Strategies for Improving the U.S. Payments System

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Conversations with the Fed
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Topics

1. What is the U.S. payments system?
2. History of Federal Reserve’s involvement in payments
   — Laws that shaped Fed’s role in payments
3. Fed’s current role in payments
4. Future direction
   — Strategies for improving U.S. payments

Disclaimer: The opinions expressed are those of the individual presenter & not those of the Federal Reserve System or any Federal Reserve Bank.
Payments System

- A collective term for mechanisms (both paper-based & electronic) for moving funds, payments, & money among depository institutions (DIs) and other service providers throughout the nation.

Supports diverse participants & needs
Payments Process End-to-End

**Origination**
- Consumer or company originates payment

**Processing, Clearing & Settlement**
- Payment is cleared & settled

**Reconciliation**
- Payment is accounted for by consumer or company

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## U.S. Payment Types

<table>
<thead>
<tr>
<th>Payment Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACH</td>
<td>Electronic payment originated/received by a DI, that is processed through Automated Clearinghouse (ACH) system according to NACHA rules; payment is preauthorized, temporarily stored, &amp; batched before being sent for clearing, settlement, &amp; posting to accounts</td>
</tr>
<tr>
<td>Cash</td>
<td>Payment made by U.S. currency &amp; coin</td>
</tr>
<tr>
<td>Check</td>
<td>Payment made by negotiable instrument drawn on a DI, provides written set of instructions to DI on who to pay, amount, when to pay, is authorized by signing the front of the check, &amp; negotiated by endorsing &amp; subsequently presenting the check for payment</td>
</tr>
<tr>
<td>Credit Card</td>
<td>Payment authorized by card holder to charge purchase against a preapproved credit line</td>
</tr>
<tr>
<td>Debit Card</td>
<td>Payment made by card holder that is deducted electronically from card holder’s deposit account balance; payment is authorized by a personal identification number (PIN) or signature &amp; payment amount is deducted almost immediately</td>
</tr>
<tr>
<td>Prepaid/Stored-Value Card</td>
<td>Payment made by a card that has monies prefunded before card is used to make a payment, card is single use (e.g., gift card) or reloadable where additional monies can be added (e.g., general purpose prepaid card, electronic benefit transfer, card, payroll card)</td>
</tr>
<tr>
<td>Wire Transfer</td>
<td>Payment order (instruction) from sender that is carried out electronically through a funds-transfer system, (e.g., Fedwire®); each payment is cleared &amp; settled individually, &amp; funds are final &amp; irrevocable</td>
</tr>
<tr>
<td>Digital Currency</td>
<td>Payment sent using a digital store of value that is not necessarily tied to the U.S. Dollar. Schemes vary, but recently created cryptocurrencies like Bitcoin can transfer &amp; settle on a publically accessible distributed ledger. In many cases a currency exchange serves as an intermediary (e.g., converts the price to Bitcoin for the consumer, accepts the payment on the merchant’s behalf &amp; sells the Bitcoin to credit the merchant’s account in dollars).</td>
</tr>
</tbody>
</table>
Distribution of noncash payments in 2012

Volume:
- Debit card: 38%
- Credit card: 21%
- ACH: 18%
- Prepaid card*: 7%
- Checks (paid): 15%

Dollar Value:
- ACH: 61%
- Prepaid card*: 0%
- Debit card: 3%
- Credit card: 2%
- Checks (paid): 33%

*Prepaid includes Electronic Benefits Transfer (EBT); figures may not add due to rounding

Source: 2013 Federal Reserve Payments Study
History of Federal Reserve’s Involvement in Payments
100 Years of FRB Payment Services

Federal Reserve Act of 1913 authorized Federal Reserve Banks (FRBs) to:

• Accept check deposits from banks & make collections —i.e., a nationwide check-clearing system

• Issue uniform currency to public through banks

Over time, FRBs have added other payment services

• During 1907 financial panic, payments were disrupted throughout the country

• Many banks & clearinghouses refused to clear checks drawn on certain other banks & contributed to failure of otherwise solvent banks

Bank Panic of 1907

Fiscal Agents for U.S.

