the BHC Act (12 U.S.C. 1842(c)). If the proposal also involves the acquisition of a nonbanking company, the review also includes whether the acquisition of the nonbanking company complies with the standards in section 4 of the BHC Act (12 U.S.C. 1843). Unless otherwise noted, nonbanking activities will be conducted throughout the United States.

Unless otherwise noted, comments regarding each of these applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than September 9, 2019.

A. Federal Reserve Bank of Minneapolis (Mark A. Rauzi, Vice President) 90 Hennepin Avenue, Minneapolis, Minnesota 55480–0291:

1. *Bancommunity Service Corporation, St. Peter, Minnesota*; to acquire 100 percent of the voting shares of State Bank of Belle Plaine, Belle Plaine, Minnesota.

B. Federal Reserve Bank of St. Louis (David L. Hubbard, Senior Manager) P.O. Box 442, St. Louis, Missouri 63166–2034. Comments can also be sent electronically to *Comments.applications@stls.frb.org:*

1. *Simmons First National Corporation, Pine Bluff, Arkansas*; to merge with The Landrum Company, and thereby indirectly acquire Landmark Bank, both of Columbia, Missouri.

C. Federal Reserve Bank of Atlanta (Kathryn Haney, Assistant Vice President) 1000 Peachtree Street NE, Atlanta, Georgia 30309. Comments can also be sent electronically to *Applications.Comments@atl.frb.org:*

1. *West Florida Bank Corporation, Palm Harbor, Florida*; to become a bank holding company by acquiring 100 percent of the voting shares of Flagship Community Bank, Clearwater, Florida.

Board of Governors of the Federal Reserve System, August 6, 2019.

Yao-Chin Chao,

Assistant Secretary of the Board.

[FR Doc. 2019–17107 Filed 8–8–19; 8:45 am]

BILLING CODE P

FEDERAL RESERVE SYSTEM

Change in Bank Control Notices; Acquisitions of Shares of a Bank or Bank Holding Company

The notificants listed below have applied under the Change in Bank Control Act (12 U.S.C. 1817(j)) and § 225.41 of the Board's Regulation Y (12 CFR 225.41) to acquire shares of a bank or bank holding company. The factors that are considered in acting on the notices are set forth in paragraph 7 of the Act (12 U.S.C. 1817(j)(7)).

The notices are available for immediate inspection at the Federal Reserve Bank indicated. The notices also will be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank indicated for that notice or to the offices of the Board of Governors. Comments must be received not later than August 23, 2019.

A. Federal Reserve Bank of Atlanta (Kathryn Haney, Assistant Vice President) 1000 Peachtree Street, NE, Atlanta, Georgia 30309. Comments can also be sent electronically to *Applications.Comments@atl.frb.org:*

1. *Anna Laurie Bryant McKibbens, Eutaw, Alabama; Mae Martin Bryant Murray, Mobile, Alabama; and Stella Gray Bryant Sykes, Madison, Mississippi;* as a group to acquire voting shares of First Dozier Bancshares, Inc., and thereby indirectly acquire shares of First National Bank of Dozier, both of Dozier, Alabama.

B. Federal Reserve Bank of Philadelphia (William Spaniel, Senior Vice President) 100 North 6th Street, Philadelphia, Pennsylvania 19105–1521. Comments can also be sent electronically to *Comments.applications@phil.frb.org:*

1. *Andrew S. Samuel, Jane Samuel, both of Dillsburg, Pennsylvania; individually and as a group acting in concert with Alexandria Hart, Shane Sinclair and Beulha Sigamony, all of Dillsburg, Pennsylvania;* to acquire voting shares of LINKBANCORP, Inc., Camp Hill, Pennsylvania, and thereby indirectly acquire shares of LINKBANK, West Chester, Pennsylvania.

Board of Governors of the Federal Reserve System, August 6, 2019.

Yao-Chin Chao,

Assistant Secretary of the Board.

[FR Doc. 2019–17106 Filed 8–8–19; 8:45 am]

BILLING CODE P

FEDERAL RESERVE SYSTEM

[Docket No. OP–1670]

Federal Reserve Actions To Support Interbank Settlement of Faster Payments

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Notice and request for comment.

SUMMARY: The Board of Governors of the Federal Reserve System (Board) has determined that the Federal Reserve Banks (Reserve Banks) should develop a new interbank 24x7x365 real-time gross settlement service with integrated clearing functionality to support faster payments in the United States. The new service would support depository institutions' provision of end-to-end faster payment services and would provide infrastructure to promote ubiquitous, safe, and efficient faster payments in the United States. In addition, the Federal Reserve intends to explore expanded hours for the Fedwire® Funds Service and the National Settlement Service, up to 24x7x365, to support a wide range of payment activities, including liquidity management in private-sector real-time gross settlement services for faster payments. Subject to the outcome of additional analysis of relevant operational, risk, and policy considerations, the Board will seek public comment separately on plans to expand hours for the Fedwire Funds Service and the National Settlement Service.

DATES: Comments on the proposed actions must be received on or before November 7, 2019.

ADDRESSES: You may submit comments, identified by Docket No. OP–1670, by any of the following methods:

- Agency website: *http://www.federalreserve.gov.* Follow the instructions for submitting comments at *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm.*
- Email: *regs.comments@federalreserve.gov.* Include docket number in the subject line of the message.
- FAX: (202) 452–3819 or (202) 452–3102.
- Mail: Ann Misback, Secretary, Board of Governors of the Federal Reserve System, 20th Street and Constitution Avenue NW, Washington, DC 20551.

All public comments will be made available on the Board's website at *http://www.federalreserve.gov/generalinfo/foia/ProposedRegs.cfm* as submitted, unless modified for technical reasons or to remove personally identifiable information at the commenter's request. Accordingly, comments will not be edited to remove any identifying or contact information. Public comments may also be viewed electronically or in paper in Room 146, 1709 New York Avenue NW, Washington, DC 20006, between 9:00 a.m. and 5:00 p.m. on weekdays.

FOR FURTHER INFORMATION CONTACT: Kirstin Wells, Principal Economist (202–452–2962), Mark Manuszak, Assistant Director and Chief (202–721–4509), Susan V. Foley, Senior Associate Director (202–452–3596), Division of Reserve Bank Operations and Payment

Systems; or Gavin Smith, Senior Counsel, Legal Division (202 452–3474), Board of Governors of the Federal Reserve System. For users of Telecommunications Device for the Deaf (TDD), contact (202–263–4869.)

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. payment system faces a critical juncture in its evolution. Advances in technology have created an opportunity for significant improvements to the way individuals and businesses make payments in today's economy. Smartphones, high-speed computing and cloud capabilities, extensive communication networks, and other innovations allow individuals and businesses to send and receive messages, post and consume content online, search for and obtain information, and conduct myriad other activities almost immediately and at any time. Similarly, today's technology presents a pivotal opportunity for the Federal Reserve and the payment industry to modernize the nation's payment system to establish a safe and efficient foundation for the future.

A. Background

Services to conduct ''faster payments'' have begun to emerge to address shortcomings of traditional payment methods. Faster payments allow individuals and businesses to send and receive payments within seconds at any time of the day, on any day of the year, such that the receiver can use the funds almost instantly.[1] Faster payment services are growing in popularity, but typically require users to all participate in the same specific service to exchange payments. However, there is broad consensus within the U.S. payment community that, just as immediate services available around the clock have become standard for other everyday activities, faster payment services have the potential to become widely used, resulting in a significant and positive impact on the U.S. economy.

Faster payments can yield real economic benefits beyond speed and convenience. Through faster payments, individuals and businesses can have more flexibility to manage their money and can make time-sensitive payments whenever needed. For a small business, the ability to receive payments immediately may result in better cash flow management. More broadly, faster payments may provide businesses with considerable opportunity to improve efficiency and reduce costs of payments relative to paper checks and other existing payment methods. For individuals, the ability to both send and receive payments more quickly may help alleviate mismatches between the time that incoming funds are received and the time that spending needs to occur. This improved ability to manage their money can enable some individuals to avoid high-cost borrowing and penalties, such as overdraft or late fees.

In light of these potential benefits, an appropriate foundation is essential to support the development of faster payment services that are safe, efficient, and broadly accessible to the public. This foundation involves creating an infrastructure that connects banks across the country, paving the way for innovative faster payment services.[2] This infrastructure would allow individuals and businesses to exchange funds in their accounts almost instantly to make payments for goods, services, or other purposes. A key function of this infrastructure is the movement of information and funds between banks, also known as interbank clearing and settlement.[3]

Since its founding, the Federal Reserve has played a key operational role in the nation's payment system by providing such infrastructure.[4] The importance of this role has been broadly recognized, with independent reviewers concluding that the payment system and its users have benefited over the long run from the Federal Reserve's operational involvement.[5] This key role, given by Congress, stems from the Federal Reserve's unique ability, as the nation's central bank, to provide interbank settlement without introducing liquidity or credit risks.[6] In fulfilling this role, the Reserve Banks operate services, including check, automated clearinghouse (ACH), and funds transfer services, that provide core infrastructure for financial transactions.[7] Throughout its history, the Federal Reserve has provided these services alongside, and in support of, similar services offered by the private sector.

In the past, the Federal Reserve's provision of payment and settlement services has helped to advance fundamental improvements in the nation's payment system.[8] The potential exists today to achieve once again such improvements through upgrades to the payment capabilities of both the Federal Reserve and the private sector. In terms of current Federal Reserve services supporting the U.S. payment system, those services have served the nation's economy well but were not designed to support 24x7x365 real-time retail payments.[9] Advances in technology

[1] Consistent with the concept of a faster payment in this notice, and reflecting improvements to retail payment systems around the world, the Committee on Payments and Market Infrastructures (CPMI) has defined a ''fast payment'' as ''a payment in which the transmission of the payment message and the availability of 'final' funds to the payee occur in real time or near-real time on as near to a 24-hour and seven-day (24/7) basis as possible.'' Final funds are funds received such that the receiver has unconditional and irrevocable access to them, meaning that the receiver can use the funds without the risk that they will be recalled. *See* Committee on Payments and Market Infrastructures, Bank for International Settlements, ''Fast payments—Enhancing the speed and availability of retail payments,'' (November 2016). Available at *https://www.bis.org/cpmi/publ/d154.pdf.*

[2] Throughout this notice, the term ''bank'' will be used to refer to any type of depository institution. Depository institutions include commercial banks, savings banks, savings and loan associations, and credit unions.

[3] Three types of services are typically required to complete a payment between two individual or business bank accounts: End-user services, clearing services, and interbank settlement services. End-user services support the exchange of information between a bank and its customer (that is, an individual or business). Clearing services directly or indirectly support the exchange of payment information between banks. Interbank settlement services discharge financial obligations between and among banks arising from payments by adjusting balances in settlement accounts. Depending on the arrangement, some or all of these levels can be provided by distinct entities or integrated in a single entity.

[4] Additional information about the Federal Reserve's role in the payment system is available in ''The Federal Reserve System Purposes & Functions: 6. Fostering Payment and Settlement System Safety and Efficiency,'' (October 2016). Available at *https://www.federalreserve.gov/aboutthefed/pf.htm.*

[5] *See e.g.,* U.S. Gov't Accountability Off., GAO–16–614, ''Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy'' (2016). Available at *https://www.gao.gov/products/GAO-16-614.*

[6] In particular, settlement through the Federal Reserve does not involve liquidity or credit risk with respect to the Federal Reserve as the settlement institution. *See* Committee on Payment and Settlement Systems, Bank for International Settlements, ''The Role of Central Bank Money in Payment Systems'' (August 2003). Available at *https://www.bis.org/cpmi/publ/d55.pdf.*

[7] As authorized by the Federal Reserve Act, these payment and settlement services involve transferring funds between and among accounts held at the Reserve Banks. Specific services offered by the Reserve Banks include the Fedwire Funds Service, the National Settlement Service, and FedACH® services. Throughout this notice, these services operated by the Reserve Banks will generally be referred to as Federal Reserve services.

[8] Improvements achieved through these operational roles include facilitating efficient nationwide clearing of checks, supporting the development of the ACH system, encouraging the nation's transition to a virtually all-electronic check-processing environment, and establishing a real-time interbank funds transfer system for wholesale payments.

[9] Retail payments typically involve lower-value transfers, such as those among individuals or between an individual and a business, that yield a large number of payments. *See* Committee on

provide the ability to develop Federal Reserve services with the operating hours, processing capacity, and overall functionality needed to support 24x7x365 real-time capabilities for the payment system. Similar considerations have led central banks in various countries to develop improved infrastructure to support faster payments.[10]

The Board views support for faster payments as requiring modernization of, and upgrades to, Federal Reserve services alongside broader modernization of the payment industry as a whole. Beginning in 2013, the Federal Reserve launched the Strategies for Improving the U.S. Payment System (SIPS) initiative, a collaborative effort with stakeholders to foster improvements to the nation's payment system. As part of the SIPS initiative, the Federal Reserve convened the Faster Payments Task Force (FPTF), comprising a wide range of industry stakeholders, to identify and evaluate alternative approaches for implementing safe and ubiquitous faster payment capabilities in the United States.

