



# Federal Reserve System Cash Product Office

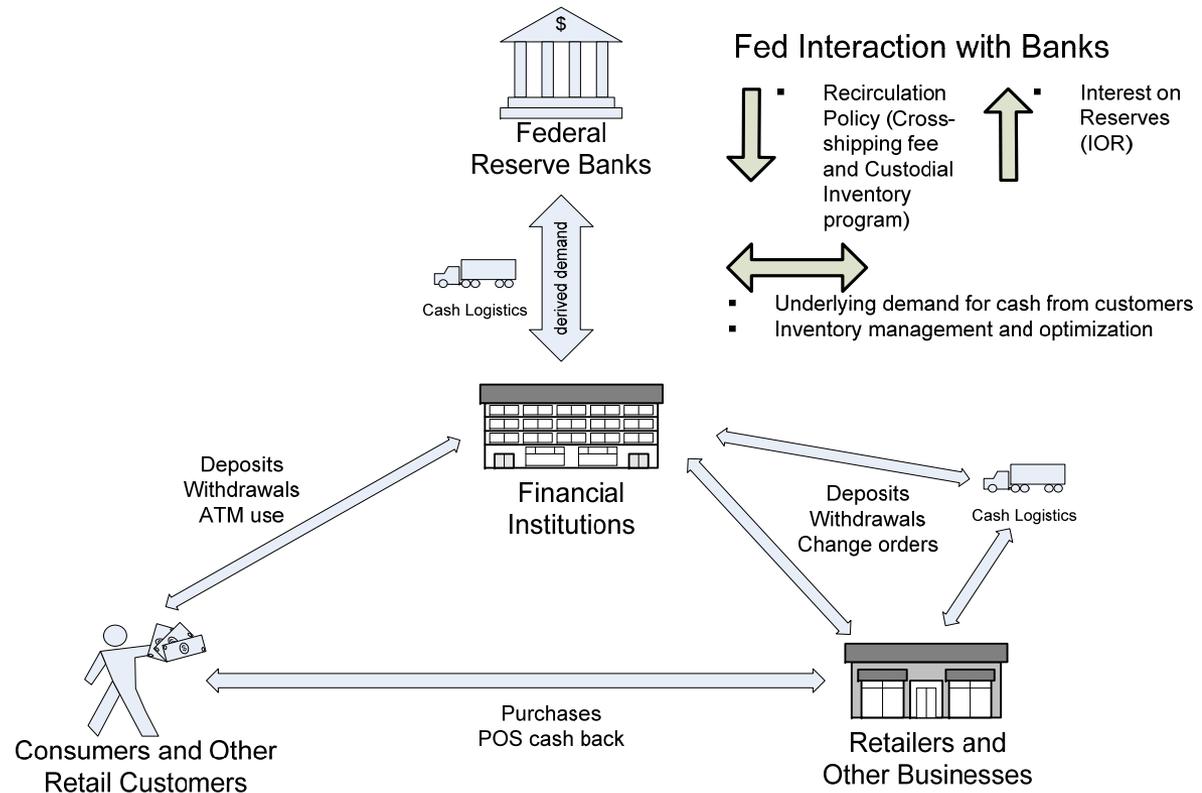
IACA Presentation on Cash Research

March 26, 2009



# Introduction

Demand for Federal Reserve Cash Services is derived from several sets of interactions



## Fed Interaction with Banks

- Recirculation Policy (Cross-shipping fee and Custodial Inventory program)
- Interest on Reserves (IOR)
- Underlying demand for cash from customers
- Inventory management and optimization

## Payments Made to Businesses

- General economic and population growth
- Immigration
- Cash as a store of value
- Anonymity
- Age demographics
- Payment innovation
- Increasing size of on-line market vs. POS market

## Business Interaction with Banks

- Cost of cash vs alternatives (especially card payments)
- Merchant focus on cash efficiency, especially recycling



# Discussion Overview

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- ❑ The CPO's Research Program
  - Cash Payments Study – Pilot (2005-2007)
  - The Electronic Payment Size Study (2007-2008)
  - Interviews with Key Businesses (late 2006 – current)
  
- ❑ Considerations



# The Cash Payments Study Pilot

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- ❑ A survey of businesses (rather than consumers) was chartered to address research goals
- ❑ 4 main goals of our survey of businesses
  - Size of the cash payments “pie”
  - Extent to which cash substitution is occurring
  - Businesses’ cash inventory management practices
  - Factors that influence the cash cycle (and demand for Fed services)
- ❑ Pilot Study was conducted to test feasibility of a larger “Main Study”
  - Pilot Study’s survey sample consisted of 737 randomly selected businesses and 40 certainty businesses
- ❑ Mixed mode questionnaire
  - Respondents could complete the questionnaire online, by mail, or over the phone



