	11.0	
Personal savings	0.8	
Adjusted personal disposable income (APDI)	10.2	100
DCPC All expenditures	9.7	95

Table: Expenditures from different sources

Adjusted personal disposable income minus savings comes close to the DCPC aggregate!

Is this the right way to think about DCPC expenditures?

Conceptual differences

- ... Consumption vs. expenditure **NOT** the same
 - ... Expenditure that is not consumption: Credit card bills
 - ... Consumption measured differently: Leasing a new car
- ... Real vs. imputed consumption (NIPA)

DCPC Expenditure Categories	
Food and Personal Care Supplies	✓
Auto and Vehicle Related	✗
General Merchandise	✓
Entertainment and Transportation	✓
Housing	✗
Medical, Education, Professional Services	✗
Financial, Professional, Miscellaneous	✗
Govrnment and Nonprofit	✗
Gift and Transfers to People	✗

Table: DCPC main expenditure categories vs. NIPA definition

Comparison with various measure of consumption

Source	\$ tr	% of adjusted
PCE Personal Cons. Expenditure (2012)		
Total	11.1	122
Adjusted PCE	9.1	100
DCPC (2012)		
Consumption only*	8.1	89
Consumer Expenditure Survey (2012)		
Total	6.4	70
Adjusted CEX	5.1	56
Hurd & Rohwedder (2011 Q4)	5.4	59