The FPTF published in 2017 a set of consensus recommendations focused on actions to support improvements to the nation's payment system.[11] These recommendations were intended to help achieve the FPTF's vision of ubiquitous faster payment capabilities in the United States that would allow any end user (that is, an individual or business) to safely, efficiently, and seamlessly send a faster payment to any other end user, no matter which banks or payment services they use. Among the FPTF's consensus recommendations were requests for the Federal Reserve (i) to develop a 24x7x365 settlement service to support faster payments and (ii) to explore and assess the need for other Federal Reserve operational role(s) in faster payments. The U.S. Treasury subsequently recommended that ''the Federal Reserve move quickly to facilitate a faster retail payments system, such as through the development of a real-time settlement service, that would also allow for more efficient and ubiquitous access to innovative payment capabilities.''[12]

Following publication of the FPTF's final report, the Federal Reserve began to pursue the FPTF's recommendations in considering settlement and broader operational support to facilitate the advancement of faster payments in the United States.[13] In addition, the Board approved in 2017 final guidelines for evaluating requests for joint accounts at the Reserve Banks intended to facilitate settlement between and among banks participating in private-sector payment systems for faster payments.[14] The impetus for allowing broader use of joint accounts was to facilitate private-sector developments in faster payments. In an arrangement using a joint account, real-time settlement occurs on an internal ledger maintained by a private-sector operator, supported by funds that are held in an account at a Reserve Bank for the joint benefit of the service's participants. To support settlement through such a service, each participant bank ensures sufficient funding in the joint account to cover its payment obligations on a 24x7x365 basis. Without the Federal Reserve's actions related to joint accounts, other providers alone would be unable to provide real-time interbank settlement services for faster payments supported by a joint account at a Reserve Bank.

B. 2018 Federal Register Notice on Potential Federal Reserve Actions

In November 2018, the Board published a **Federal Register** notice (2018 Notice) seeking public comment on potential actions that the Federal Reserve could take to advance the development of faster payments and support the modernization of payment services in the United States.[15] In considering the goal of ubiquitous, safe, and efficient faster payments, the Board proposed that a real-time gross settlement (RTGS) infrastructure would provide the safest and most efficient method for interbank settlement of faster payments and, therefore, would be the most appropriate strategic foundation for faster payments in the United States.[16] Further, the Board expressed the view that the private sector alone may face significant challenges in providing equitable access to an RTGS infrastructure with nationwide reach, which in turn would jeopardize the development of ubiquitous, safe, and efficient end-user faster payment services.[17]

The Board specifically discussed two potential services that could be developed by the Reserve Banks: (i) An interbank 24x7x365 RTGS service with integrated clearing functionality to support faster payments and (ii) a liquidity management tool that would enable transfers between accounts held at the Reserve Banks on a 24x7x365 basis to support services for real-time interbank settlement of faster payments.

Payments and Market Infrastructures, Bank for International Settlements, ''A Glossary of Terms Used in Payments and Settlement Systems,'' (October 2016). Available at *https://www.bis.org/cpmi/publ/d00b.htm.*

[10] For a discussion of global developments related to faster payments, see ''Fast payments—Enhancing the speed and availability of retail payments,'' *supra* note 1.

[11] *See* Faster Payments Task Force, ''Final Report Part Two: A Call to Action,'' (July 2017). Available at *https://fedpaymentsimprovement.org/wp-content/uploads/faster-payments-task-force-final-report-part-two.pdf.*

[12] The U.S. Treasury also noted that ''[i]n particular, smaller financial institutions, like community banks and credit unions, should also have the ability to access the most-innovative technologies and payment services. While Treasury believes that a payment system led by the private sector has the potential to be at the forefront of innovation and allow for the most advanced payments system in the world, back-end Federal Reserve payment services must also be appropriately enhanced to enable innovations.'' U.S. Treasury, ''A Financial System That Creates Economic Opportunity: Nonbank Financials, Fintech, and Innovation,'' (July 2018) at 156. Available at *https://home.treasury.gov/sites/default/files/2018–07/A-Financial-System-that-Creates-Economic-Opportunities-Nonbank-Financi.pdf.*

[13] *See* The Federal Reserve System, ''Federal Reserve Next Steps in the Payments Improvement Journey,'' (September 6, 2017). Available at *https://fedpaymentsimprovement.org/wp-content/uploads/next-step-payments-journey.pdf.*

[14] Board of Governors of the Federal Reserve System, ''Guidelines for Evaluating Joint Account Requests,'' (Issued 2017). Available at *https://www.federalreserve.gov/paymentsystems/joint_requests.htm.* In 2016, Federal Reserve staff received a request from a private-sector service provider to open a new joint account for that organization's proposed faster payment system. The use of a joint account at a Reserve Bank to support settlement mitigates certain risks by reproducing, as closely as possible, the risk-free nature of settlement in central bank money.

[15] ''Potential Federal Reserve Actions To Support Interbank Settlement of Faster Payments, Request for Comments,'' 83 FR 57351 (Nov. 15, 2018). Available at *https://www.federalregister.gov/d/2018-24667.* The comment period ended on December 14, 2018.

[16] RTGS involves interbank settlement occurring in real time on a payment-by-payment basis. As described in the 2018 Notice, RTGS for faster payments implies that settlement occurs prior to the provision of final funds to the receiver with settlement of individual payments possible at any time, on any day. In the 2018 Notice, the Board noted that certain end-user services currently rely on deferred interbank settlement to complete a payment. In deferred settlement arrangements, interbank settlement information is collected, stored, and sometimes netted before interbank settlement occurs. Because faster payments involve the immediate provision of final funds to the receiver, deferred interbank settlement of faster payments inherently involves interbank settlement risk. Although faster payment systems that rely on deferred settlement can incorporate certain measures to mitigate this risk, those measures may be complex and costly to implement. By contrast, RTGS structurally removes interbank settlement risk because the receiver only receives final funds after interbank settlement has occurred.

[17] Throughout this notice, the terms ''nationwide reach'' and ''nationwide scope'' will be used to refer to a payment service or infrastructure that is accessible to virtually all banks nationwide. In this context, the term ''nationwide'' reflects various dimensions of accessibility, including geography and institution size and type.

At present, one RTGS service for faster payments, operated since November 2017 by a private-sector entity, exists in the United States. Section III presents a full analysis of the landscape of RTGS services for faster payments in the United States.

The Board explained that a Federal Reserve RTGS service for faster payments, alongside private-sector RTGS services, would provide the infrastructure needed to achieve ubiquitous, safe, and efficient faster payments in the United States. Other parties, such as banks, payment processors, and providers of payment services, could develop end-user and auxiliary services that build upon the core functionality of an interbank settlement service provided by the Federal Reserve. The Board further explained that a liquidity management tool, in turn, could help alleviate liquidity management issues for banks engaged in RTGS-based faster payments. In particular, such a tool would enable movement of funds between accounts at the Reserve Banks during hours when traditional payment and settlement services are currently not open to allow liquidity to be moved, when needed, to an account or accounts used to support real-time settlement of faster payments. The 2018 Notice proposed that the tool could be provided by expanding operating hours of current Federal Reserve services or through a new service.

In the 2018 Notice, the Board requested comment on the appropriateness of real-time gross settlement as the strategic foundation for faster payments in the United States and the public benefits, implications, and challenges of the Federal Reserve taking either, both, or neither of the potential actions. The Board also sought feedback on other specific topics to inform these potential actions, such as potential demand for faster payment services and adjustments that the payment industry would need to make in a 24x7x365 real-time settlement environment.

C. Planned Actions

1. The FedNow℠ Service

After considering the comments received in response to the 2018 Notice and analyzing the implications of the potential actions, the Board has determined that the Reserve Banks should develop a new interbank 24x7x365 real-time gross settlement service with integrated clearing functionality, called the FedNow Service, to support faster payments. The Board's determination is based on the public benefits that the service would provide and the Board's assessment that such a service would meet the requirements of the Depository Institutions Deregulation and Monetary Control Act of 1980 (MCA), as well as the Board's criteria for new or enhanced Federal Reserve payment services.[18]

The planned service would conduct real-time, payment-by-payment, final settlement of interbank obligations through debits and credits to banks' balances in accounts at the Reserve Banks. The service would incorporate clearing functionality, allowing banks, in the process of settling each payment, to exchange information needed to make debits and credits to the accounts of their customers. The service's functionality would support banks' (or their agents') provision of end-to-end faster payments to their customers.

The Federal Reserve's provision of the FedNow Service would provide core infrastructure to promote ubiquitous, safe, and efficient faster payments in the United States. Historical experience with the development of other payment systems in the United States indicates that other providers alone will face significant challenges establishing such infrastructure, in part because of the complexity of the nation's banking system.[19] A landscape where the Federal Reserve operates a 24x7x365 RTGS service alongside private-sector services, which aligns with most payment systems in the United States, is most likely to create an RTGS infrastructure with nationwide reach for faster payment services.

Significantly, the Board expects that the recently established private-sector RTGS service is likely to remain the sole private-sector provider of RTGS services for faster payments in the United States. Such an outcome would have significant implications for the Board's policy objectives regarding the accessibility, safety, and efficiency of the nation's payment system.

Based on its analysis and comments received in response to the 2018 Notice, the Board expects that a single private-sector provider of such services is unlikely to connect to the thousands of small and midsize banks necessary to yield nationwide reach, even in the long term. No traditional payment system, including checks, ACH, funds transfers, or payment cards, has ever achieved nationwide reach through a single private-sector provider. The Federal Reserve, however, has long-standing relationships with, and has built a nationwide infrastructure to provide service to, more than 10,000 depository institutions (or their agents) across the country, which would provide a key channel to reach thousands of smaller institutions in the United States that might otherwise not have access to an RTGS infrastructure for faster payments.

Additionally, a single provider of RTGS services for faster payments without competition is likely to create undesirable outcomes for pricing, innovation, service quality, and reach. Conversely, provision of the FedNow Service alongside private-sector RTGS service would give banks the option of choosing a service or connecting to more than one service, a choice they have today for all existing payment services. Indeed, Federal Reserve and private-sector payment services operating alongside one another would be consistent with the structure of other existing payment systems. The presence of multiple RTGS services for faster payments could yield efficiency benefits such as lower prices, higher service quality, and increased innovation.

A market outcome with a single RTGS service for faster payments would also create a single point of failure. An additional RTGS service for faster payments would promote resiliency through redundancy, a common solution in many retail payment systems. Serving an operational role in the payment system also allows the Federal Reserve to provide stability and support to the banking system and the broader economy in normal times and in times of stress.

Finally, the Federal Reserve does not have plenary regulatory or supervisory authority over the U.S. payment system and instead has traditionally influenced retail payment markets through its role as an operator.[20] Therefore, as has been the case with other retail payment systems, the Federal Reserve's operational role as a provider of interbank settlement is the most effective approach to improve the

[18] ''Depository Institutions Deregulation and Monetary Control Act of 1980,'' Public Law 96–221 (Mar. 31, 1980), available at *https://fraser.stlouisfed.org/title/1032;* Board of Governors of the Federal Reserve System, ''The Federal Reserve in the Payments System,'' (Issued 1984; revised 1990). Available at *https://www.federalreserve.gov/paymentsystems/pfs_frpaysys.htm.*

[19] The United States has more than 10,000 depository institutions that vary greatly in terms of size, level of technical capabilities, operational practices, and customers and communities served.

[20] To the extent that the current private-sector RTGS service for faster payments could be considered subject to the Bank Service Company Act (BSCA) by providing services to federally supervised depository institutions, the Board and other federal banking agencies would have authority to examine the performance of those services as if the depository institution were performing the service itself on its own premises. 12 U.S.C. 1867. The BSCA, however, does not grant enforcement authority to the Board or other federal banking agencies over the third party service providers. In addition, that authority does not appear applicable to public benefit, competitive equity, effectiveness, or scope—key criteria that the Board considers with regard to Federal Reserve payment services.

prospects of ubiquitous, safe, and efficient faster payments in the United States. Serving such an operational role would be consistent with the Federal Reserve's historical role as a provider of payment services alongside the private sector.

Recognizing that time-to-market is an important consideration for industry participants related to faster payment services, the Federal Reserve is committed to launching the FedNow Service as soon as practicably possible. Pending engagement with the industry, the Board anticipates the FedNow Service will be available in 2023 or 2024. However, the Board believes that achievement of true nationwide reach, as opposed to initial availability of a service, is a critical measure of success for faster payments. The Board expects that it will take longer for any service, including the FedNow Service or a private-sector service, to achieve nationwide reach regardless of when the service is initially available. The Federal Reserve will engage quickly with industry participants to gather input for finalizing the initial design and features of the service. Once specific design and features of the FedNow Service have been finalized, the Board will publish a final service description in a subsequent **Federal Register** notice, with additional information provided through existing Reserve Bank communication channels.

