

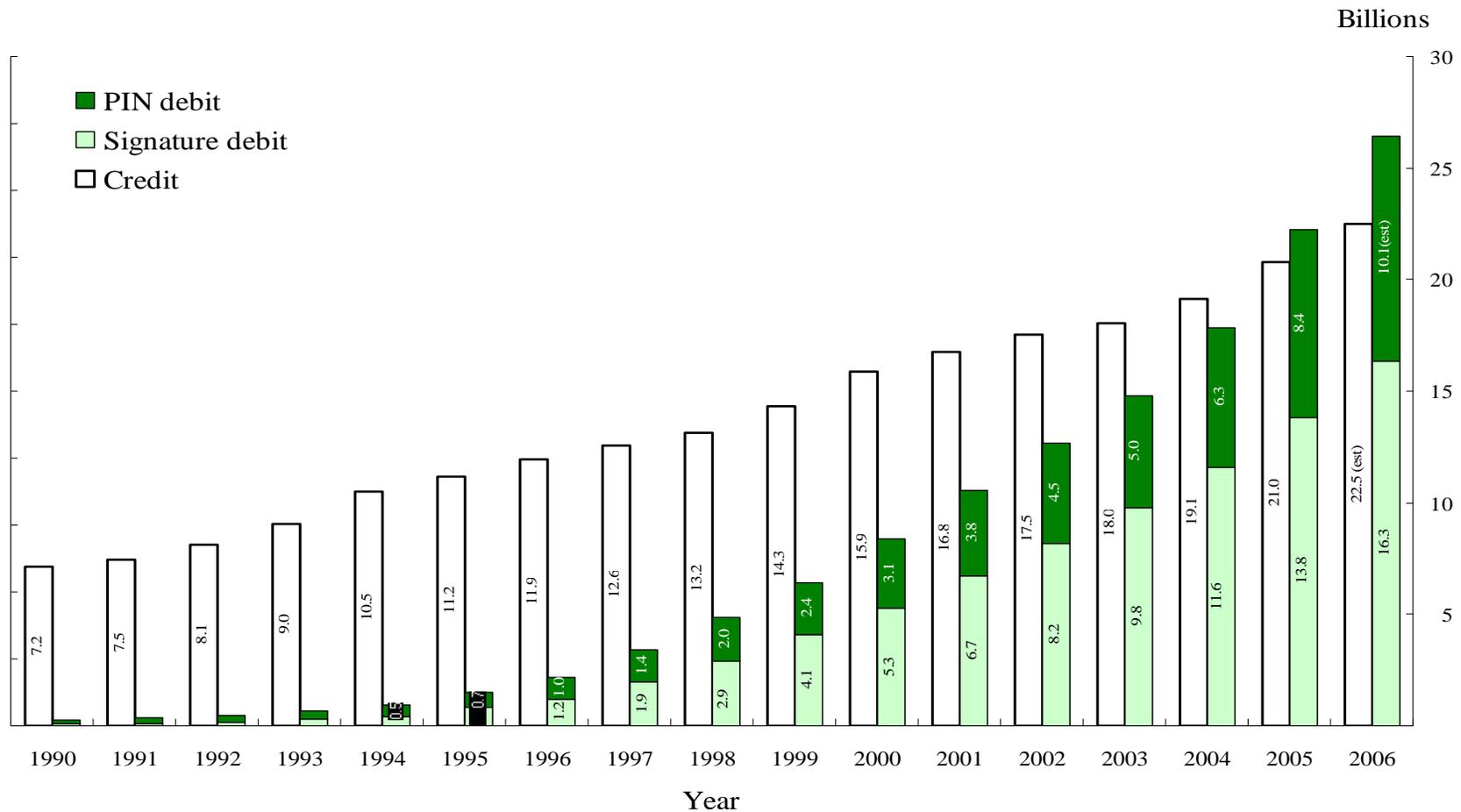
Some Evidence on Consumer Payment Choice and the Consumer-Merchant Interaction

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The opinions expressed are my own and do not necessarily reflect the opinions of the Board of Governors or the Staff of the Federal Reserve System.