* Excluding mortgage, financial services, insurance, taxes, P2P transfers

Table: Measures of aggregate consumption

EXTRA SLIDES

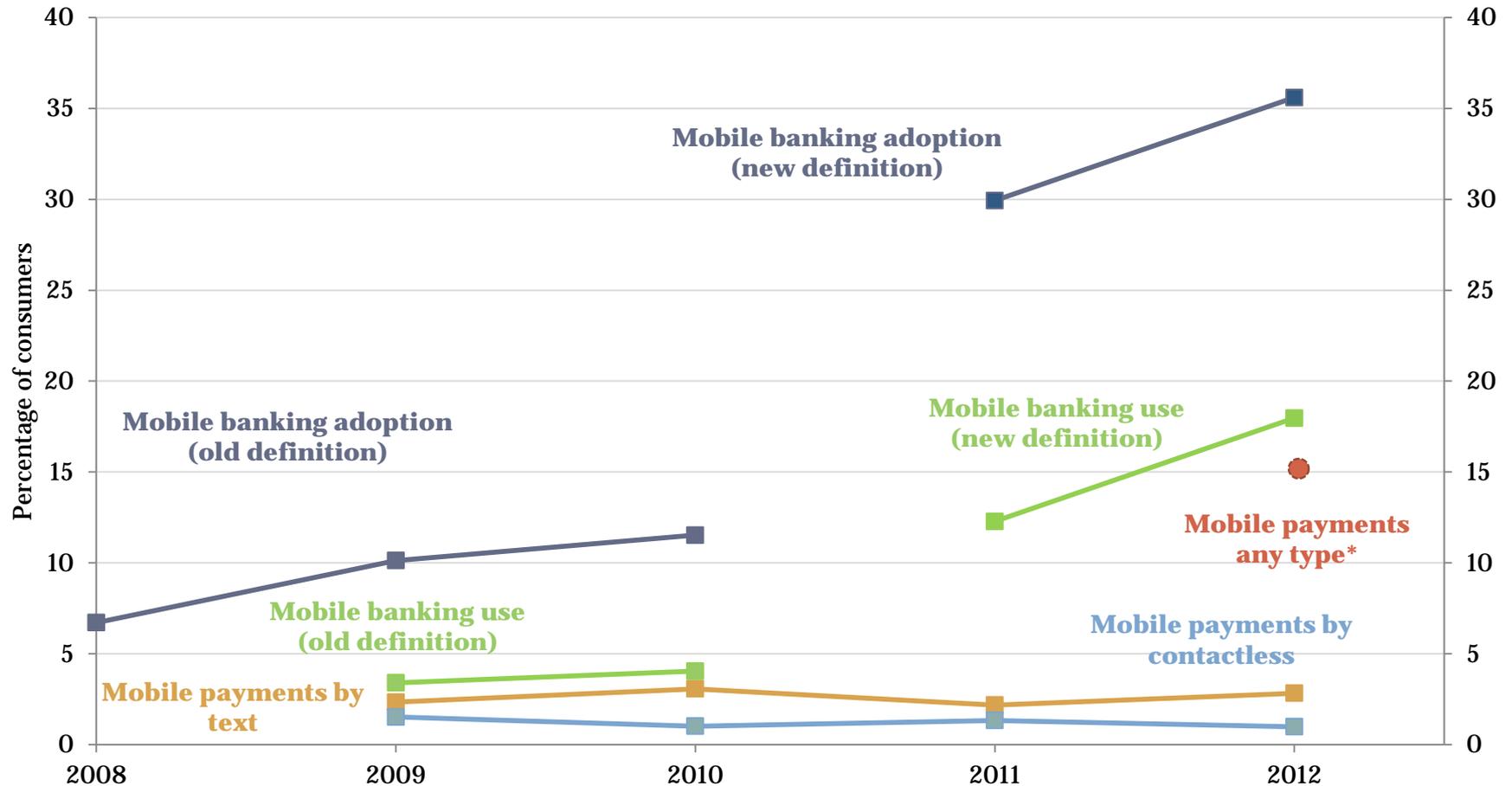
2010-2012 assets and liabilities

Table 5
Current Adoption of Payment Instruments, by Type of Asset or Liability*†
 Percentage of consumers

	2010 ^r	2011 ^r	2012
Assets			
Money (M1)†			
Cash (currency)†.....	100.0	99.8	100.0
Travelers check‡	6.2	2.4	1.4
Demand Deposit Accounts, Consumer	96.4	95.0	96.4
Check.....	87.0	85.5	85.4
Cashier's check.....	na	na	8.2
Certified check.....	na	na	4.5
Money order‡.....	23.6	22.5	21.7
Payment cards (4 categories)	94.2	94.7	na
Debit card.....	78.4	76.6	78.5
Online banking bill payment.....	48.8	51.9	55.3
Bank account number payment‡.....	64.8	65.7	62.7
Demand Deposit Accounts, Other	23.6	22.5	29.0
Cashier's check.....	na	na	8.2
Certified check.....	na	na	4.5
Money order‡.....	23.6	22.5	21.7
Other			
Direct Deduction from Income‡	17.5	21.2	16.4
Prepaid **.....	na	51.0	52.3
Prepaid (4 categories).....	38.2	28.8	na
Liabilities			
Credit card.....	70.3	69.8	72.1

Mobile banking and payments

Survey aggregation issues



Source: 2008-2012 Survey of Consumer Payment Choice;
*Consumers and Mobile Financial Services, Federal Reserve Board.

Adoption

	Full and direct measurement	Adoption implied through use
Payment instruments	SCPC	DCPC
Bank accounts	SCPC	DCPC
Mobile payments technology	SCPC	DCPC
Bank account access methods	SCPC	DCPC