2. Expanded Operating Hours for Current Services

The Board has further determined that the Federal Reserve should explore the expansion of hours for the Fedwire Funds Service and the National Settlement Service (NSS), up to 24x7x365, subject to additional analysis of relevant operational, risk, and policy considerations. The Board believes that expanded hours for the Fedwire Funds Service and NSS would be the most effective way to provide the liquidity management functionality described in the 2018 Notice and could provide additional benefits to financial markets broadly, beyond support for faster payments. Subject to the outcome of analyzing the relevant operational, risk, and policy considerations, the Board will seek public comment separately on plans to expand hours for the Fedwire Funds Service and NSS.

D. Organization of This Notice

This notice is organized in two parts. Part One contains a high-level discussion of the comments received by the Board in response to the 2018 Notice (Section II), an assessment of the planned FedNow Service pursuant to the requirements of the MCA and the Board's criteria for new services and major service enhancements (Section III), and a discussion of potential benefits of expanded service hours for the Fedwire Funds Service and NSS (Section IV).

Part Two contains a service description of the planned FedNow Service, outlining the proposed features and functionality (Section V) and the Board's initial competitive impact analysis of the service (Section VI). The Board is seeking public comment on all aspects of this service.

Part One

II. Summary of Comments

The Board received 405 comment letters in response to the 2018 Notice.[21] Several comment letters were signed by multiple parties, bringing the total number of entities responding to the 2018 Notice to 812.[22] Comments were submitted by a wide variety of stakeholders in the U.S. payment system corresponding to the following segments: small and midsize banks, large banks, individuals, consumer organizations, merchants, service providers, private-sector operators, fintech companies, trade organizations, and other interested parties.[23] Overall, banks were the largest group of respondents, with small and midsize banks comprising approximately 60 percent of the total comments—the largest individual segment—and representing institutions from 34 states. Trade organizations submitted letters representing several commenter segments, including small and midsize banks, large banks, merchants, fintech companies, and service providers. Trade organization comments often aligned with those submitted individually by their members. However, some trade organization comments presented varied opinions based on disparate views within their membership, such as contrasting views among banks of different sizes.

The following subsections provide a summary of general themes from comments received in response to the 2018 Notice. A detailed discussion of specific themes raised by the commenters can be found in Sections III, IV, and V.[24]

A. Faster Payments

Commenters provided feedback on topics broadly related to faster payments, in addition to the specific questions posed by the Board. A number of commenters noted that faster payments are likely to become a significant part of the nation's payment system in the future. Some commenters argued that the United States is lagging behind other nations with respect to payment innovation, noting that several countries have already implemented faster payment services. Other commenters, particularly small and midsize banks, noted that customer expectations are shifting towards the real-time capabilities of faster payments and that the ability to implement faster payment services for customers will affect the long-term viability of small and midsize banks. Several commenters also argued that widespread adoption of faster payments could improve financial inclusion, in addition to helping reduce fees that lower income households often face, such as overdraft and late fees.

Approximately 90 commenters, from most commenter segments, addressed topics related to demand for faster payments in the United States, often focusing on whether demand would be sufficient to support the Federal Reserve's development of a 24x7x365 RTGS service.[25] More than 70 of these commenters identified potential sources for such demand, with most expecting the greatest initial demand to come from low-dollar person-to-person payments

[21] The Board also received over 150 additional comment letters that suggested the Board should select a specific service or business as the provider of Federal Reserve services. The Board considered these comments to be outside the scope of its request for comment.

[22] Many of the comment letters signed by multiple parties represented small and midsize banks. The Board considered comment letters signed by multiple parties as a single response for the purposes of this notice, but the additional signatures are noteworthy in evaluating the commenters' perspectives and overall industry engagement on the Board's request for comment.

[23] ''Banks'' include any type of depository institution, such as commercial banks, savings banks, savings and loan associations, and credit unions. ''Service providers'' are entities, such as core payment processors, that provide payment services, processing, or operational and technical support to financial institutions. ''Private-sector operators'' are entities that operate payment systems, such as the operator of the current private-sector RTGS service for faster payments and payment card networks. ''Other interested parties'' include payment standards organizations, a congressional member organization, research and academic groups, and a foreign central bank. For the purposes of this notice, a ''small bank'' is defined as having assets of less than $10 billion and a ''large bank'' is defined as having assets of more than $50 billion, while a ''midsize bank'' is defined as having assets between $10 billion and $50 billion.

[24] In addition to addressing the potential actions raised by the Board, commenters addressed a number of other topics, for example, encouraging the Federal Reserve to review the applicability of existing regulations to faster payments and to continue serving as a leader for industry collaboration.

[25] These commenters included small and midsize banks, large banks, individuals, consumer organizations, merchants, service providers, fintech companies, trade organizations, and other interested parties.

or consumer-to-business payments. Some of these commenters also noted the possibility of demand related to business payments, such as payroll, vendor payments, or benefit disbursement, with some noting that demand could vary across businesses of different sizes or types.

B. Real-Time Gross Settlement of Interbank Obligations

Nearly 150 commenters addressed whether RTGS is the appropriate strategic foundation for interbank settlement of faster payments.[26] Of these, approximately 140 commenters from all segments agreed that RTGS is the appropriate strategic foundation for interbank settlement of faster payments. Approximately 10 commenters, from a number of segments, did not support RTGS as the strategic foundation for interbank settlement of faster payments.[27]

Of those commenters supporting RTGS as the appropriate strategic foundation, many echoed the considerations outlined in the 2018 Notice. Most notably, many of these commenters stated that, by matching the speed of settlement with the speed of payment, RTGS better mitigates interbank settlement risk compared with other settlement arrangements. A number of commenters further stated that the use of RTGS for interbank settlement of faster payments is consistent with industry expectations and aligns with the FPTF's criteria for an effective faster payment solution.[28] Some commenters also noted that RTGS is the approach taken by other countries for interbank settlement of faster payments.

Commenters not supporting RTGS as the appropriate strategic foundation for faster payments argued that deferred settlement can similarly serve as an appropriate foundation for such payments. These commenters stated that, compared with an RTGS arrangement for faster payments, a deferred settlement arrangement has lower costs, is less complex for participating banks, and requires less liquidity.

A few commenters, although supportive of RTGS as the appropriate strategic foundation for faster payments, expressed concern about the need for increased liquidity to conduct immediate settlement and avoid payments failing because of insufficient liquidity. Some commenters also stressed the importance of resiliency to mitigate RTGS service disruptions.

C. Federal Reserve RTGS Service and Liquidity Management Tool

More than 350 commenters addressed whether the Federal Reserve should develop an RTGS service for faster payments.[29] Approximately 320 commenters, from all segments, supported the Federal Reserve developing an RTGS service for faster payments. Approximately 30 commenters, mostly comprising large banks and private-sector operators, including many that have been involved in the recent development of a private-sector RTGS service for faster payments, were not supportive of the Federal Reserve's development of such a service.

Commenters that supported the Federal Reserve's provision of an RTGS service for faster payments pointed to a number of factors underlying their support. Many commenters argued that the Federal Reserve would provide equitable access to banks of all sizes and facilitate nationwide reach for faster payments. Many commenters also discussed the importance of safety for faster payments, stating that the Federal Reserve is a trusted entity with a record of stability during periods of crisis and that a Federal Reserve RTGS service for faster payments could enhance resiliency and reduce risks in the payment system. Some commenters discussed the potential efficiency benefits of such a service, including increased competition, decreased market concentration, lower costs, and greater innovation.

Commenters not supportive of the Federal Reserve developing an RTGS service for faster payments argued that such a service was unnecessary given actions taken by the private sector, including the recent development of a private-sector RTGS service for faster payments. Several of these commenters specifically questioned whether the Federal Reserve could meet the Board's criteria for the provision of new services.[30] Other commenters argued that the Federal Reserve's decision to consider an RTGS service for faster payments is slowing the adoption of faster payments. These commenters argued that some industry participants may decide not to offer faster payments until after a final decision from the Federal Reserve or may further wait until after implementation of a Federal Reserve service, in the event of such a decision.

Approximately 230 commenters addressed whether the Federal Reserve should develop a liquidity management tool.[31] Approximately 225 commenters, from all segments, supported the Federal Reserve developing such a tool. Fewer than 5 commenters were not supportive of the Federal Reserve developing a liquidity management tool.[32]

Commenters that supported development of a liquidity management tool discussed the importance of liquidity management in RTGS services for faster payments. Several commenters indicated that such a tool could help with managing liquidity in the recently introduced private-sector RTGS service. Commenters that did not support the Federal Reserve developing a liquidity management tool indicated that the private sector could develop methods on its own to manage liquidity for faster payments.

III. Assessment of the FedNow Service

In 1984, the Board established criteria for the consideration of new or enhanced Federal Reserve payment services in its policy ''The Federal Reserve in the Payments System.'' [33] The policy incorporates the cost recovery requirements of the MCA and the MCA's objective of achieving an adequate level of service nationwide. In expressing the Board's overall

[26] Some commenters addressed RTGS as the appropriate strategic foundation for interbank settlement of faster payments without taking a position, typically citing a lack of consensus among their membership.

[27] These commenters were from the following segments: small and midsize banks, large banks, individuals, service providers, private-sector operators, and trade organizations.

[28] In order to evaluate possible faster payment services, the FPTF developed a set of effectiveness criteria that addressed various features of a faster payment service. With respect to interbank settlement, the FPTF considered a faster payment service to be ''very effective'' if, among other things, interbank settlement occurs within 30 minutes of the completion of a faster payment for end users. *See* Faster Payments Task Force, ''Faster Payments Effectiveness Criteria,'' (January 26, 2016). Available at *https://fedpaymentsimprovement.org/wp-content/uploads/fptf-payment-criteria.pdf*.

[29] Approximately 50 additional commenters raised issues related to the Federal Reserve's development of an RTGS service for faster payments but did not take a position on whether the Federal Reserve should offer such a service. Many of these commenters cited a lack of consensus among their membership, while others advocated for enhancement of current Federal Reserve payment services but did not take a position on the provision of an RTGS service for faster payments.

[30] *See* ''The Federal Reserve in the Payments System,'' *supra* note 18. The Board's criteria for new services and related comments are discussed in Section III.

[31] At least one additional commenter raised issues related to a liquidity management tool but did not express a view about whether the Federal Reserve should offer such a tool.

[32] These commenters were from the following segments: private-sector operators, fintech companies, and other interested parties.

[33] *See* ''The Federal Reserve in the Payments System,'' *supra* note 18. As stated in the policy, the Board, in its sole discretion, determines when the process outlined in the policy is applicable and makes all decisions related to the process.

expectations for the Federal Reserve's provision of payment services, the policy takes into account longstanding public policy objectives to promote the safety and efficiency of the payment system and to ensure the provision of payment services to banks nationwide on an equitable basis, and the importance of achieving these objectives in an atmosphere of competitive fairness.

The policy specifically addresses the introduction of new services or major service enhancements in light of the Board's overall expectations and requires all of the following criteria to be met:

- The service should be one that other providers alone cannot be expected to provide with reasonable effectiveness, scope, and equity. For example, it may be necessary for the Federal Reserve to provide a payment service to ensure that an adequate level of service is provided nationwide or to avoid undue delay in the development and implementation of the service. (*Other Providers Criterion*)
- The Federal Reserve must expect that its providing the service will yield a clear public benefit, including, for example, promoting the integrity of the payments system, improving the effectiveness of financial markets, reducing the risk associated with payments and securities-transfer services, or improving the efficiency of the payments system. (*Public Benefits Criterion*)
- The Federal Reserve must expect to achieve full recovery of costs over the long run. (*Cost Recovery Criterion*)

The following sections provide a detailed assessment of the FedNow Service under these three criteria. The assessment uses a similar set of measures to evaluate each criterion. In particular, the *Other Providers Criterion* and the *Public Benefits Criterion* both consider measures related to the Federal Reserve's broader objectives of promoting the accessibility, safety, and efficiency of the nation's payment system. However, the Board's policy requires considering whether public policy goals would be achieved according to these measures in two different situations: one where a service may be provided by other providers alone (*Other Providers Criterion*), and a second where the Federal Reserve develops a new service or major service enhancement (*Public Benefits Criterion*).

In the assessment that follows, the Board applies the common set of measures first in evaluating the *Other Providers Criterion* and then again in evaluating the *Public Benefits Criterion.* Such an approach creates overlap and some repetition in the analysis of each criterion. The Board believes that this approach is necessary to ensure a comprehensive assessment. Specifically, this approach allows a more systematic assessment of whether, relative to other providers, the Federal Reserve's provision of a service can be expected to advance desirable outcomes in the payment system that are consistent with public policy goals and might otherwise not be achieved by other providers alone.

