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General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

Yes. I appreciate this initiative. There are many key, addressable deficiencies in today's US electronic payments systems. Real-time authorization, clearing and settlement is a good general objective. Focusing on payor/payee needs/wants, electronic currency can be boiled down to three dimensions (as example): (1) Convenience/functionality - simple, elegant functionality; payor/payee symmetry (a person is equally a payor or payee in contrast to card payment systems); zero paper/physical burden (outside payment device); multiplicity of payment devices (PC, tablet, phone, ATM...), communications channels (text, voice, internet...), and security levels/features (PIN, ocular, thumb print, fob...); automatic and customizable record keeping (such as e-receipts); pay from different accounts (2) Cheap, simple and transparent pricing (3) Secure - adjustable privacy and security settings (such as payment limits); "push" payments; effective alternative authentications (providing payor choice/ PIN etc as above); real time clearing and settlement; simple, secure account setup with identity verification; no exchange of financial information (identified by address/username for example); traceable payee account

1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired. Yes.

2i. What other outcomes should be pursued?

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

In my view, the FRBs could be an influential catalyst for change by supporting a platform of true electronic currency such as: (1) reduce, simplify legal/regulatory barriers to change, (2) take an independent view that includes the opinions non-financial participants such as merchants, (3) ensure low barriers to entry for innovative entrants with potentially disruptive technologies, (4) promote market competition, and (5) promote an open standard. There are tangible steps such as the Fed upgrading its ACH system to manage real-time authorizations and clearing. This could provide a low-cost alternative to the credit card "rails" for emerging payment innovators.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

Pro-active, public/government authority attention to the matter seems required by virtue of the fact that deposit-taking and payment systems are highly regulated and deeply influential on US payment capabilities. It seems that payment systems should first and foremost serve the needs of the large population of small payors and payees (such as start-ups whose profitability are significantly impacted by credit card fees), who mostly don't have a voice in this. The authorities are vital to ensure fertile ground for competition...let the industry players compete for payment business by improving payment convenience, reducing/simplifying costs, and improving security. Surprising solutions could evolve rather quickly, and the public gets a "voice" by selecting the services they want to have.

4ii. What other perspective(s) should be considered?

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a. Ubiquitous participation
- b. Sender doesn't need to know the bank account number of the recipient
- c. Confirmation of good funds is made at the initiation of the payment
- d. Sender and receiver receive timely notification that the payment has been made
- e. Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired. Yes.

5ii. What other characteristics or features are important for a U.S. near real-time system?

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:

a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.

b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.

c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.

d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.

e. Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

Impossible to say since there are so many variables at play. All of the above! Different stakeholders will have different views and funds to invest. Let them compete, advancing different solutions in parallel.

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

Key aspect seems to be real-time payment finality, certainty around timing and amount of ultimate settlement.

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.) All are suitable for real time payment.

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

Checks seem to remain prevalent because of deficiencies in alternative payment forms and market distorting practices (for example, free checking). The "electronification" of checking has benefited many (in a sense, it is simply merging into alt-ACH). Perhaps a more constructive approach would be for banks to stop subsidizing checking, charging a per-check fee. Let the alternative payment forms compete on a level playing field. Eliminating competing payment forms by fiat might not be best for the public.

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all? Fraud could be potentially reduced.

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments? A key variable/enabler

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments? Depends on the action being taken

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

"Faster payments" is one aspect among others. Current payment systems are wasteful and expensive, which ultimately increases costs to the general public. Increasing shift to "true" electronic currency could potentially: (1) lower payor/payee payment costs and processing (direct and indirect, such as cash and check handling and POS payment procedures) (2) reduce investment in payment channel capabilities (such as specialized POS merchant equipment, smart cards) (3) reduce Fed cost of federal reserve note handling (printing, distribution, destruction etc etc) (4) reduce payment system participants costs (such as fraud prevention)

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

11i. What is the likely timeframe for any such modernization?

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

There are benefits to seamless diversification to ensure continuous innovation and improvement. Decentralized but perhaps subject to minimum standard seems preferable.

12ii. What is the feasibility of this suggestion?

Electronification

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired. Yes.

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

No

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paperbased due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

The distinction between "paper/physical" and "electronic" money is blurred. For example, as a consumer, I can make a bill payment online (never seeing the check). But if I go to the store, a credit card payment requires a physical card (and physical ID) and paper receipts. Not sure I would agree entirely with the above characterizations.

14ii. What other barriers need to be addressed to accelerate migration of these payments?

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

Payments systems that are convenient, cost-effective and secure will be adopted over time. Price subsidies distort that process, and payors/payees seem more sensitive to direct than indirect costs (i.e. checks cost dollars much to handle, yet a 50 cent direct fee could do a lot to discourage use). According to one study, Norway managed a rapid transition to "electronic" payments (with central bank encouragement) by: (1) expanding direct pricing of payments, (2) changing pricing to reflect evolving costs, (3) reducing reliance on float. From 1989-95, check use fell 70% while EFTPOS increased over 500%. % of noncash payments in paper decreased from 90% (1987) to 40% (1996)

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electronification of business payments and/or cross-border payments?

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

Yes

<u>Safety</u>

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

17ii. Which of these threats are not adequately being addressed?

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

18. What type of information on threat awareness and incident response activities would be useful for the industry?

18i. How should this information be made available?

19. What future payment standards would materially improve payment security?

19i. What are the obstacles to the adoption of security-related payment standards?

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

21. Please share any additional perspectives on U.S. payment system improvements.