Cash is King, or is it?

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Executive Vice President and Cash Product Manager
Federal Reserve System

September 26, 2019
The U.S. Payment System at a Glance

Currency Use, and Trends

Payments Evolution in the U.S.

Making “Cents” of the Penny

Going Cashless: Emerging Developments in the U.S.

Building Resiliency: Lessons from the 2017 Hurricanes
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The mission of Federal Reserve Cash Services (FedCash® Services) is to supply currency and coin to meet both domestic and international demand, maintain the quality and integrity of currency and coin in circulation, and ensure depository institutions have ready access to Cash Services. Our primary goal in meeting our mission is to maintain confidence in U.S. currency through well-controlled operations with sufficient capacity to meet the needs of the marketplace on a daily basis and in times of stress.
U.S. Payment System at a Glance

THE NATION
- 325 million residents
- 230 billion annual payments
- 70 billion estimated cash transactions
- 42.5 billion notes in circulation with a value of 1.7 trillion U.S. dollars

THE BANKING INDUSTRY
- Almost 11,000 depository institutions
- 500,000 ATMs
- 1.2 billion cards with ~25 million with contactless capabilities

THE FEDERAL RESERVE
- 12 independent Reserve Banks operating a total of 28 processing locations
- Annual high speed processing volumes of 33 billion notes
- In 2018, the Federal Reserve handled over 1.8 million individual orders and deposits
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Cash is the *second* most used payment instrument

- The share of cash payments declined 4 percentage points
- Debit accounts for 28 percent of payments
- Credit increased 5 percentage points since 2016

Payment Instrument Usage by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash</th>
<th>Check</th>
<th>Credit</th>
<th>Debit</th>
<th>PrePaid</th>
<th>Electronic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>31%</td>
<td></td>
<td>7%</td>
<td>18%</td>
<td>27%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>2017</td>
<td>30%</td>
<td></td>
<td>6%</td>
<td>21%</td>
<td>27%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>2018</td>
<td>26%</td>
<td></td>
<td>6%</td>
<td>23%</td>
<td>28%</td>
<td>11%</td>
<td>0%</td>
</tr>
</tbody>
</table>

2019 Diary of Consumer Payment Choice: Preliminary Findings and not for quotation
2019 Diary shows cash used 11 times per month

Cash’s decline in share is largely result of two factors:

1. Cash usage declined one payment per month

2. Combined, debit and credit increased by nearly three payments
Largest change took place under $10

Payment Instrument Usage by Purchase Amount - 2017

- $0 to $9.99: 55% Cash, 14% Check, 22% Debit, 26% Credit, 0% Other
- $10 to $24.99: 34% Cash, 22% Check, 32% Debit, 26% Credit, 18% Other

Payment Instrument Usage by Purchase Amount - 2018

- $0 to $9.99: 49% Cash, 18% Check, 22% Debit, 25% Credit, 33% Other
- $10 to $24.99: 32% Cash, 25% Check, 33% Debit, 22% Credit, 22% Other

2019 Diary of Consumer Payment Choice: Preliminary Findings and not for quotation
Online shopping increase, mobile consistent

Percent of Payments Made In-Person, by Year

- 2016: 92%
- 2017: 90%
- 2018: 88%

Mobile Phone Usage

- 2016: 5.1% Total Mobile Phone Share, 0.9% In-Person Mobile Phone Share
- 2017: 6.7% Total Mobile Phone Share, 1.6% In-Person Mobile Phone Share
- 2018: 8.2% Total Mobile Phone Share, 1.8% In-Person Mobile Phone Share

Percentage of payments made in-person, excluding bills

2019 Diary of Consumer Payment Choice: Preliminary Findings and not for quotation
Cash and card value shares are consistent

Share of the Value of Payments

2016:
- Cash: 8%
- Check: 22%
- Credit: 13%
- Debit: 15%
- PrePaid: 15%
- Electronic: 35%
- Other: 14%

2017:
- Cash: 9%
- Check: 18%
- Credit: 16%
- Debit: 15%
- PrePaid: 15%
- Electronic: 32%
- Other: 22%

2018:
- Cash: 8%
- Check: 19%
- Credit: 14%
- Debit: 16%
- PrePaid: 16%
- Electronic: 33%
- Other: 22%

2019 Diary of Consumer Payment Choice: Preliminary Findings and not for quotation
....and everyone continues to **hold** cash

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### 2018 Payment Instrument Usage by Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Cash</th>
<th>Check</th>
<th>Credit</th>
<th>Debit</th>
<th>PrePaid</th>
<th>Electronic</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Age Under 25</td>
<td>8</td>
<td>23</td>
<td>6</td>
<td>13</td>
<td>11</td>
<td>8</td>
<td>16</td>
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<tr>
<td>Age 25 to 34</td>
<td>7</td>
<td>37</td>
<td>11</td>
<td>15</td>
<td>9</td>
<td>11</td>
<td></td>
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<tr>
<td>Age 35 to 44</td>
<td>9</td>
<td>45</td>
<td>15</td>
<td>15</td>
<td>11</td>
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<tr>
<td>Age 45 to 54</td>
<td>13</td>
<td>48</td>
<td>11</td>
<td>11</td>
<td>9</td>
<td>11</td>
<td></td>
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<tr>
<td>Age 55 to 64</td>
<td>14</td>
<td>45</td>
<td>15</td>
<td>11</td>
<td>9</td>
<td>11</td>
<td></td>
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<tr>
<td>Age 65 and Older</td>
<td>16</td>
<td>48</td>
<td>15</td>
<td>11</td>
<td>9</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