The Board's policy also requires a forward-looking evaluation of the probable or likely future state of the payment system over the long run, with or without Federal Reserve action.[34] Therefore, when assessing new services or major service enhancements, the Board focuses on expected long-term outcomes and does not require a determination that each of the criteria is satisfied at present or will be with certainty in the future. Requiring such certainty would prevent the Federal Reserve from acting until after negative consequences occur, making any detrimental effects more difficult, if not impossible, to remedy. For example, as noted in the Board's policy, it may be necessary for the Federal Reserve to provide a payment service to avoid an undue delay in the development and implementation of the service. Waiting until undue delay had already occurred, however, would render ineffective the Federal Reserve's objective of providing such a service to facilitate its timely development and implementation.

A. Other Providers Criterion: The service should be one that other providers alone cannot be expected to provide with reasonable effectiveness, scope, and equity. For example, it may be necessary for the Federal Reserve to provide a payment service to ensure that an adequate level of service is provided nationwide or to avoid undue delay in the development and implementation of the service.

The Board's *Other Providers Criterion* balances the important role that the private sector plays in providing payment services to the public with the Federal Reserve's overall mission to promote the accessibility, safety, and efficiency of the nation's payment system. Therefore, the Board first considers whether the payment services that other providers alone can be expected to offer sufficiently advance the Federal Reserve's overall objectives in the payment system absent any Federal Reserve action.[35] In the context of the FedNow Service, the Board's assessment of this criterion involves consideration of whether other providers alone can be expected to offer RTGS services for faster payments that advance the Federal Reserve's objectives according to the measures outlined below.

1. Relevant Measures

The Board's policy for assessing new services or major service enhancements considers three measures to evaluate expected outcomes under the *Other Providers Criterion:* Scope, equity, and effectiveness.

a. Scope and Equity

The measures of scope and equity in the Board's *Other Providers Criterion* reflect the Federal Reserve's objective of ensuring the adequate provision of payment services nationwide on an equitable basis. Taken together, these measures reflect the Federal Reserve's broader mission of promoting accessibility in the nation's payment system, as also considered in the *Public Benefits Criterion.*

The measure of scope takes into account the Federal Reserve's policy goal, and an objective of the MCA, to achieve an adequate level of payment services nationwide. Providing payment services that are accessible to virtually all U.S. banks benefits all payment system participants by facilitating ubiquitous payment services and allowing the full realization of network effects.[36] Therefore, the *Other Providers Criterion* includes consideration of whether other providers alone can be expected to provide a service that is accessible to banks nationwide and on

[34] The Board's focus on expected long-term outcomes predates both the MCA and the Board's policy for assessing new services or major service enhancements. For example, the Federal Reserve undertook efforts to pilot ACH services in the late 1960's because of the expected long-term potential of those services for improving the payment system. These services were fully operational in the early 1970s and were intended, in part, to address growing paper check volumes, which the Board expected would eventually exceed 50 billion items 15 years later, in the mid-1980s.

[35] As noted previously, the Federal Reserve has already taken actions to support the ability of other providers to offer RTGS services for faster payments. In particular, the Board approved in 2017 guidelines for evaluating requests for joint accounts at the Reserve Banks intended to facilitate settlement between and among banks participating in private-sector payment systems for faster payments. One such account has been provided to a private-sector operator. Without these actions, other providers alone would be unable to provide RTGS services for faster payments, supported by a joint account at a Reserve Bank, that reproduce, as closely as possible, the risk-free nature of settlement in central bank money.

[36] When network effects are present, the value of a service to each user increases as the total number of users grows.

terms that are equitable and facilitate broad participation.

The measure of equity reflects the Federal Reserve's objective to ensure the provision of payment services to banks on an equitable basis. The availability of payment services to banks on an equitable basis promotes competition and a level playing field in the payment industry overall. Equity comprises a number of elements, including whether a service is broadly accessible to banks on reasonable terms and in comparable quality, whether a service is provided in a transparent manner, and whether a service has adequate measures in place to take into account the interests and needs of virtually all industry stakeholders. Moreover, equity considerations can affect banks' decisions to join a payment service, which can feed back into the measure of scope.

b. Effectiveness

The measure of effectiveness addresses the extent to which other providers alone can be expected to advance desirable outcomes in the U.S. payment system. In the context of the *Other Providers Criterion,* effectiveness can be viewed through the elements of safety and efficiency, key objectives that the Federal Reserve seeks to promote in the U.S. payment system.

The element of safety reflects the Federal Reserve's objective to promote the safe functioning of the U.S. payment system.[37] The safety of a payment system depends on many factors, including the security of individual transactions, the general resiliency of end-user services, and resiliency mechanisms for addressing specific events, such as bank failures, operational outages, or natural disasters and other systemic events. A safe payment system is crucial to economic growth and financial stability because the effective operation of markets for virtually every good and service is dependent on the smooth functioning of the nation's banking and payment systems.

The element of efficiency reflects the Federal Reserve's objective to promote the efficient functioning of the U.S. payment system.[38] Efficiency encompasses a number of factors, including whether a service is provided in a cost-efficient manner, whether it results in efficiency gains brought about by competition and innovation, and whether it achieves sufficient scope to realize the efficiency benefits of network effects. An efficient payment system facilitates and encourages economic activity, whereas an inefficient payment system can result in frictions and costs that could hinder economic activity and dampen growth.

2. Public Comments

a. Scope and Equity

More than 200 commenters expressed views on whether other providers alone will provide RTGS services for faster payments with reasonable scope and equity.[39] Approximately 175 commenters, representing a wide variety of distinct interests, raised concerns that other providers alone will not be able to implement services that can achieve nationwide scope or to provide broadly accessible RTGS services for faster payments on an equitable basis.[40] In contrast, approximately 30 commenters, mostly comprising large banks and private-sector operators, expressed views indicating that the private sector can provide RTGS services for faster payments built for banks of all sizes in the United States with reasonable scope and equity.

Many commenters focused on the private-sector RTGS service for faster payments, established in November 2017 and owned by the largest banks in the United States. Commenters that expressed a critical view of this service argued that a private-sector operator without the experience or infrastructure necessary for working with the majority of banks in the United States would face substantial challenges in establishing new connections and relationships with such banks. Some of these commenters argued that the process of doing so could take many years, with a few commenters suggesting it could take at least a decade or more, and others questioning whether such connections and relationships would ever be possible. These commenters frequently argued that a private-sector service, particularly one provided by an operator that they believe has been historically focused on serving large banks, will not adequately account for the unique challenges facing smaller banks and may struggle to scale its services to allow access for the nation's more than 10,000 banks. Some commenters also expressed doubt that use of service providers, acting as agents for banks that do not wish to connect to the service directly, will allow private-sector services to achieve nationwide reach.

Some commenters also indicated that perceived equity concerns may further affect the ability of private-sector RTGS services to achieve reasonable scope. In particular, as described later, approximately 100 commenters, mostly from small and midsize banks and trade organizations, raised equity concerns related to private-sector RTGS services, indicating they may avoid joining such services in light of those concerns.

Other commenters, comprising private-sector operators and large banks, argued that the existing private-sector RTGS service for faster payments was on course to reach almost half of U.S. deposit accounts by the end of 2018. These commenters further stated that the service has a credible plan for reaching near ubiquity at the end of 2020 by, among other things, using service providers to facilitate participation of small and midsize banks. These commenters also argued that the service should have time to demonstrate its ability to achieve nationwide scope. These commenters further argued that, by publicly announcing the possibility of developing an RTGS service for faster payments, the Federal Reserve has stalled progress that the service could otherwise make towards achieving ubiquity.

Finally, some commenters expressed the view that, if a single private-sector operator were the only provider of a nationwide RTGS service in the United States, this outcome could adversely affect the environment for private-sector innovation and the development of new use cases. These commenters argued that an RTGS operator with a dominant market position would have substantial impact on the emergence of potentially innovative uses of faster payments through its policies and prices, such that it could limit uses of faster payments that were not in its business interest or the interest of its owners. In contrast, other commenters argued that the existing private-sector RTGS service for faster payments has the ability to support a wide variety of use cases and can serve as a platform for innovation in end-user payment services.

With respect to equity, many small and midsize banks, as well as commenters that would be end users of

[37] The element of safety may be referred to as integrity in other contexts.

[38] Improvements in the efficiency of the payment system were a central motivation when Congress originally established an operational role in the payment system for the Federal Reserve. Congress's decision to make the Federal Reserve an active participant in the payment system when it passed the Federal Reserve Act in 1913 was, in part, a response to inefficiencies that resulted from the circuitous routing of checks in the early 1900s to avoid presentment fees.

[39] Approximately 35 additional commenters raised issues related to scope and equity but did not express a view about whether the other providers alone will be able to achieve nationwide scope or provide services with reasonable equity.

[40] These commenters included small and midsize banks, individuals, consumer organizations, merchants, fintech companies, service providers, and trade organizations.

faster payment services settled via RTGS, such as individuals and merchants, expressed concern that the private-sector RTGS service is unlikely to be delivered in an equitable manner. Small and midsize banks in particular argued that it is likely that smaller banks, which are not owners of the private-sector service, will be unable to gain access to the service on reasonable terms and in a transparent manner over the long run. Some commenters noted the stated commitment of the service's operator to address equity concerns through its pricing and access policies but questioned whether it will maintain these commitments in the future, arguing that doing so may not be in the long-term business interest of the operator's owner banks. In particular, commenters questioned whether the operator would maintain a uniform pricing structure, especially if it achieves a dominant market position.

Several small and midsize banks expressed further concerns, unrelated to pricing, that an RTGS service for faster payments established by competitors with a business profile different than their own will not provide them with equitable service. Many smaller banks argued that the service's operator will not understand their business needs and will be unlikely to take into account their interests, particularly if they are excluded from its governance processes. For example, some commenters argued that non-owner banks have no meaningful role in the service's rulemaking or pricing decisions compared with the service's owner banks. In addition, several commenters expressed concerns that joining the service could grant their competitors a competitive advantage by allowing them access to detailed information about their payment operations and customer base.

Other commenters, mostly private-sector operators and large banks, argued that the operator of the private-sector RTGS service for faster payments has demonstrated its willingness to accommodate the interests and needs of a wide variety of prospective participants and has taken concrete steps to facilitate near-universal access on equitable terms. In particular, these commenters emphasized that the service's pricing terms, including a uniform pricing structure without minimum volume requirements or volume discounts common in other payment systems, do not favor any particular type of bank and demonstrate the equitable and impartial provision of the service. These commenters also argued that the service's use of service providers facilitates access for banks of all sizes and promotes equitable access to the service. Several of these commenters also stated that the service operates in a transparent manner, for example, by making its rules publicly available. Finally, these commenters noted that the service's operator plans to incorporate input from small and midsize banks, as well as other stakeholders, through advisory panels and other types of engagement, and argued that such measures should be sufficient to assure non-owner banks that they will receive access to the service on an equitable basis, today and in the future.[41]

b. Effectiveness

Overall, more than 200 commenters raised issues related to the safety and efficiency of settlement arrangements for faster payments. Approximately 180 commenters, representing a wide variety of distinct interests, raised topics that indicate safety or efficiency concerns may result from other providers alone providing settlement arrangements for faster payments.[42] In contrast, around 30 commenters, comprising large banks, trade organizations, and private-sector operators, indicated that the provision of such services by other providers alone would promote a safe and efficient payment system.

Whether RTGS services for faster payments offered by other providers alone will be reasonably effective in promoting the efficiency of the U.S. payment system depends in large part on whether such services achieve nationwide reach. As discussed in the context of scope, many commenters expressed concerns about the ability of private-sector RTGS services for faster payments to achieve nationwide reach, which commenters suggested would prevent an RTGS infrastructure from fully realizing potential efficiency benefits.[43]

Many commenters also addressed potential efficiency concerns if an RTGS infrastructure for faster payments attains nationwide reach but is provided by a single dominant private-sector operator. In particular, approximately 120 commenters, representing a wide variety of distinct interests, noted various ways in which a dominant private-sector RTGS operator could use its market power to harm efficiency.[44] Many commenters noted that payment markets with either limited competition or a dominant private-sector operator often exhibit monopolistic pricing. Other commenters expressed concerns that, in the long term, evolution of such a service could be driven primarily by the desire of the dominant operator to retain its position in the market and forestall entry of other potential providers, to the detriment of competition and efficiency gains that might result from competition. Some commenters, particularly individuals and merchants, specifically pointed to issues with payment cards as examples of challenges that the market may face with a dominant operator. For example, these commenters raised concerns about high prices and impediments to competition and innovation that they believe occur in the payment card market.