- **Federal Reserve Act**
  - authorized Treasury Secretary to designate FRBs as fiscal agents of U.S. government
- **All 12 FRBs** were so designated in 1914 & have served in that capacity since

**As fiscal agents of the United States, the Reserve Banks function as the U.S. government’s bank**
Board of Governors (BOG)

- BOG is responsible for implementing certain laws by writing regulations
- Some BOG regs govern payments

Examples of BOG Regulations Governing Payments

- Reg. CC – Check, both paper & electronic/image
- Reg. II – Debit Card
- Reg. J – Check, Wire Transfer
Federal Reserve Payments History

- **Federal Reserve Act** put Fed in the check clearing business - requires FRBs to accept check deposits for clearing
- Congress considered existing payments environment inadequate
  - Expected Fed to improve efficiency (address market failure)
  - Establish national par clearance system
- Check was wholesale payment system of its time
- Congress has changed Fed’s payments role since 1913
Timeline of Fed’s Processing Role

- **1913**: Nationwide check clearing system established
- **1915**: Fed starts moving money electronically
- **1918**: Fed establishes proprietary telecommunications system to process funds transfers in 1918 & to process Treasury securities in 1920 (Transfers funds between accounts maintained in different Districts via telegraph)
- **1920**: Fed modernizes telecommunications system
- **1974**: ACH network is founded
- **1970s**: Fed modernizes telecommunications system
- **1981**: Fed is required to price services & make them available to member & nonmember banks

Check clearing
Fedwire Funds
Fedwire Securities
National Settlement Service
FedACH Automated Clearing House

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1980 Change: *Monetary Control Act*

Pre-1980, FRB payment services available to member DIs only & were “free”

**Monetary Control Act of 1980**

- Subjects all DIs to reserve requirements
- Grants DIs equal access to FRB payment services
- Requires FRBs to charge for payment services to fully recover costs of providing them
2004 Change: “Check 21” Act

Check Clearing for 21st Century Act or “Check 21” took effect on October 28, 2004

- Stimulated by 9/11 attack that grounded airplanes & paper checks on them
- Allows collecting DIs to convert paper checks into electronic images
- Enabled mainly paper process to become electronic; saved millions of dollars, made check clearing faster & spurred innovation
Effect of Check 21 on FRB Check Infrastructure

Changes in Check Processing since Check 21 Enacted in 2004

Total deposit items processed, in billions

2010 Change: *Dodd Frank & Consumer Financial Protection Act*

**Dodd Frank Wall Street Reform & Consumer Financial Protection Act 2010**

Established Consumer Financial Protection Bureau (CFPB), shifting Federal Reserve Board of Governor responsibilities for consumer protection regulations to CFPB

Required Federal Reserve Board to:

- Set interchange fees “reasonable & proportional to costs incurred” for electronic debit transactions on card issuers with assets over $10 billion
- Eliminate network exclusivity arrangements that prevent merchants from choosing least-cost-routing for debit transactions
Fed’s Current Role in Payments
Fed’s Mission in Payments

To foster integrity, efficiency, & accessibility of the U.S. payments system
Fed’s Three Roles in Payments

1. **Leader/catalyst**
   - Act as advocate, educator, or change agent to improve payment system, usually in collaboration with other participants

2. **Fiscal agent**
   - Provide broad set of services to U.S. Treasury, government agencies, & other fiscal principals in capacity as fiscal agent & depository

3. **Service provider**
   - Provide Fedwire® Funds, FedACH®, FedCash®, Check Services & FedLine® access solutions; enhance these services ongoing to better meet end user needs
FRFS Market

- Fed handles roughly half of total U.S. inter-bank payments for these payment methods
- In 2015, Fed-processed transactions totaling $1,182 Trillion