Payment instrument use

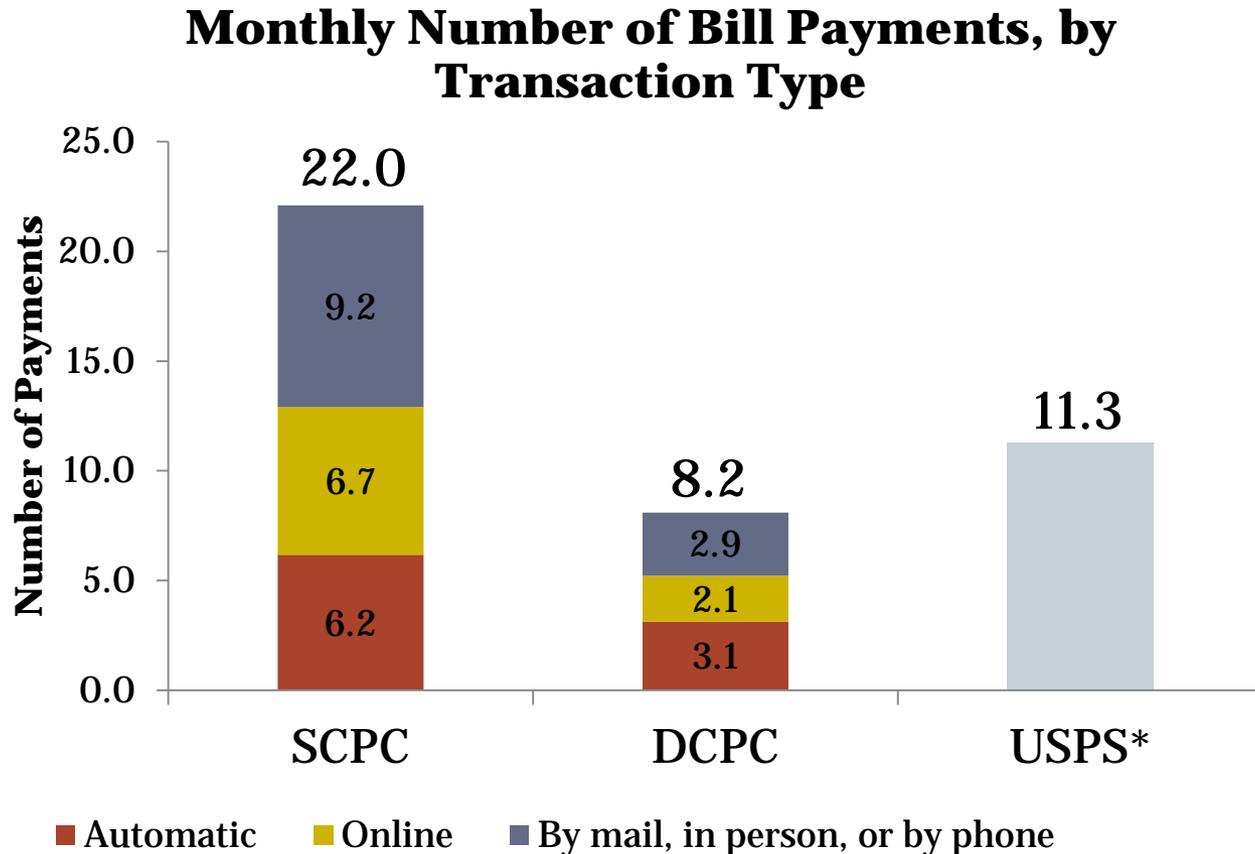
	SCPC	DCPC
Purchases	X	X
Bills	X	X
Online payments	X	X
Person-to-person	X	X
Dollar values		X
Cash on hand when making payment		X
Number of transaction categories	7	45

Cash

	SCPC	DCPC
Cash on hand	X	X
Payments	X	X
Withdrawals	X	X
Deposits		X
Cash-to-coin		X
Coin-to-cash		X
US-to-foreign		X
Foreign-to-US		X
Daily cash flow		X

Two survey instruments, two measurements

Observation: Different methods yield different results.



Note: sub categories do not sum to total due to rounding

*USPS Data available for 2011

Source: 2012 Diary and Survey of Consumer Payment Choice **[Preliminary]**

DCPC capable of measuring more, but is it more accurate?