Approximately 30 commenters, mostly large banks and private-sector operators, argued that a single provider of RTGS services for faster payments would be able to serve the market adequately and that the presence of multiple RTGS services could lead to market inefficiencies such as fragmentation and increased connection costs. As discussed in the context of scope, these commenters argued that the private-sector RTGS service for faster payments is on course to achieve nationwide reach, which would allow it to realize efficiency gains through participants' ability to exchange payments with a wide range of counterparties. A few of these commenters argued that, should the service achieve nationwide reach, additional entrants would not be able to generate incremental benefits to justify their setup and operational costs from an efficiency perspective. Many of these commenters further expressed concerns that should multiple RTGS services for faster payments enter the market, but not be able to interoperate, banks would either need to incur high costs of connecting to multiple RTGS services or would need to choose to connect to just one of multiple RTGS services, resulting in an inefficient, fragmented faster payment market. These commenters argued that, as a result, a single provider is the most efficient way to provide RTGS services for faster payments.

With respect to innovation in a market with a single dominant private-

[41] As discussed in detail later, the service's operator announced changes in early 2019 intended to reinforce its intention to be inclusive and equitable.

[42] These commenters included small and midsize banks, individuals, consumer organizations, merchants, fintech companies, service providers, trade organizations, and other interested parties.

[43] Such benefits would stem primarily from the full realization of network effects with virtually all banks participating in the RTGS infrastructure for faster payments.

[44] These commenters included small and midsize banks, individuals, consumer organizations, merchants, fintech companies, service providers, and trade organizations.

sector RTGS service for faster payments, some commenters argued that a lack of competition would curtail innovation in the nascent market for faster payments, resulting in higher costs and an inferior product. These commenters expressed the view that the provider would innovate to meet the needs of a narrow group of banks at the expense of smaller banks or certain end users. In contrast, other commenters expressed the view that the private sector is best positioned to foster innovation in faster payments, arguing that the private sector can quickly respond to market demand, in contrast to public-sector entities that need to follow a formal process to propose and implement certain types of operational changes. These commenters pointed to the clearing capabilities of the private-sector RTGS service for faster payments and its ability to support a variety of payment types, such as business-to-business or consumer-to-business payments, arguing that the service is a platform for innovation.

Many commenters expressed safety and resiliency concerns about the potential outcome of a nationwide RTGS infrastructure for faster payments being provided by just one private-sector operator, particularly as the prominence of faster payments grows over the long term. Many commenters specifically expressed concerns about the market being served by a single private-sector provider in the event of a systemic event or natural disaster. Several commenters argued that such an operator would be ineffective at providing resiliency and stability to the faster payment ecosystem in times of crisis, particularly if the operator did not have previous experience managing disruptions that may occur across a wide range of banks or geographic areas. Some commenters expressed concern that a single private-sector operator would serve as a single point of failure in the faster payment market. Finally, some commenters expressed concerns that, if private-sector RTGS services for faster payments are unable to achieve nationwide reach, some banks may be unable to offer faster payment services to their customers altogether. The commenters further expressed concern that such a result would lead customers to adopt services provided outside of the banking industry, involving institutions that the commenters viewed as insufficiently regulated and potentially unsafe.

A few commenters, mostly from large banks and private-sector operators, noted that the operator of the private-sector RTGS service provides other payment services that have proven to be resilient in times of stress, including the financial crisis and natural disasters. These commenters stated that the operator has similarly designed its RTGS service for faster payments to be highly resilient.

3. Board Analysis

The Board finds that substantial uncertainty exists about the long-term success of RTGS services for faster payments, despite actions already taken by the private sector. As articulated in the 2018 Notice, the Board continues to believe that RTGS is the appropriate strategic foundation for interbank settlement of faster payments. However, certain challenges may prevent other providers alone from implementing a nationwide RTGS infrastructure for faster payments that provides a basis for ubiquitous, safe, and efficient faster payments in the United States.

The magnitude of the task involved in achieving any large-scale improvement in the U.S. payment system, such as establishing a new foundational infrastructure for faster payments, is significant. The banking industry plays a key role in the U.S. payment system, which necessitates the industry's involvement in payment system improvements.[45] However, the United States has a highly complex banking system with more than 10,000 depository institutions, including commercial banks, savings banks, savings and loan associations, and credit unions.[46] As a result, the U.S. banking system (and, by extension, the payment ecosystem) is extremely diverse, with a wide variety of market participants and stakeholders that have heterogeneous circumstances, interests, and needs.

This diversity inherently creates significant coordination challenges that, along with the high fixed costs necessary to develop RTGS services for faster payments, are likely to limit the number and type of entrants in the market.[47] Indeed, only one private-sector RTGS service for faster payments has been established in the nearly six years since the Federal Reserve launched the SIPS initiative and articulated the goal of a ubiquitous, safe, and efficient faster payment system.[48] Comments received by the Board support the expectation that this service is likely to remain the sole private-sector provider of RTGS services for faster payments in the United States.

Given this likely outcome, and in light of the comments received, historical context, and economic analysis, the Board does not expect that other providers alone will provide an RTGS infrastructure for faster payments with reasonable effectiveness, scope, and equity. Two issues in particular present significant obstacles: Achieving nationwide scope on an equitable basis, and efficiency and safety issues likely to arise in a single-provider market.

a. Scope and Equity

Achieving nationwide scope has been a recurring challenge for the U.S. payment system, and, to date, no single private-sector payment service provider of traditional payment services, such as check, ACH, funds transfer, or payment card services, has done so alone. Although the importance of network effects may give operators an incentive to pursue broad reach for new payment services, the cost and difficulty of reaching virtually all banks in an environment as complex as the U.S. banking industry means that many operators are unlikely to invest the resources and effort necessary to achieve true nationwide scope. Extending access to a few thousand

[45] In the United States, deposits in accounts with banks comprise the monetary asset that is most widely held by the public to conduct payments. As of June 2019, the value of transferable deposits held by the public, including demand deposits and other checkable deposits, was $2.17 trillion, while the value of currency in circulation outside banks was $1.66 trillion. *See* Board of Governors of the Federal Reserve System, ''Money Stock and Debt Measures—H.6 Release, Table 5,'' (July 11, 2019). Available at *https://www.federalreserve.gov/releases/h6/current/default.htm.*

[46] As noted previously, these institutions vary greatly in terms of size, level of technical sophistication, and operational practices, as well as the customers and communities served. Institutions also vary with respect to the connections and relationships that they have with payment operators, service providers, and other intermediaries, such as bankers' banks and corporate credit unions.

[47] Specifically, with respect to coordination challenges, the diverse nature of the nation's banking system results in disparate operational and use-case needs, which can be difficult to accommodate. These disparate views and the large number of parties holding them make coordination challenging for any single entity attempting to establish a service that represents the interests and needs of diverse institutions. As a result, new services are likely to be developed by small groups of institutions with closely aligned interests, which may make such services less attractive to other types of institutions. Coordination between numerous institutions is also necessary to obtain funding because of the high fixed costs typically involved in the development of a new payment service. Such coordination is especially challenging when numerous institutions with limited resources try to assemble sufficient funds to develop their own services. As a result, new services are likely to be developed by small groups of institutions with significant resources.

[48] Faster payment services were established even earlier in some jurisdictions internationally. For example, the Faster Payment Service in the United Kingdom began operating in 2008, nearly 10 years before the U.S. payment industry began attempting to establish broadly accessible faster payment services. *See* ''Fast payments—Enhancing the speed and availability of retail payments,'' *supra* note 1.

banks, let alone the more than 10,000 diverse depository institutions necessary to achieve true nationwide scope, is especially costly and time-consuming for operators with limited relationships with and connections to these institutions. For this reason, private-sector operators have historically tended to concentrate on providing payment services to a subset of institutions, and existing payment systems, such as those for checks, ACH payments, funds transfers, and payment cards, all achieved nationwide reach with multiple providers of payment and settlement services.

A single operator of a new service aiming to achieve nationwide reach is likely to find that establishing costly new connections and providing adequate support to the significant number of smaller banks in the U.S. market is much harder than doing so for the few hundred largest banks or even a few thousand institutions. The benefit to a private-sector operator of ensuring access to the ''long tail'' of small banks in the United States is unlikely to outweigh the cost that it would incur to reach them. Given the small number of deposit accounts that each additional small bank would bring to the service, the diminishing returns generated by onboarding and supporting these banks are unlikely to offset the cost of doing so. Ultimately, the cost-benefit calculation of a single private-sector operator could lead it to forgo pursuing true nationwide scope, particularly if establishing new relationships with and connections to the large number of small banks proves more challenging or costly than anticipated.

The recently established private-sector RTGS service endeavors to achieve nationwide reach by extending access to banks of all sizes. Although the service can attain substantial reach across deposit accounts simply through connections with all of its large owner banks, measuring reach in terms of deposit accounts does not accurately reflect true reach across the nation's substantial number of smaller banks. Attaining such reach across deposit accounts through a small number of large banks would still leave the vast majority of the nation's 10,000 banks without access to the service. In fact, by the middle of 2019, banks that had joined the service represented less than one percent of the institutions in U.S. banking system.

For a number of reasons, it is unlikely that the private-sector RTGS service for faster payments alone will reach the thousands of small banks necessary to yield nationwide scope, even in the long term. Given its traditional focus on providing services primarily to a small number of large banks in the United States, the operator of the private-sector RTGS service would need to develop significant expertise to handle the large number and substantial diversity of U.S. banks. It would further need to expand and adapt its logistical support, currently geared towards its existing bank customers, for smaller and more diverse banks. Although the service plans to use service providers to extend reach to small and midsize banks, many commenters expressed concerns that building such connections to the service will nevertheless take many years. This problem may be exacerbated by the fact that many small and midsize banks do not currently have relationships with the service providers that work with the private-sector RTGS service or any relevant service provider.

The challenge of achieving nationwide scope for an RTGS infrastructure is likely to be further exacerbated by concerns of numerous commenters, representing large segments of the U.S. payment market, about whether access extended by the private-sector RTGS service for faster payments will be equitable. The operator of the service has looked to address these concerns by taking concrete steps to assure market participants of equitable treatment, now and in the future. In particular, it has publicly stated its commitment to a transparent and uniform pricing regime. In addition, the private-sector operator has taken measures to incorporate perspectives from non-owner stakeholders in its governance processes, including recent measures that involved adding seats for community banks and credit unions to the service's business committee and announcing business principles intended to guide the operation and maintenance of the service.[49]

Despite these steps, equity concerns may persist for a number of reasons. First, although the operator has stated its commitment to equitable pricing, nonprice measures can be equally important in determining whether services are provided equitably. For instance, an RTGS service for faster payments designed with a focus on large, technologically sophisticated banks may not be easily adopted by smaller banks, regardless of pricing structure.[50] Second, a service owned by a small group of institutions with closely aligned interests will confront persistent concerns from other market participants that the service will not equitably represent the interests and needs of the broader payment industry. In particular, potential participants in the service may have concerns, as expressed by commenters, that its operator will have incentives to take actions that favor its owner banks at the expense of non-owner banks.[51]

Concerns about future treatment may be particularly pronounced if it is perceived that the operator could alter its current commitments to equitable access in response to changing market conditions, such as the operator achieving a dominant position in the market for RTGS services for faster payments or, alternatively, facing the increased prospect of competition from other parties. These concerns may be especially persistent if such commitments can be changed unilaterally and are not subject to a public and transparent process whereby all interested parties have the opportunity to provide input.

Ultimately, these concerns about the ability to access the private-sector RTGS service for faster payments on an equitable basis over the long run are likely to cause significant uncertainty among small and midsize banks about the value of connecting to the service. This uncertainty may cause small and midsize banks to choose not to join the

[49] On March 28, 2019, the service's operator announced that it had added four seats for community banks and credit unions to the service's business committee in an effort to expand the type and number of banks providing input to the service. At the same time, the service's operator also announced a set of business principles intended to guide the operation and maintenance of the service as long as the service remains the nation's sole provider of faster real-time interbank clearing and settlement.

The principles include, for example, making rules publicly available, periodically soliciting input on rules, disclosing major decisions to relevant stakeholders, maintaining flat fees that do not include volume discounts, and making the service available to all institutions that meet the service's eligibility requirements. Available at *https://www.theclearinghouse.org/payment-systems/articles/2019/03/-/media/080a875636784eec87bfc13ddf0ef6a4.ashx.*

[50] Examples of RTGS design features that could disadvantage smaller, less sophisticated banks with standard operating hours include the need to prefund separate settlement accounts on a 24x7x365 basis, as well as reliance on 24x7x365 computer-to-computer connections that are commonly used by larger banks with significant payment volume.

