Strategies for Improving the U.S. Payments System

Claudia Swendseid

Senior Vice President

Payments, Standards, & Outreach Group
Federal Reserve Bank of Minneapolis

Conversations with the Fed
May 25, 2016

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

U.S. Payment Types

ACH	Electronic payment originated/received by a DI, that is processed through Automated Clearinghouse (ACH) system according to NACHA rules; payment is preauthorized, temporarily stored, & batched before being sent for clearing, settlement, & posting to accounts
Cash	Payment made by U.S. currency & coin
Check	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, & negotiated by endorsing & subsequently presenting the check for payment
Credit Card	Payment authorized by card holder to charge purchase against a preapproved credit line
Debit Card	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 & payment amount is deducted almost immediately
Prepaid/Stored-Value Card	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)
Wire Transfer	Payment order (instruction) from sender that is carried out electronically through a funds-transfer system, (e.g., Fedwire®); each payment is cleared & settled individually, & funds are final & irrevocable
Digital Currency	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 & 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 & sells the Bitcoin to credit the merchant's account in dollars).

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Volume & Value by Payment Type

Distribution of noncash payments in 2012

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

Source: 2013 Federal Reserve Payments Study

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

History of Federal Reserve's Involvement in Payments

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

Source: Board of Governors of the Federal Reserve System, *The Federal Reserve System Purposes & Functions*, June 2005

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Timeline of Fed's Processing Role

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

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

1970s
Fed modernizes telecommunications system

1974
ACH network is founded

1981
Fed is required to price services & make them available to member & nonmember banks

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Effect of Check 21 on FRB Check Infrastructure

Source: Federal Reserve System Retail Payments Office, May 2016.

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Fed's Current Role in Payments

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Fed's Mission in Payments

To foster integrity, efficiency, & accessibility of the U.S. payments system

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

Service	2015 Average Daily Volume	2015 Average Daily Value
Fedwire® Funds	566.5 Thousand	$3.3 Trillion
Fedwire® Securities	69.3 Thousand	$1.2 Trillion
National Settlement	2.3 Thousand	$71.8 Billion
FedACH®	55.2 Million	$102.0 Billion
Check	22.0 Million	$33.0 Billion

Source: Board of Governors of the Federal Reserve System

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Future Direction:

Strategies for Improving U.S. Payments

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

SPEED

SECURITY

EFFICIENCY

INTERNATIONAL

COLLABORATION

https://fedpaymentsimprovement.org/wp-content/uploads/strategies-improving-us-payment-system.pdf

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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/

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

Governance

G.1 Effective governance
G.2 Inclusive governance

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

Legal

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

https://www.youtube.com/channel/UC_sOXJqryY_zhA95uogqbKA

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Faster Payments Capability Showcase - Example

Ripple - Real Time Cross Border Transactions

Length: 2.5 minutes

https://www.youtube.com/watch?v=I71ZGaBK5sg

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Deliverable

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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*

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Trillions of Dollars in U.S. Payments, Billions in Fraud Transactions (2012)

Source: 2013 Federal Reserve Payments Study

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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

FedPayments Improvement

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Questions?

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Contact Information

Claudia Swendseid

Senior Vice President

Federal Reserve Bank of Minneapolis

claudia.swendseid@mpls.frb.org

www.frbservices.org

www.minneapolisfed.org

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

Appendix

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.

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.philadelphiafed.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/

©2016 Federal Reserve Bank of Minneapolis. Materials are not to be used without consent.