Intro: Card Payment Transactions



Source: Nilson Report, EFT Data Book and authors' calculations

Intro: Outline



- Consumers description of their own payment choice
- Examine consumer payment behavior from the perspective of consumer-merchant interactions
 - Consumer's response if the choice of accepted payments is changed
 - Consumer's response to the introduction of 'new' technology
 - Consumer's response to fees or prices for payments

Intro: Research Papers



- “Consumers’ Use of Debit Cards: Patterns, Preferences and Price Response” (joint with Elizabeth K. Kiser and Shaista Ahmed)
 - Focuses on debit cards
 - Examines how consumers respond to fees
 - Forthcoming, *Journal of Money, Credit, and Banking*

- “The Choice at the Checkout: Quantifying Demand Across Payment Instruments” (joint with Elizabeth K. Kiser)
 - Looks at how people substitute among payment instruments
 - Asks what would happen if payment choices changed
 - Available at <http://www.federalreserve.gov/pubs/feds/2006>

Consumer Payment Choice



- In response to a request from Congress, the Fed undertook a study of consumers and banks regarding PIN-debit. Part of that study was a survey of consumers.
 - Michigan Surveys of Consumers
 - Nationally representative
 - March, April, May 2004
 - 1501 households
 - Questions on
 - Debit card use and frequency
 - Reasons for using debit (or not)

Consumer Payment Choice: Survey Questions



- Households who use debit were asked:
 - “We are interested in understanding the reasons why people use debit cards to make purchases. Why do you use your debit card to make purchases? Any other reasons?”
- Those who reported not using debit were asked:
 - “We are interested in understanding why people don’t use debit cards to make purchases. Why don’t you use your debit card to make purchases? Any other reason?”
- Interesting patterns emerged in the responses and in particular, we can code responses using more than one method of categorization.

Consumer Payment Choice: Substitution and Drivers



- Substitution Patterns
 - What payment methods is debit displacing (or not)?
 - Cash, Check, Credit
- Payment Choice Drivers
 - What consumer desires does debit satisfy (or not)?
 - Time (at checkout or elsewhere), Convenience, Money (fees, rates, etc.), Restraint (spending control), Tracking, Acceptance of Payment Method, Security, Other
- Categories NOT mutually exclusive

Consumer Payment Choice: Examples



Reported Reason	Substitute	Payment Choice Driver
"It's <u>faster</u> than writing a <u>check</u> ."	Check	Speed
"Mostly to save on <u>hassle</u> of getting <u>checks</u> . Sometimes it's <u>quicker</u> , I guess."	Check	Convenience, Time
"Usually when I'm at a gas station that doesn't <u>accept credit</u> cards."	Credit	Acceptance
"So I won't get charged <u>ATM fees</u> ."	Cash	Money
"You don't have to <u>buy checks</u> ."	Check	Money
"You don't have to worry about building up <u>credit card debt</u> ."	Credit	Restraint
"Provides a <u>record</u> of the purchase."	(Indeterminate)	Tracking

Consumer Payment Choice: Substitution Patterns



	Debit Users (N=674)	Debit Non-Users (N=109)
	Percent who use debit instead of* ...	Percent who, <i>instead</i> of debit, use* ...
Cash	48.5	22.9
Check	31.9	31.2
Credit	19.4	55.1
Indeterminate	21.4	22.9

Consumer Payment Choice: Payment Choice Drivers



<u>Driver</u>	Percent of <u>users</u> (N=674) who report this driver	Percent of <u>non-users</u> (N=109) who report this driver
Time	14.1	5.5
Convenience	88.1	8.3
Money	11.7	21.1
Restraint	5.8	5.5
Tracking	10.2	40.4
Acceptance	4.9	0.0
Security	3.9	7.3
Other	3.0	35.8