[51] Such a possibility could reflect what is known as ''vertical foreclosure.'' Under vertical foreclosure, the operator of an RTGS service for faster payments, as the provider of a key input into banks' provision of payment services to their customers, may have an incentive to limit access to non-owner banks in order to allow its owner banks to attract customers and gain market share. Although such an operator has countervailing incentives, particularly early on, to allow broad access to the service in order to increase its value through network size, a more established service may be more likely to limit equitable access to non-owner banks, especially if the service does not face direct competition from other service providers.

service and to consider instead alternative non-RTGS-based arrangements for faster payments. The result would only further complicate the challenges that the private-sector RTGS service will face in achieving nationwide reach.

b. Effectiveness

Economic analysis, historical context, and the comments received all identify market structure, the number of providers in the market, and the nature of competition between those providers as key drivers of effectiveness, as viewed through the lens of safety and efficiency. Competition generates incentives for firms to offer products that broadly appeal to customers, at prices close to the cost of making those products, and to continually innovate and improve their products in the hope of attracting customers from their competitors. Compared with firms facing competition, a monopoly firm can charge higher prices, causing customers to pay more than the actual cost and to buy less than is socially desirable. Without competitors, a monopoly firm can also limit supply to certain segments of the market. Finally, customers who can only buy a product from one firm may have no choice but to accept products, even if they are lower quality. Economic theory and real-world experience both demonstrate that, although setting up and operating additional firms is often costly, the resulting competition leads to societal efficiency gains that outweigh such costs, generating outcomes that are better for the public than if a single firm serves a market.[52]

These considerations are important in the context of the market for RTGS services for faster payments, which is likely to involve a single private-sector provider, for reasons discussed previously. Although a single-provider market structure avoids duplicating the substantial development and operating costs of additional RTGS services, it is likely to have a detrimental effect on the efficiency and safety of the faster payment market. As described earlier, a likely market outcome is that only a portion of banks in the United States would actually connect to the sole private-sector RTGS service. In such a scenario, the remaining, likely smaller, banks would either not join any faster payment services or would explore alternative arrangements, such as services based on a deferred settlement model.[53] The resulting fragmentation of the end-user faster payment market between those end users with access to RTGS-based faster payment services, those with access to faster payment services based on deferred settlement, and those without any access to faster payment services through their banks could prevent end users and the U.S. payment industry as a whole from realizing fully the benefits associated with nationwide RTGS-based faster payments.

Furthermore, a single provider of RTGS services for faster payments may not advance other desirable outcomes in the U.S. payment system with respect to competition, innovation, and efficiency. As described earlier, a single service provider without competition can yield undesirable outcomes for faster payments, such as lower service quality or higher prices, which may result in reduced adoption rates of RTGS services for faster payments by banks. Such undesirable outcomes could limit adoption of faster payments by end users, which could in turn curtail efficiency benefits to the broader economy.

Notably, a single provider of RTGS services for faster payments may not provide a neutral foundation for innovative, competitive end-user faster payment services. Instead, a single provider may focus on specific use cases that do not promote the potential for faster payments to be used in a wide variety of ways. For example, an RTGS service could eschew innovation in use cases that undermine its owners' existing interests and profits from traditional payment methods. Moreover, the RTGS service's owners could favor their end-user products at the expense of other competing products by inhibiting the ability of competing products to use the RTGS service. Such limitations on access to the RTGS service could further reduce potential competition and innovation for end-user services.

With respect to payment system safety, a market outcome with a single RTGS service for faster payments would make it difficult and costly for faster payment services to achieve resiliency through redundancy. Such redundant connections have been a common solution in many retail payment markets, suggesting that many banks find the resiliency benefits outweigh the cost of connecting to multiple services. For example, a number of banks connect to two ACH services in pursuit of resiliency, despite the fact that achieving nationwide reach requires connecting to just a single ACH service. In a market without redundancy, a sole provider may serve as a single point of failure for RTGS-based faster payments.

There exist alternative retail payment methods with nationwide reach, such as the ACH or payment card systems. However, those payment methods differ from RTGS-based faster payments in important ways, such as speed, message types, and technology. As a result, substitution between those payment methods and RTGS-based faster payments could create significant operational, technical, cost, and timing challenges for banks seeking to use such substitutes as a backup for faster payments. These challenges may make such alternative payment methods inadequate for resiliency purposes related to faster payments.

All of the challenges described above regarding scope, equity, and effectiveness are likely to pose significant obstacles to other providers that might attempt to implement an RTGS infrastructure that would provide the foundation for ubiquitous, safe, and efficient faster payments in the United States. Therefore, the Board believes that, on balance, other providers alone cannot be expected to provide the service with reasonable effectiveness, scope, and equity.

Furthermore, as described previously, the Federal Reserve does not have plenary regulatory or supervisory authority over the U.S. payment system and instead has traditionally influenced retail payment markets through its role as an operator. As a result, the Federal Reserve having an operational role in the settlement of faster payments would

[52] For example, in its 2016 report, the GAO found that competition by the Federal Reserve in payment markets has generally had a positive impact, with benefits that include lowered cost of processing payments for end users. *See* ''Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy,'' *supra* note 5.

From an economic perspective, an exception to the efficiency-through-competition argument is a ''natural monopoly.'' In this situation, the cost of setting up and operating a firm is so high that it can be more efficient for a single firm to supply the whole market, although achieving efficiency usually requires that the natural monopolist be regulated. With respect to such regulation of payment systems, as described previously, the Federal Reserve does not have plenary regulatory or supervisory authority over the U.S. payment system.

[53] The widespread availability of traditional payment systems, which can enable deferred settlement for faster payments, may make faster payment services based on deferred settlement an appealing alternative to RTGS-based services. A number of commenters, mostly small banks, voiced concerns that if they were unable to meet customer demand for faster payment services, they would be placed at a significant competitive disadvantage, which could eventually jeopardize their continued operation. Should such banks expect that they would not be able to gain equitable access to private-sector RTGS services, they could instead adopt faster payment services based on deferred settlement in an effort to remain competitive, undermining an RTGS infrastructure's ability to reach nationwide scope and potentially increasing risk in the payment system.

be the most effective approach to address the challenges faced by other providers alone and would yield a clear public benefit.

B. Public Benefits Criterion: The Federal Reserve must expect that its providing the service will yield a clear public benefit, including, for example, promoting the integrity of the payments system, improving the effectiveness of financial markets, reducing the risk associated with payments and securities-transfer services, or improving the efficiency of the payments system.

The Board's *Public Benefits Criterion* requires that a new service yield long-term benefits to the public and the economy as a whole. Therefore, in determining whether the Federal Reserve should develop the FedNow Service, the Board has considered the expected public benefits and potential offsetting costs of the service.

1. Relevant Measures

The *Public Benefits Criterion* focuses on whether the service is expected to provide a clear public benefit. In the context of payments, public benefits result from a payment system that is accessible, safe, and efficient. Such a payment system is a key component of commerce and economic activity. The criterion also provides specific examples of potential public benefits related to safety (promoting the integrity of the payment system, reducing the risk associated with payments and securities-transfer services) and efficiency (improving the efficiency of the payment system).

Therefore, in evaluating a new service under the *Public Benefits Criterion,* the Board considers three measures consistent with the Federal Reserve's longstanding public policy objectives: accessibility, safety, and efficiency. The measure of accessibility is closely related to those of scope and equity, as considered in the context of the *Other Providers Criterion.* In particular, a payment service is generally more accessible if it is available to banks on equitable terms. Moreover, a service that is broadly accessible should more easily achieve nationwide scope in the long term. The measures of safety and efficiency are identical to those considered in the context of the effectiveness measure in the Board's *Other Providers Criterion.*

2. Public Comments

a. Accessibility

Approximately 130 commenters addressed whether a Federal Reserve RTGS service would affect accessibility in the faster payment market.[54] Approximately 110 commenters, from most commenter segments, expressed the view that the Federal Reserve developing an RTGS service for faster payments would help ensure equal access for banks nationwide.[55] In contrast, around 20 commenters, comprising large banks and private-sector operators, expressed the view that the Federal Reserve's involvement would hinder development of faster payments in the United States in the short term.

Many commenters, in particular small and midsize banks, stated that a Federal Reserve RTGS service would provide banks of all sizes the ability to access an RTGS infrastructure for faster payments. Some of these commenters noted that most banks already have relationships with the Federal Reserve, including access to Federal Reserve accounts, either directly or through a correspondent banking relationship, that could be used for faster payments and would lower barriers to participation compared to other services without such existing relationships. Commenters, comprising small and midsize banks, merchants, service providers, fintech companies, and trade organizations, noted that the Federal Reserve's history of providing services to banks on fair and equitable terms would facilitate similar access to RTGS services for faster payments. Many of these commenters argued that, unlike the private sector, the Federal Reserve has a unique mission and demonstrated history of providing nationwide access to payment services, noting the Federal Reserve's check and ACH services as specific examples.

Other commenters, comprising private-sector operators and large banks, argued that a Federal Reserve RTGS service is unnecessary to ensure access for all banks because industry participants are already in the process of implementing the private-sector RTGS service for faster payments. These commenters argued that the private-sector RTGS service has mechanisms in place to allow all banks to access the service and that the service's operator has already committed to providing access on equitable and impartial terms.

Commenters also argued that the Federal Reserve's existing connections and relationship would not necessarily facilitate accessibility of RTGS services for faster payments, noting that such connections are not easily extended to handle faster payments, as they are not equipped to support the volumes, speeds, and redundancies required for an RTGS service. In addition, many of these commenters expressed concern that a Federal Reserve RTGS service could be detrimental to achieving nationwide reach of an RTGS infrastructure. Several commenters argued it would take the Federal Reserve too long to build such a service. Other commenters stated that a market with multiple RTGS services may require banks to connect to multiple services to achieve nationwide reach and that only the largest banks would do so because of the significant costs of additional connections.

Finally, more than 130 commenters, from all commenter segments, discussed the importance of interoperability for achieving nationwide access to an RTGS infrastructure for faster payments.[56]

b. Safety

More than 80 commenters expressed views on whether a Federal Reserve RTGS service would promote the safety of faster payments.[57] Nearly all of these commenters argued that the Federal Reserve would improve the safety of faster payment through the development of an RTGS service for faster payments.[58] A few commenters expressed doubt that a Federal Reserve RTGS service would have any significant impact on the safety of faster payments.[59]

Commenters that expressed views on safety emphasized the importance of resiliency for RTGS services. Many of these commenters, especially small and midsize banks, argued that development of a Federal Reserve RTGS service for faster payments would be consistent with the Federal Reserve's role in promoting the safety of the payment system. Commenters argued that because of this role, the Federal Reserve would be committed to a higher level of safety than private-sector service providers. A few commenters specifically argued that, unlike private-

[54] Approximately 15 additional commenters raised issues related to accessibility but did not express a view about whether a Federal Reserve RTGS service would affect accessibility in the faster payment market.

[55] These commenters included small and midsize banks, individuals, merchants, service providers, fintech companies, and trade organizations.

[56] Topics related to interoperability are further discussed in the Board's analysis of accessibility.

[57] Approximately 60 additional commenters raised issues related to safety but did not express a view about whether a Federal Reserve RTGS service would promote the safety of faster payments.

[58] These commenters included small and midsize banks, individuals, consumer organizations, merchants, service providers, fintech companies, trade organizations, and other interested parties.

[59] Commenters expressing this view included those from the following segments: Large banks, private-sector operators, and individuals.

sector service providers, the Federal Reserve would focus on broader public policy objectives rather than returns on investment when considering the safety of faster payments. Many small and midsize banks argued that the Federal Reserve's operational role provides stability in the financial system during a time of crisis, citing the Federal Reserve's role following the terrorist attack on September 11, 2001, as an example. Some commenters also suggested that having multiple RTGS services for faster payments in the market could increase faster payment resiliency through redundancy, similar to other retail payment systems for which there are multiple operators.

A few commenters expressed doubts about whether a Federal Reserve RTGS service for faster payments would improve safety and resiliency. Large banks in particular argued that, although integration with a second RTGS service may bring marginal improvements to the safety of faster payments, these improvements would come at a high cost. Finally, at least one commenter expressed concerns that adopting a second RTGS service would divert bank resources, which could instead be used to improve resiliency and security of the private-sector RTGS service.

c. Efficiency

Approximately 120 commenters expressed views about whether a Federal Reserve RTGS service would promote efficiency in the faster payment market.[60] Approximately 100 commenters, from nearly all segments, argued that a Federal Reserve RTGS service would promote efficiency in the faster payment market.[61] In contrast, approximately 20 commenters, mostly comprising large banks and private-sector operators, argued that such a service would not improve efficiency and could create additional burdens for banks with limited resources.

Commenters that argued a Federal Reserve RTGS service for faster payments would promote efficiency generally discussed how such a service would enhance competition, promote innovation, or reduce costs. These commenters, comprising merchants and small and midsize banks, argued that historically, the Federal Reserve's presence as an operator has improved competition and efficiency, leading to lower prices and accelerated payment system improvements, such as the shift from paper to electronic payments. Some commenters further cited the payment card market as an example where concentration of market power in the absence of the Federal Reserve having an operational role led to inefficiencies in the market, such as high fees and restrictive rules that limit competition and innovation. At least one commenter argued that by the time such inefficiencies began to emerge in the early 2000s, it was too late for the Federal Reserve to provide a service to the market as an operator. Many small and midsize banks also stated that a Federal Reserve RTGS service would enhance competition in the broader banking market by allowing small and midsize banks to remain competitive with large banks and new entrants like fintech companies.