# Pilot Study Outcomes

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- ❑ Size of the cash payments “pie”
  - Cash share of the overall payments pie was about 30% (in value)
- ❑ Extent to which cash substitution is occurring
  - Reported payment preferences among all respondents:
    - 30% would prefer customers use cash more often
    - 70% would prefer more use of checks
    - 40% prefer more use of “other” – usually ACH
    - Larger firms were more likely to want more use of debit and stored value cards
- ❑ Businesses’ cash inventory management practices and factors that influence cash cycle
  - Respondents inconsistent in way they reported cash holdings
  - 97% of respondents reported that seasonality had no bearing on cash holdings
  - Most firms base the timing and frequency of their cash deposits on security/control requirements and the timing of check deposits – not on bank fees and transportation costs



# Pilot Study Outcomes

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- ❑ Lower-than-anticipated response rates resulted in a high estimated cost for a main study
  - Overall response rates from our 750+ sample:
    - Plan: 600 firms recruited; 298 returned/completed surveys
    - Actual: 464 firms recruited; 183 returned surveys; only 110 “complete”
  - Response for number and value of cash payments was low:
    - Even among returned surveys, 67% provided the value of cash payments and 44% provided the number of payments
    - Hand-selected large firms had higher response rates: 80% for value and 47% for number
  
- ❑ CPO elected not to conduct main study



# Pilot Study Lessons Learned

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## ❑ Response Rates

- Our schedule was aggressive
- Data collection in 1Q was less than ideal, though still preferable to 4Q
- A large percentage of businesses could (or would) not answer questions regarding transaction values and counts. Item non-response follow-up indicated:
  - 36% indicated the data were not available
  - 21% indicated the data were confidential
  - 23% said it was too time consuming (to respond)

## ❑ Availability of Information / Quality of Data

- Different business types had widely divergent record keeping practices and ability to answer key survey items
- Larger, hand-selected firms were generally able to answer questions better

## ❑ Cost Implications

- Incentive sizes did not seem to matter much

## ❑ Other

- Call Center Interviewer Training needed expansion to allow for enhanced information delivery concerning the Federal Reserve System and the payments system.



# Electronic Payment Size Study (EPSS)

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- ❑ An add-on to the Fed's Retail Payments study
- ❑ Consultant gathered data from card firms and networks on the number of low-value card payments
  - Card networks, when they could, provided information on the percent of transactions under \$5, \$5 - \$15, \$15 - \$25, >\$25, as well as the dollar value of those transactions
- ❑ Data provided a benchmark for the use of cards for micropayments, which can then be tracked with subsequent studies in order to gain insight into the rate of cash substitution

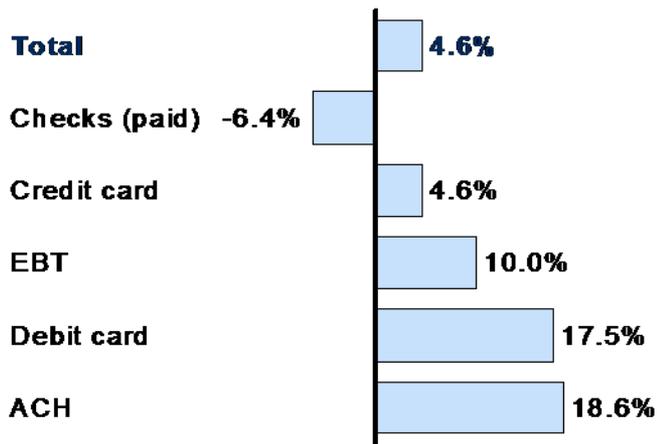


# Electronic Payment Size Study (EPSS)

The RPO's recent Retail Payments Study showed that debit card payments (likely cash substitutes) are growing quickly



**Rate of change in the number of payments 2003 to 2006, CAGR\***



\* CAGR is compound annual growth rate

Source: Federal Reserve Retail Payments Research Project

**Estimated Percentage of Transaction Volume by Payment Size for 2006**

Payment Instrument	Under \$5	\$5-\$14.99	\$15-\$24.99	Over \$25
General Purpose Credit	1.7%	19.8%	17.5%	61%
PIN Debit	7.6%	20.6%	17.4%	54.4%
Signature Debit	2.8%	27.2%	30.0%	40.0%
Open Loop Prepaid	22.0%	31.0%	13.0%	34.0%
Aggregate Total Share of Transactions	3.5%	22.7%	21.9%	51.9%
Cumulative aggregate Total	3.5%	26.2%	48.1%	100%