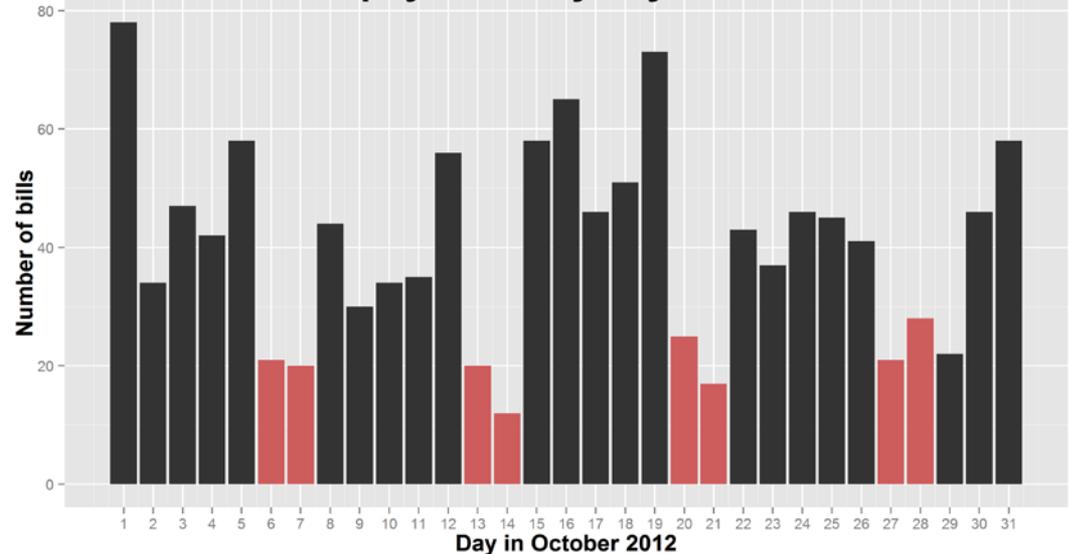
DCPC

- Dollar Amount
- Merchant Type
- Day of Week
- Time of Day

SCPC

- Number of Bills:
 - Transaction
 - PI

Bill payments by day of month



Note: red indicates weekend

Source: 2012 Diary of Consumer Payment Choice **[Preliminary]**

Survey sampling units

SCPC

Individual consumer

- We do ask about some behaviors that are often shared or jointly owned within a HH, such as bills or bank accounts.
- We ask the financial responsibility Q's to get a sense of the R's role in the HH.

SCF

Primary economic unit

- Near the end of the survey there are Q's about other independent members of the household

CONSIDERATIONS FOR SCPC RESPONDENTS:

- Some could find it difficult to answer Q's about bills and bank accounts in terms of the PEU, not as an individual.
- Hard to know all payment behavior of other HH members, especially cash.
- SCPC instructs R to only answer for his/herself, even on questions about bills or bank accounts.

Income

SCPC

Total HH income category during past 12 months:

1. Less than \$5000
- to
17. \$200,000 or more

SCF

Income \$ value for PEU in last calendar year, for each of 12 categories, including:

- Wage and salary income
- Income/losses from business
- Interest & dividend income
- Investment & rental income

“Normal income” – was this salary high/low/normal, and why?

Respondent's income rank within HH

Salary vs inflation comparison

1. Past 5 years
2. Expectation for next year

Short term (liquid) assets

	SCPC	SCF
Currency, U.S.	\$	
Currency, foreign		
Currency, virtual/digital (private)		
Travelers checks	A	
Checking accounts (banks)	A	A,\$
Savings accounts (banks)	A	A,\$
Prepaid cards (bank and nonbank)	A,\$	
Nonbank checkable investment accounts		A,\$
Nonbank online payment service (e.g., PayPal)	A	

Payment instruments, by asset

	SCPC	SCF
Cash (currency)	A, U(#), B(\$), W(\$)	
Travelers check	A, U(#)	
Checking accounts	A	A, B(\$)
• Check	A, U(#)	
• Debit card	A, U(#)	X
• Online banking bill payment	A, U(#)	
• Bank account number payment	A, U(#)	
• Cashier's check	A	
• Certified check	A	
• Money order	A, U(#)	
Prepaid cards (DDAs and other backing)	A, U(#), B(\$)	
Direct deduction from income	A	
Liabilities: Credit cards	A, U(#), D	A, U(\$), D(\$), DL(\$)

Banking & payment practices

	SCPC	SCF
Automatic bill payments	X	X
Credit card revolving/convenience use	X	X
Visits to bank teller	X	X
ATM use	X	X
Telephone banking	X	X
Online banking	X	X
Mobile banking	X	
Mobile payments	X	
Check cashing store use	X	
Cash back at retail store	X	