Other commenters argued that a Federal Reserve RTGS service for faster payments would not offer any measurable efficiency benefits over the current private-sector service and could distort the market. Many of these commenters argued that a Federal Reserve RTGS service would be costly to develop and that banks would need to expend additional resources to connect to multiple RTGS services for faster payments. A few of these commenters also suggested that the Federal Reserve's long-run cost recovery mandate is less demanding than the challenges facing the private sector, including scrutiny from shareholders and auditors, and may discourage private-sector entities from developing competing services. Finally, a few commenters also argued that cost-based pricing could stifle innovation by forcing RTGS service providers to divert resources away from developing new features.

3. Board Analysis

The Board expects that the Reserve Banks providing the FedNow Service would yield a clear public benefit. In particular, the Board's analysis suggests that, by serving an operational role, the Federal Reserve can help to create an accessible, safe, and efficient RTGS infrastructure for faster payments. This role would align with the Federal Reserve's history of providing services for most other payment systems alongside, and in support of, similar services offered by the private sector. The expected public benefit stems in large part from contributions the FedNow Service would make towards achieving nationwide reach of an RTGS infrastructure for faster payments, promoting the safety and resiliency of that infrastructure, and encouraging competition between payment services.

a. Accessibility

Enabling virtually all banks to gain access to a nationwide RTGS infrastructure for faster payments would support the core objective of ubiquitous faster payment services for individuals and businesses in the United States. However, as discussed with respect to the Board's *Other Providers Criterion,* the breadth and diversity of the U.S. banking system makes it difficult to implement an RTGS infrastructure that connects virtually all banks in the United States. The Board expects that the Federal Reserve's provision of the FedNow Service would help address this challenge in a number of ways, enhancing the accessibility of an RTGS infrastructure for faster payments and allowing that infrastructure to achieve nationwide reach.

In light of the significant heterogeneity in the nation's banking system, achieving nationwide reach will inevitably be challenging for any provider of RTGS services for faster payments, including the Federal Reserve. However, since its inception, an underlying public policy rationale for the Federal Reserve's involvement in the payment system has been to provide services in a safe and efficient manner to banks nationwide. Because of this long-standing policy commitment to promoting nationwide access, the Federal Reserve has historically extended access to banks of all sizes, including smaller banks in rural and remote areas of the country. Applied to the FedNow Service, this longstanding policy commitment would result in a service that is similarly accessible to banks of all sizes, ultimately increasing the long-term likelihood of such banks both accessing an RTGS infrastructure and implementing faster payment services.

As a provider of payment services to thousands of banks today, the Federal Reserve is in a unique strategic position to promote accessibility of an RTGS infrastructure for faster payments.[62] For small and midsize banks seeking to implement faster payment services, an RTGS service provided by the Federal Reserve is likely to be particularly important. The relatively high cost and difficulty of onboarding such institutions to an RTGS service is likely to constitute a significant obstacle for

[60] Approximately 20 additional commenters raised issues related to efficiency but did not express a view on whether a Federal Reserve RTGS service would promote efficiency.

[61] These commenters included small and midsize banks, individuals, consumer organizations, merchants, service providers, fintech companies, trade organizations, and other interested parties.

[62] The payment services that the Federal Reserve provides to banks today allow for settlement directly in banks' accounts held at the Reserve Banks or in settlement accounts held by other banks through a correspondent relationship.

private-sector operators. Regardless of any investments in developing clearing and settlement technology, a private-sector operator without existing relationships would nevertheless have to incur substantial costs to build connections and customer service capabilities before it could onboard the significant number of smaller banks needed to achieve true nationwide reach.[63] The Federal Reserve, however, has already made substantial investments in such capabilities, including connections and customer support systems, and have significant experience and expertise in providing services to smaller banks. The associated long-standing relationships with and connections to thousands of banks across the country provide a solid foundation for the FedNow Service to facilitate those banks gaining access to an RTGS infrastructure for faster payments. The FedNow Service therefore can reasonably be expected to reach thousands of smaller banks in the United States that might otherwise not have access to an RTGS infrastructure. The resulting widespread access to an RTGS infrastructure for faster payments would benefit small and midsize banks and the communities they serve.

Furthermore, the FedNow Service may serve as an impetus for many small and midsize banks to implement faster payment services. Although small and midsize banks responding to the 2018 Notice generally indicated an interest in adopting faster payment services, thousands of other banks may face significant uncertainty about the overall benefits of offering such services and the appropriateness of RTGS-based settlement arrangements for smaller institutions. The Federal Reserve's commitment to promoting payment system improvements through its provision of modernized infrastructure may decrease such uncertainty for those banks. With more certainty about the benefits of joining an RTGS infrastructure for faster payments, small and midsize banks may be more likely than they otherwise would have been to upgrade their capabilities and offer RTGS-based faster payment services to their customers.

Finally, the Board has also considered as part of its analysis the possible relationships between the FedNow Service and the private-sector RTGS service, and the resulting effect on nationwide reach. In a payment system with multiple operators, banks would have a choice whether to join a single service or multiple services such that an RTGS infrastructure for faster payments could achieve nationwide reach in two main ways.

First, interoperability via direct exchange of payments between RTGS infrastructure operators could allow payments originated by a participant of one service to be received by a participant of another service. If multiple services are interoperable in such a way, no single service needs to achieve nationwide reach on its own. This situation exists today with the nation's ACH system.

Second, banks could participate in multiple services that are not interoperable, but nationwide reach could still be achieved through at least one service achieving nationwide reach on its own. This situation exists today with large-value funds transfer systems. In this environment, banks could benefit from the existence of multiple services despite the lack of interoperability. A bank that participates in multiple services could choose which service to use for transactions, depending on any number of factors, such as fees, functionality, and the counterparties that a particular service can reach.

Many commenters described interoperability as important in the case of RTGS services for faster payments, with some commenters noting that interoperability could be developed in incremental steps. Commenters also expressed the view that the Federal Reserve would be well positioned to facilitate interoperability between RTGS services for faster payments. Commenters comprising large banks and private-sector operators, however, expressed significant concerns that interoperability poses potentially insurmountable technical and operational challenges.

The Board agrees with commenters that interoperability between RTGS services for faster payment services is a desirable outcome but also recognizes that it may be difficult to achieve, especially early on. As opposed to interoperability in and of itself, the Board views nationwide reach as a key objective for an RTGS infrastructure. Such reach does not inherently depend on interoperability between RTGS services, because there are other paths to achieving this objective.

During its engagement with the industry, the Federal Reserve intends to explore both interoperability and other paths to achieving nationwide reach. Although direct exchange of payments between RTGS infrastructure operators may not be an initial element of the FedNow Service, as standards, technology, and industry practices change over time and the relationship between RTGS services for faster payments evolves, interoperability will continue to be a desirable outcome that the Board pursues.

b. Safety

As the use of faster payment services increases in the future, the safety of such services will be crucial to the long-term safety of the overall payment system. The Federal Reserve has a long-standing focus on promoting the safety of the U.S. payment system. Recognizing that a safe payment system is crucial to the nation's economic growth and financial stability, the Federal Reserve has historically played an important role in promoting the safety of the U.S. payment system by providing liquidity and operational continuity in times of crisis. Serving an operational role in the payment system has allowed the Federal Reserve to take action in response to financial turmoil, terrorist attacks, natural disasters, and other crises. Indeed, comments in response to the 2018 Notice indicate that industry stakeholders and the public look to the Federal Reserve to use the tools at its disposal to provide support when needed, actions that might not be possible if the Federal Reserve were not in an operational role. As the prominence of faster payments in the United States grows, the development of the FedNow Service would allow the Federal Reserve to retain its ability to provide stability and support to the banking system and the broader economy in times of crisis.

Providing the FedNow Service would also allow the Federal Reserve to facilitate the safety of faster payments in the United States. Because of their irrevocable, real-time nature, the overall safety of faster payments depends in part on how well fraud can be detected and prevented. As the operator of the FedNow Service, the Federal Reserve would be in a position to promote the development and implementation of industry-wide standards, as has been the case in other payment systems where the Federal Reserve has played an operational role.[64] This ability to

[63] The use of service providers is unlikely to resolve this obstacle fully because some banks may prefer to use a direct connection or may already have relationships with service providers that are not connected to a private-sector RTGS service.

[64] For example, in the early 2000s, using its operational role in the check system, the Federal Reserve was able to support and encourage the industry's transition from paper to more efficient electronic check processing. Similarly, the Federal Reserve was able to improve speed and reduce risks associated with ACH payments in the early 1990s by facilitating electronic origination and receipt of ACH transactions processed by the Federal Reserve. *See* Federal Reserve Bank of New York, ''All-Electronic ACH Proposal,'' (Jan. 9, 1991). Available at *https://fraser.stlouisfed.org/files/docs/historical/*

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promote industry-wide standards would be particularly important in the development and adoption of standards to mitigate fraud. Moreover, if the Federal Reserve were to play an operational role, competition among RTGS services for faster payments may increase innovation related to fraud prevention, contributing to a safer faster payment environment.

Finally, the development of the FedNow Service could also enhance the safety of the U.S. payment system by promoting resiliency through redundancy. In particular, the availability of multiple RTGS services for faster payments would allow banks to connect to more than one such service, as a number do today for wire, ACH, and check services. Although connecting to multiple services could result in additional costs and operational complexity, the choice to connect would lie with the banks, many of which have expressed a desire historically to connect to multiple services for contingency purposes. These banks may instead look to achieve resiliency by using existing retail payment methods, for example ACH or payment cards. Over time, however, such alternatives will likely not provide adequate substitutes for RTGS-based faster payments from a cost, technological, operational, or end-user perspective.

c. Efficiency

The efficiency benefits associated with the FedNow Service are likely to come from two sources. First, by providing banks with an alternative RTGS service with integrated clearing functionality and by improving the prospect of banks' gaining access to a nationwide RTGS infrastructure for faster payments, the FedNow Service could allow more banks and their customers to reach one another. Such enhanced ability to reach one another would increase the benefits to each bank participating in the RTGS infrastructure, with the resulting network effects leading to improved efficiency in the faster payment market. Even banks that would already have joined the private-sector RTGS service could benefit from the broader reach that would result from the FedNow Service, because they would be able to join a service that provides access to counterparty banks that they would otherwise be unable to reach. Furthermore, as discussed in the context of the Board's *Other Providers Criterion* for evaluating new services, competition among RTGS services for faster payments could yield efficiency benefits by leading to lower prices and higher service quality.

Second, the development of the FedNow Service could indirectly generate efficiency benefits at the level of end-user faster payment services. A nationwide RTGS infrastructure would make the development of new faster payment services based on real-time settlement more attractive, increasing innovation and competition in the market for end-user faster payment services. Because the Federal Reserve seeks to encourage payment system improvements, the FedNow Service could serve as a neutral platform for private-sector entities to offer competitive and innovative faster payment services to end users based on transfers between banks.

Finally, the Board recognizes that the FedNow Service would generate societal costs that may reduce the net efficiency benefit of the service. In particular, the FedNow Service would require societal resources to develop in the short term and to operate in the long term. Further, banks that choose to connect to multiple RTGS services for faster payments in pursuit of broader reach or resiliency through redundancy may incur additional connection costs.[65] However, the Board expects that the benefits of the FedNow Service, as discussed earlier, would ultimately outweigh these additional costs. Therefore, the Board expects that overall the FedNow Service will yield a clear public benefit in the areas of accessibility, safety, and efficiency.

C. Cost Recovery Criterion: The Federal Reserve Must Expect to Achieve Full Recovery of Costs Over the Long Run

The Board's *Cost Recovery Criterion* accounts for the requirements in the MCA. In evaluating whether a new service or major service enhancement can be expected to achieve full cost recovery, the Board further considers its policy, ''Principles for the Pricing of Federal Reserve Bank Services'' (pricing principles), and its previous application of those principles to existing services.[66]

1. Relevant Measures

a. The MCA

The MCA required the Board to adopt a set of pricing principles for Federal Reserve services and a schedule of fees pursuant to those principles. The MCA specified certain principles on which fees must be based, including the principle that ''(o)ver the long run, fees shall be established on the basis of all direct and indirect costs actually incurred in providing the Federal Reserve services.'' [67] In addition, the MCA provided that the pricing principles ''shall give due regard to competitive factors and the provision of an adequate level of such services nationwide.'' [68]

b. The Pricing Principles

The pricing principles incorporate the statutory requirements of the MCA and include additional provisions consistent with the purposes of the MCA.[69] Although Congress intended the MCA to stimulate competition to promote the provision of services at the lowest cost to society, Congress was also concerned about achieving an adequate level of services nationwide and avoiding the reemergence of undesirable banking practices—such as nonpar banking or circuitous routing of checks—that the Federal Reserve's operational role in the payment system was intended to eliminate.[70] Therefore, like the Board's policy for evaluating new services, the pricing principles balance the importance of competitive fairness in the Federal Reserve's provision of services with the Federal Reserve's objectives to promote the accessibility, safety, and efficiency of the payment

ny%20circulars/nycirc_1991_10424.pdf#pdfjs.action=download.