Source: CPO's Electronic Payments Size Study



The CPO's recent payment size study (EPSS) confirmed that a significant percentage of electronic payments was under \$15



# Interviews with Key Businesses

The CPO continues to build a business interview program aimed at gathering payment trends information from key retail sectors

While the CPO gathers information on payment method preferences, cash handling practices, and other topics, we ask businesses to provide payment trends data at a minimum, using a standard template



**Insert Company Name - US**

**TENDER USAGE - By sales**

Tender	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
Cash										
Check										
Signature Debit										
Pin Debit										
Credit Card										
In-House Credit Card										
ACH										
EBT(Electronic Benefits Transfer)										
Gift Card Stored Value - (please specify)										
Other -(please specify)										
<b>Total</b>						100.00%				

**TENDER USAGE - Number of transactions**

Tender	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
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Other -(please specify)										
<b>Total</b>						100.00%				

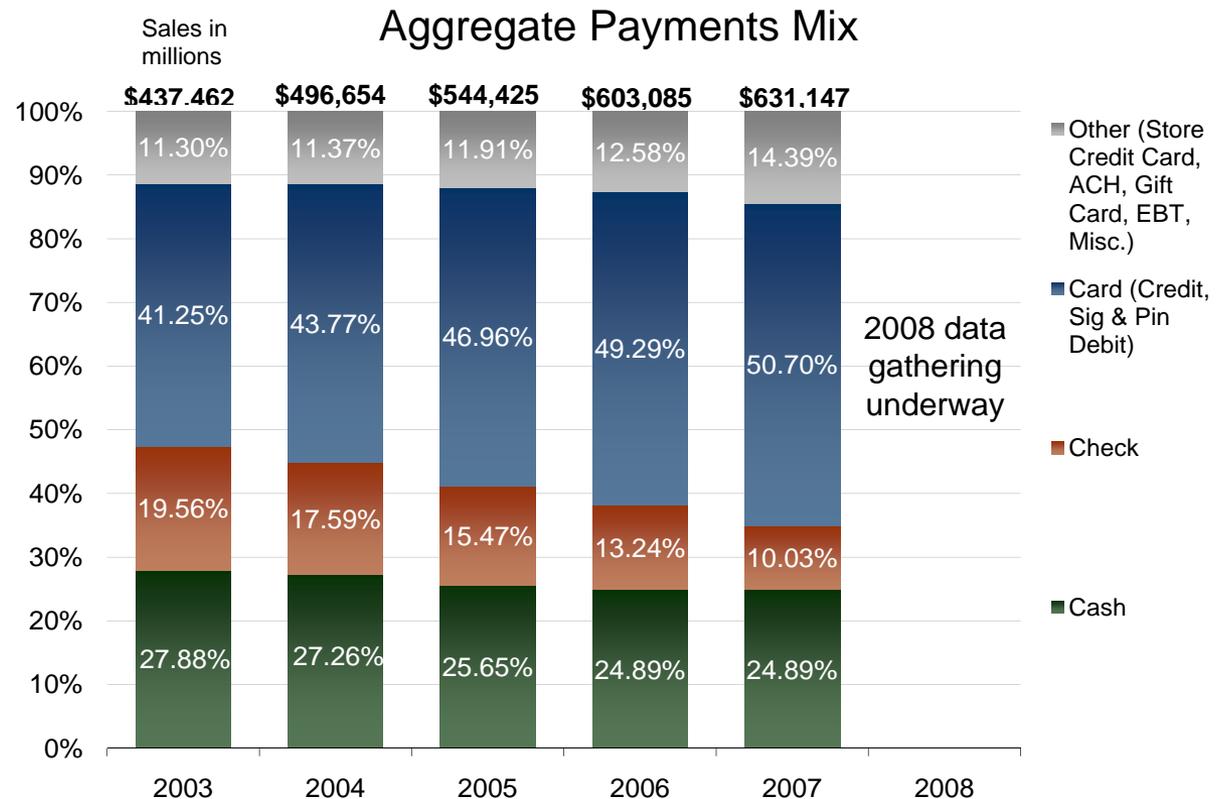


# Interviews with Key Businesses

## Business Interview Scope

- 2007 retail sales excluding cars and auto parts: \$3.56 trillion
- CPO is conducting interviews in industry sectors where POS payment choice exists (\$3.17 trillion)
- CPO is also monitoring the relative sizes of on-line vs. POS markets