<table>
<thead>
<tr>
<th>Service</th>
<th>2015 Average Daily Volume</th>
<th>2015 Average Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fedwire® Funds</td>
<td>566.5 Thousand</td>
<td>$3.3 Trillion</td>
</tr>
<tr>
<td>Fedwire® Securities</td>
<td>69.3 Thousand</td>
<td>$1.2 Trillion</td>
</tr>
<tr>
<td>National Settlement</td>
<td>2.3 Thousand</td>
<td>$71.8 Billion</td>
</tr>
<tr>
<td>FedACH®</td>
<td>55.2 Million</td>
<td>$102.0 Billion</td>
</tr>
<tr>
<td>Check</td>
<td>22.0 Million</td>
<td>$33.0 Billion</td>
</tr>
</tbody>
</table>

Source: Board of Governors of the Federal Reserve System
Future Direction: Strategies for Improving U.S. Payments
# Five Strategies in Pursuit of Five Desired Outcomes

1. Actively engage with stakeholders on initiatives designed to improve the U.S. payment system

2. Identify effective approach(es) for implementing safe, ubiquitous, faster payments

3. Reduce fraud risk & advance the safety, security & resiliency of the payment system

4. Achieve greater end-to-end efficiency for domestic & cross-border payments

5. Enhance Federal Reserve Bank payment, settlement & risk management services to address identified gaps

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Acting on Broad-Based Public Consensus

• Fed conducted extensive public outreach to consumers & businesses
• Research confirmed public consensus on need to improve U.S. payments & make them:
  — Faster
  — Safer
  — More Efficient

See: https://fedpaymentsimprovement.org/resources/research-papers/
Two Active Public Task Forces

Faster Payments Task Force & Secure Payments Task Force

Broad cross-section of stakeholders including:
- Business, government, & consumer end users
- Financial institutions of all sizes
- Technology solution providers
- Payment network operators

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# Faster Payments Effectiveness Criteria

## Ubiquity
- U.1 Accessibility
- U.2 Usability
- U.3 Predictability
- U.4 Contextual Data Capability
- U.5 Cross-Border Functionality
- U.6 Multiple Use Cases

## Speed (Fast)
- F.1 Fast Approval
- F.2 Fast Clearing
- F.3 Fast Availability of Good Funds to Payee
- F.4 Fast Settlement among Depository Institutions & Regulated Non-bank Account Providers
- F.5 Prompt visibility of payment status

## Efficiency
- E.1 Enables Competition
- E.2 Capability to enable value-added services
- E.3 Implementation Timeline
- E.4 Payment Format Standards
- E.5 Comprehensiveness
- E.6 Scalability & Adaptability
- E.7 Exceptions & Investigations Process

## Safety & Security
- S.1 Risk Management
- S.2 Payer Authorization
- S.3 Payment Finality
- S.4 Settlement Approach
- S.5 Handling Disputed Payments
- S.6 Fraud Information Sharing
- S.7 Security Controls
- S.8 Resiliency
- S.9 End-user Data Protection
- S.10 End-user/Provider Authentication
- S.11 Participation Requirements

## Governance
- G.1 Effective governance
- G.2 Inclusive governance

## Legal
- L.1 Legal Framework
- L.2 Payment System Rules
- L.3 Consumer Protections
- L.4 Data privacy
- L.5 Intellectual property

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Faster Payment Innovators

Calling All Faster Payment Innovators

**Capability Showcase**
- Creates awareness of marketplace solutions that could support faster payments
- Helps prepare industry for proposal work, offering the opportunity for solution providers to collaborate
- Educates the task force

**Solution Proposal & Assessment**
- Any Faster Payments Task Force member is eligible to submit a solution proposal
- Each proposal will be assessed against the faster payments effectiveness criteria
- A proposal template, developed by the Faster Payments Task Force, will be provided

https://www.youtube.com/channel/UC_sOXJqryY_zhA9SuogqbKA
Faster Payments Capability Showcase - Example