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### 2018 Payment Instrument Use by Household Income

<table>
<thead>
<tr>
<th>Income Group</th>
<th>Cash</th>
<th>Check</th>
<th>Credit</th>
<th>Debit</th>
<th>PrePaid</th>
<th>Electronic</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Less than $25,000</td>
<td>7</td>
<td>26</td>
<td>4</td>
<td>12</td>
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<td>$25,000 – $49,999</td>
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<td>15</td>
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<td>15</td>
<td>11</td>
</tr>
<tr>
<td>$50,000 – $74,999</td>
<td>7</td>
<td>11</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>$75,000 – $99,999</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>$100,000 – $124,999</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Greater than $125,000</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

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Cash is facing increasing competition
Payments evolution in the U.S. & currency in circulation

As of July 2019, U.S. currency in circulation reached 1.70 trillion worldwide. A 5% Year over Year Increase
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Making “Cents” of the Penny

The increasing cost to produce and distribute the penny in recent years has led the U.S. Mint to look for ways to address the lack of circulation of the coin. The Cash Product Office (CPO) partnered with the U.S. Mint and the Federal Reserve Board of Governors in early 2019 to hold a roundtable meeting on the penny’s future with private and public stakeholders. Most stakeholders agree that it is important to address both supply and demand drivers for the penny. The CPO is seeking to inform how the U.S. Mint proceeds with any new policy initiatives that may affect the penny supply chain.

ANNUAL MINT PENNY PRODUCTION IN MILLIONS OF COINS

Source: U.S. Mint and Federal Reserve Cash Product Office

22,203
Weight, in tons, of pennies shipped by the U.S. Mint to Federal Reserve Banks in 2018.

2.06
Cost, in cents, to produce and ship a single penny in 2018. This figure would be much more if the U.S. Mint had not discontinued the near-solid-copper pennies in 1982.

2006
The year in which the cost of manufacturing the penny exceeded the face value for the first time.

$4.78B
Estimated value of net penny payments to circulation since 1962. There is no sure way to determine what portion of this coin is actively circulating as opposed to being held in piggy banks.

The CPO and the Mint are reviewing measures that address consumer demand for the coin and plan to explore small-scale pilots with merchants to test potential rounding programs. Such programs have proven successful in many countries that have eliminated low-denomination coins without causing an inflationary effect.

HOW CASH ROUNDING WORKS
Cash rounding (also known worldwide as “Swedish rounding”) occurs when low-value coins are eliminated from the change-making process, and cash transactions are rounded up or down to the nearest minimum currency unit. As part of a rounding pilot, cash payments will need to be rounded to the nearest five-cent increment. Non-cash payments will not be affected:

Round Up
- $1.03 or $1.04
- $1.08 or $1.09
- $1.05
- $1.10

Round Down
- $1.01 or $1.02
- $1.06 or $1.07
- $1.00
- $1.05
Cash Me if you Can

The Impacts of Cashless Businesses on Retailers, Consumers, and Cash Use

A recently published paper by the CPO, “Cash Me If You Can: The Impacts of Cashless Businesses on Retailers, Consumers, and Cash Use” reviews why some businesses consider going cashless and how these decisions impact financial inclusion and consumer choice.

What does this mean to cash use?

Many retailers going cashless offer goods and services for which cash is a popular way to pay. A rise in those businesses could reduce consumers’ opportunities to use cash for lower value in-person purchases, in which cash is primarily used.

Categories of Cash Transactions

- General merchandise & department stores, 10.10%
- Gas stations, 12.92%
- Grocery & convenience stores, 17.88%
- Fast food & coffee shops, 21.26%
- All other categories, 8.41%
- Sit-down restaurants & bars, 7.43%
- Charitable or religious donations, 5.38%
- Arts, entertainment, recreation, 3.43%
- Gift or repayment to a family, 10.79%
- Hair, auto, etc., 3.43%

Source: 2019 Findings from the Diary of Consumer Payment Choice

What does this mean to consumers and businesses?

- Counting cash can take time for the consumer and retailer. Several cashless businesses have cited benefits like faster transactions.
- Unbanked or underbanked consumers may be denied access to some goods and services.
- Not having cash on store premises reduces opportunities for both internal and external robberies.
- Consumers may encounter bottlenecks and significant difficulties when making purchases during electronic network or power outages.
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The Fed stayed open, but carriers weren’t able to get to us

Houston Fed before and after Harvey
Orders increased before and after Irma

Miami and Jacksonville Federal Reserve Offices, thousands of bundles

Peak order volume for 2 days is 5 times greater than prior 30 day average.
Here is where you can learn more

http://www.frbsf.org/cash/
http://www.frbsf.org/cash/publications