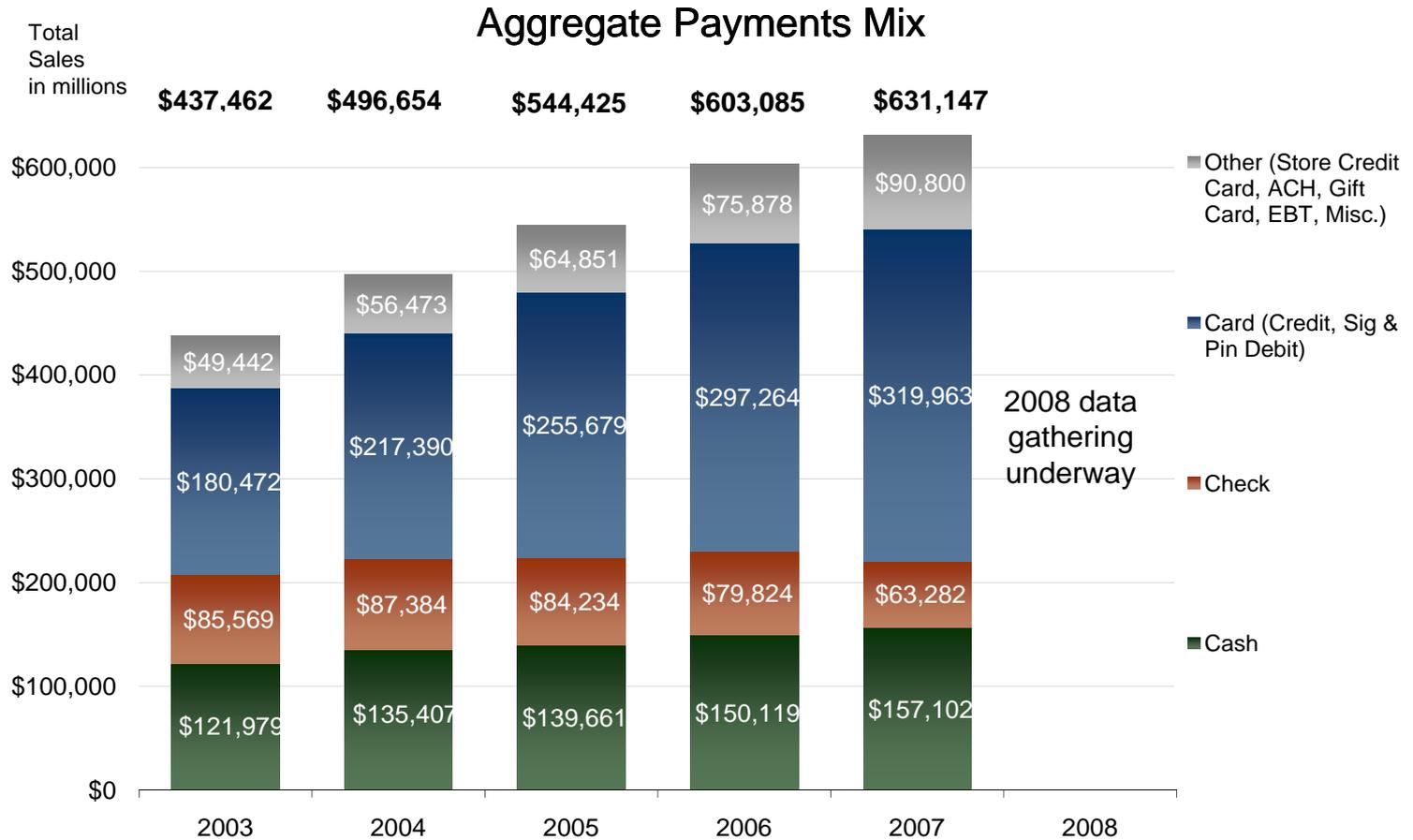
In aggregate, the payments mix of interviewed firms shows a modest shift away from paper to card payments, though cash's share is trending downward only slightly





# Interviews with Key Businesses

Data gathered from interviews allow both “share of till” and “absolute dollars” trends to be tracked



The CPO plans to reach a sustainable interview program that will cover about 30 firms yearly, with 2007 sales of about \$1.1 trillion dollars, or 35% of the retail sales of interest



# Considerations

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- ❑ A true “count” of the number and value of cash payments is very difficult (and therefore expensive) to obtain
- ❑ Three general avenues for research:
  - Consumers
  - Businesses
  - Financial Institutions
- ❑ Cash Product Office has prioritized understanding payment trends and cash handling practices
- ❑ While all players in the cash cycle are of interest, CPO has found that “key businesses” are well-situated to provide information on both retail payment trends and interaction with banks