Ripple - Real Time Cross Border Transactions
Length: 2.5 minutes

https://www.youtube.com/watch?v=l71ZGaNK5sg

Source: https://fedpaymentsimprovement.org/faster-payments/task-force/showcase/
Deliverable

- **Final Work Product**
  - Faster Payments Task Force will publish results of the faster payments solution assessments & recommendations for next steps in early 2017
Other New Faster Payments Initiatives Underway

• **NACHA’s same day ACH** – *a ubiquitous approach for clearing ACH payments on the day they are initiated*

• **W3C web payments standard** – *streamlining the online check out process and making payments easier & more secure on the Web*

• **The Clearing House** – *multi-year endeavor to build a real-time payment system*

• **Big banks, Apple** – *P2P payments products*
Areas of Focus for Secure Payments Task Force

- Payment Identity Management
- Law & Regulation Coordination
- Information Sharing for Mitigation of Payment Risk & Fraud
- Data Protection
- Collaborate with Faster Payments Task Force
Trillions of Dollars in U.S. Payments, Billions in Fraud Transactions (2012)

<table>
<thead>
<tr>
<th>Transaction Value</th>
<th>Unauthorized Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>$174.7 Trillion</td>
<td>$6.4 Billion</td>
</tr>
</tbody>
</table>

| General Purpose Credit Cards | $2.2 | General Purpose Credit Cards | $2.3 |
| General Purpose Debit Cards | $2.6 | General Purpose Debit Cards | $1.8 |
| Check                       | $25.9 | Check                       | $1.1 |
| ACH Debits                  | $66.7 | ACH Debits                  | $0.8 |
| ACH Credits                 | $77.4 | ACH Credits                 | $0.4 |

Source: 2013 Federal Reserve Payments Study

*Gross value of unauthorized 3rd-party fraud payments regardless of who incurred the loss.
Costs of Fraud

- Prevention & detection
- Liability for payments fraud loss
- Productivity loss/business disruption
- Remediation
- Legal
- Reputation damage
- Customer loss
- Information loss
- Regulatory penalties
- Inadvertently facilitate terrorist financing & money laundering
Other U.S. Safer Payments Initiatives

- Implementing EMV technology in card payments
- Offering what are called “tokenization” solutions that replace sensitive information (account number on a card) with a pseudo or token to protect payments & sensitive data stored in databases
- Improving industry coordination & timely adoption of security standards & protocols
- Introduction of biometrics
Join the Community at FedPaymentsImprovement.org!

Receive information on task forces and work groups, invitations to live/virtual events, surveys & other online feedback opportunities

@FedPayImprove

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Questions?
Contact Information

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Appendix
Federal Reserve System Payments Information Resources

• Strategies for Improving the U.S. Payments System  https://fedpaymentsimprovement.org/
• Banking & Payments Research (Kansas City) http://www.kansascityfed.org/research/bankingandpayments/
• Consumer Payment Research Center (Boston) http://www.bostonfed.org/economic/cprc/index.htm
• Federal Reserve Bank Services http://www.frbservices.org/
• Money & Payment Studies (New York) http://www.newyorkfed.org/research/payments_research/index.html
• Payment Cards Center (Philadelphia) http://www.philadephiafed.org/consumer-credit-and-payments/payment-cards-center/
• Payments, Standards, & Outreach Office (Minneapolis) http://www.minneapolisfed.org/about/whatwedo/paymentsinformation.cfm
• Payment Strategies (Boston) http://www.bostonfed.org/bankinfo/payment-strategies/index.htm
• Payment Studies (Chicago) http://chicagofed.org/webpages/utilities/about_us/financial_markets_and_payments/payments_studies.cfm
• Payment Systems (Board of Governors) http://www.federalreserve.gov/paymentsystems/default.htm
• Payment Systems (New York) http://www.newyorkfed.org/banking/payment_sys.html
• Retail Payments Risk Forum (Atlanta) http://www.frbatlanta.org/rprf/
• Fed in Print http://fedinprint.org/