Consumer Payment Choice: Debit Users: Substitution and Drivers



Percent of users reporting the driver below who substitute debit for:

<u>Driver (N)</u>	<u>Cash</u>	<u>Credit</u>	<u>Check</u>	<u>Indeterminate</u>
Time (95)	50.5	23.2	44.2	19.0
Convenience (595)	51.9	15.8	33.2	21.4
Money (76)	40.5	31.7	51.9	3.8
Restraint (39)	48.7	69.2	23.1	2.6
Tracking (69)	42.0	33.3	42.0	15.9
Acceptance (33)	21.2	60.6	36.4	12.1
Security (26)	65.3	19.2	26.9	15.4
Other (20)	35.0	15.0	10.0	45.0

Consumer-Merchant Interaction



- In both papers, we create economic/statistical models of consumer behavior.
- We can use those to describe what they are doing now, and in some cases to predict what the future may hold.
 - Consumer's response if the choice of accepted payments is changed
 - Consumer's response to the introduction of 'new' technology
 - Consumer's response to fees or prices for payments

Consumer-Merchant Interaction: Changing Payment Options



Omitted option	Market Shares for Checking Acct Holders			
	Debit	Cash	Credit	Check
Debit	-	39.9	28.3	31.8
Cash	27.2	-	34.0	38.8
Credit	24.6	41.0	-	34.3
Check	25.2	43.2	31.6	-
<i>None</i>	20.8	30.9	22.5	25.8

Consumer-Merchant Interaction: Changing Payment Options



- Substitution is asymmetric
 - Cash is the strongest substitute for debit
 - If debit use is discouraged, customers will turn to cash
 - Checks are the strongest substitute for cash, but credit is a strong second
 - If cash use is discouraged, expect check use to increase
 - The response to dropping credit is mixed
 - While some transactions flow to debit, cash and check volumes also increase
- *Caveat: The models assume that the consumer does not switch merchants as a result of the altered payment choice*

Consumer-Merchant Interaction: Changing Payment Options



Payment method	Estimate of merchant's average per-transaction cost (Garcia-Swartz et al.)	Estimated change in mean cost from changing payment options
Debit	\$0.73	-\$0.01
Cash	\$0.43	\$0.13
Credit	\$1.22	-\$0.16
Check	\$0.55	\$0.05

Consumer-Merchant Interaction: New Payment Technology



	Flash	Cash	Credit	Check
With "Flash"	27.4	28.2	20.6	23.8
	Debit	Cash	Credit	Check
<i>Original shares</i>	20.8	30.9	22.5	25.8

- Introduce new form of debit i.e. contactless or 'flash' debit
- To do this, assume it has the same characteristics as debit cards today, except that it is faster (~20 seconds vs. ~50 seconds)
- Result: New form of debit appears to take share evenly from all three other forms of payment

Consumer-Merchant Interaction: Effect of Fees on Debit Card Use



- In mid-2004, about 10-15 percent of issuers charged fees for PIN debit
 - “Steering” customers to signature debit
- Survey asked respondents with a debit card whether their bank charges a debit card fee
- Probits: Debit card use and PIN vs. sig. use
 - Include fee dummy or fee level as regressors

Consumer-Merchant Interaction: Effect of Fees on Debit Card Use



- Consumers more likely to use solely signature if PIN fee is charged
 - Steering is effective
- PIN fee makes consumers less likely to use debit cards overall
 - Likely an unintended effect
- Actual level of fee does not seem to matter in this case.
- Frequency of use unaffected by fees

Consumer-Merchant Interaction: Effect of Fees on Debit Card Use



- Big response to issuer fees
 - Fee is, on average, about 1.8 percent of transaction amount
 - Model predicts 12% decrease in likelihood of using the card
- Merchant surcharging would likely decrease card use
- Surcharging could cause consumers to switch to paper methods – which may be less efficient
- *Caveat: The experiment only examines issuer imposed fees rather than those imposed at the POS, and does not look at what would happen with fees on credit only or credit and debit.*