[65] The need to connect to multiple RTGS services in pursuit of broader reach would occur if the FedNow Service and private-sector RTGS services were not interoperable.

[66] Board of Governors of the Federal Reserve System, ''Principles for the Pricing of Federal Reserve Bank Services,'' (Issued 1980). Available at *https://www.federalreserve.gov/paymentsystems/pfs_principles.htm.*

[67] These costs include imputed costs that a private-sector firm would incur if it were to provide the services. *See* Public Law 96–221, *supra* note 18. This imputed cost is referred to as the private-sector adjustment factor.

[68] *See* Public Law 96–221, *supra* note 18.

[69] For example, the Board's principles 1 and 2 mirror the MCA's statutory requirements that all covered Federal Reserve services must be explicitly priced and available to nonmember banks at the same price as member banks. In adopting the pricing principles, however, the Board noted that ''the Monetary Control Act and its legislative history recognize the importance of the Federal Reserve maintaining an operational presence in the nation's payments mechanism, providing an adequate level of service nationwide and encouraging competition.'' The Board explained that ''in the light of these considerations, the Federal Reserve has developed additional pricing principles that build on those of the Act.'' Therefore, other pricing principles reflect policy determinations by the Board intended to provide guidance on the pricing policies and strategies the Federal Reserve will follow, such as principle 6's expectation that the Federal Reserve should be sensitive to the changing needs for services in particular markets. *See* Board of Governors of the Federal Reserve System, ''Federal Reserve Bank Services; Proposed Fee Schedules and Pricing Principles,'' 45 FR 58689, 58690–58692 (Sep. 4, 1980). Available at *https://cdn.loc.gov/service/ll/fedreg/fr045/fr045173/fr045173.pdf.*

[70] *See* ''Principles for the Pricing of Federal Reserve Bank Services,'' *supra* note 66.

system.[71] Three pricing principles are relevant in considering this balance.

First, pricing principle 3 directly incorporates relevant provisions from the MCA requiring that over the long run, fees shall be established on the basis of all direct and indirect costs actually incurred in providing the services priced. In doing so, principle 3 includes the MCA's requirement to give due regard to competitive factors and the provision of an adequate level of such services nationwide.

Second, although the MCA mandates cost recovery for Federal Reserve services as a whole, pricing principle 5 specifies that the Board further intends fees to be set so that revenues for major service categories match costs, including a private-sector adjustment factor. However, principle 5 also notes that, during an initial start-up period, new operational requirements and variation in volume may temporarily change unit costs for some service categories. Principle 5 states that, in such a situation, the Federal Reserve intends to match revenues and costs as soon as possible.[72]

Finally, pricing principle 7 states that fee structures may be designed to reflect desirable long-run improvements in the nation's payment system. Principle 7 also states that the Board will seek public comment when changes in fees and service arrangements are proposed that would have significant long-run effects on the nation's payment system.

2. Public Comments

Approximately 20 commenters addressed cost recovery in response to the 2018 Notice.[73] Approximately 15 commenters believed the Federal Reserve would be able to recover the costs of developing and operating an RTGS service for faster payments, pointing to the Federal Reserve's ability to achieve cost recovery goals in the past for other services.[74] Fewer than 10 commenters argued that the Federal Reserve may not be able to recover costs for a new RTGS service, generally noting the significant cost of developing and operating such a service.[75]

3. Board Analysis

The Board believes that the provision of the FedNow Service would satisfy the *Cost Recovery Criterion*. In particular, the Board expects that the FedNow Service would achieve full recovery of costs over the long run, although the first instance of long-run cost recovery is expected to occur outside the 10-year period that the Board typically applies to existing, mature services. The Board's view that the service would satisfy the *Cost Recovery Criterion* is based on its consideration of the MCA's requirements regarding long-run cost recovery, the Board's pricing principles as they relate to new services compared with mature services, the Federal Reserve's public policy objectives, including the provision of an adequate level of service nationwide, and the previous application of these considerations to other Federal Reserve services.

The MCA does not specify the ''long-run'' period over which Federal Reserve services must recover costs, nor does the legislative history of the MCA indicate that Congress intended a specific length of time for the cost recovery period. The Board has typically used a rolling ten-year period when assessing long-run cost recovery of existing services (10-year cost recovery).[76] The Board views this standard 10-year cost recovery expectation as appropriate for assessing the long-run cost recovery of mature services, which generally have stable and predictable volumes, costs, and revenues.

However, a new service, such as the FedNow Service, differs from mature services in a number of important ways. By its nature, a new service generally involves high development costs. Moreover, unlike mature services, a new service may not initially have a critical mass of customer participation and, as a result, is likely to have low and unpredictable initial volumes. Certain specific circumstances—such as the length of time to develop the service, the use of the service by certain customer segments, or changes to the market landscape—may affect volumes and, thus, the costs and revenues of a new service. Taken together, these factors imply that, unlike mature services, a new service is unlikely to have stable costs and revenues when it is first deployed, making cost recovery challenging in the time frame that the Board has typically applied to mature services.

Given these considerations, the Board believes that the 10-year period used to evaluate cost recovery for mature services is an inappropriate standard for evaluating the long-run cost recovery of a new service similar to the FedNow Service. Applying such a standard could limit the Federal Reserve's ability to develop new services or undertake major service enhancements that support the provision of an adequate level of services nationwide or induce desirable long-term changes in the payment system.

The Federal Reserve's ACH service, the last new retail payment service developed by the Federal Reserve, provides an illustrative historical example of the importance of these considerations for cost recovery of new services. In evaluating the expected cost recovery of the FedACH service, the Board determined that, compared with the time frame for existing services, an extended cost recovery time frame was appropriate. It did so to encourage the development of an electronic funds transfer system for retail payments and to foster the development of efficient new technologies that would benefit the public in the long run.[77] Based on the

[71] Specifically, in preparing the pricing principles, the Board stated that the principles and future fee schedules take into account ''the objectives of fostering competition, improving the efficiency of the payment mechanism, and lowering costs of these services to society at large. At the same time, the Board is cognizant of, and concerned with, the Federal Reserve's continuing responsibility for maintaining the integrity and reliability of the payment mechanism and providing an adequate level of service nationwide.'' ''Principles for the Pricing of Federal Reserve Bank Services,'' *supra* note 66.

[72] Principle 5 explains that the Board will monitor progress in meeting this goal by reviewing regular reports submitted by the Reserve Banks. In the event that the Board authorizes a fee schedule for a service below cost in the interest of providing an adequate level of services nationwide, principle 5 states that the Board will announce its decision. *See* ''Principles for the Pricing of Federal Reserve Bank Services,'' *supra* note 66.

[73] Approximately 15 additional commenters raised issues related to cost recovery but did not express a view about whether a Federal Reserve RTGS service could recover its costs.

[74] These commenters included small and midsize banks, individuals, consumer organizations, and trade organizations.

[75] These commenters included large banks, trade organizations, and other interested parties.

[76] Notwithstanding the Board's standard 10-year long-run cost recovery period for existing services, the Board has previously needed to balance competing considerations in determining long-run cost recovery for those services. For example, efforts to modernize Federal Reserve check services in the early 2000s resulted in intermittent under-recovery of the service's costs during certain 10-year cost recovery periods.

[77] In partnership with the private sector, the Federal Reserve began piloting ACH services in the late 1960s. The Federal Reserve determined that ACH services had the potential to yield long-term improvements to the payment system because of concerns related to rapidly growing paper check volumes. For example, in 1971, the Federal Reserve's ''Statement of Policy on the Payments Mechanism'' explained that ''(i)ncreasing the speed and efficiency with which the rapidly mounting volume of checks is handled is becoming a matter of urgency. Until electronic facilities begin to replace check transfer in substantial volume, the present system is vulnerable to serious transportation delays and manpower shortages.'' Board of Governors of the Federal Reserve System, ''Statement of Policy on the Payments Mechanism,'' (June 18, 1971). Available at *https://fraser.stlouisfed.org/files/docs/publications/frbrichreview/rev_frbrich197107.pdf.* The first ACH pilot service became fully operational in the early 1970s. The Federal Reserve worked with the industry and the U.S. Treasury to expand the service during the 1970s and 1980s.

service's anticipated long-term benefits, the Board determined, both before and after passage of the MCA, that the nascent service's fees should be based on the costs associated with mature volume estimates.[78] As volume grew, the service first achieved annual cost recovery nearly 15 years after launching a pilot in 1972, and achieved 10-year cost recovery after more than 20 years of operation.[79]

Like the Federal Reserve's ACH service, the Board expects that the FedNow Service will take significant time to mature, as the industry takes steps to adopt the service. Ultimately, although the Board expects the service's first instance of long-run cost recovery to occur outside the 10-year cost recovery period typically applied to mature services, the service is nevertheless expected to achieve full recovery of costs over the long run in compliance with the Board's *Cost Recovery Criterion.* This expectation is based on certain conditions related to demand for faster payments, overall expansion of the market over the long term, time to market for the service, and direct or indirect participation in the service by banks of all sizes.

Expected long-run cost recovery for the FedNow Service outside the traditional 10-year cost recovery period for mature services may also affect aggregate cost recovery of Federal Reserve priced services, which would comprise the new FedNow Service and existing mature services. As noted above, although the Board's pricing principles impose an objective of full cost recovery for each service line, the cost recovery objective specified in the MCA only requires overall cost recovery of Federal Reserve services as a whole. Combining the revenues and costs of the FedNow Service with those of mature services may create the appearance of under-recovery for Federal Reserve services overall. Therefore, the Board believes it would be most appropriate to report the FedNow Service's cost recovery independently of mature Federal Reserve services until the FedNow Service reaches maturity.

The Board believes that an approach to cost recovery for the FedNow Service, as a new service, that does not rely on the standard applied to mature services is consistent with the language and purpose of the MCA and the Board's pricing principles for a number of reasons.

First, this approach is consistent with the MCA's requirement, incorporated in pricing principle 3, for the Federal Reserve to give due regard to the provision of an adequate level of service nationwide. As described above with respect to the Board's *Other Providers Criterion* and *Public Benefits Criterion,* in the absence of the FedNow Service, the objective of achieving an adequate level of service nationwide to support the development of ubiquitous RTGS-based faster payments in the United States is unlikely to be realized.

Second, this approach is consistent with pricing principle 5 as it relates to the start-up period for a service. In explaining its adoption of principle 5, the Board specifically noted the need for pricing flexibility during an initial start-up period when low and potentially variable volumes and high fixed costs could result in prohibitively high service fees, negatively affecting service usage and policy goals.[80] Such issues could arise for the FedNow Service if the Board required cost recovery over the same period as mature services.

Finally, this approach is consistent with pricing principle 7. Specifically, in adopting principle 7, the Board explained that pricing flexibility may be necessary to induce desirable long-run changes in the payment system and to foster development of services that will ultimately benefit the public.[81] Given that a nationwide RTGS infrastructure for new faster payments is a desirable long-run improvement, and in light of the benefits that would be likely to occur with the FedNow Service, as discussed under the *Public Benefits Criterion,* the Board believes that an expected cost recovery period of longer than 10 years is appropriate.

As part of this approach to cost recovery, the Board will regularly disclose the service's cost recovery beginning the year the service is available to participating banks and will monitor progress toward matching revenues and costs.[82] The Board will regularly confirm the expectation that the service will meet cost recovery objectives over the long run. As would be applicable to any Federal Reserve service, if it becomes clear that the FedNow Service is no longer expected to achieve long-run cost recovery or that the service will challenge the cost recovery of Federal Reserve priced services overall, the Board would reassess whether to continue providing the service. Such a reassessment would only occur after giving time for market development and adoption and would take into account other objectives, including the provision of equitable access to payment services and an adequate level of services nationwide.[83] Further information on expected service pricing is found in Part Two, including areas where comment is requested.

IV. Assessment of Expanded Operating Hours for the Fedwire Funds Service and the National Settlement Service To Support Liquidity Management for Faster Payments and For Other Purposes

The second potential action in the 2018 Notice was the development of a liquidity management tool to support RTGS services for faster payments. RTGS-based faster payment services require banks to have sufficient liquidity to perform interbank settlement at any time, on any day.[84] Without sufficient liquidity to conduct

[78] In establishing fees for the Federal Reserve's ACH service, the Board allowed fees to be set based on costs of operating a mature service instead of current costs. *See* Board of Governors of the Federal Reserve System, ''Adoption of Fee Schedules and Pricing Principles for Federal Reserve Bank Services,'' 46 FR 1338, 1343 (Jan. 6, 1981). Available at *https://cdn.loc.gov/service/ll/fedreg/fr046/fr046003/fr046003.pdf.*

After passage of the MCA, the Board approved a fee schedule that recovered 40 percent of the service's current costs and required the service to increase its cost recovery targets 20 percent each year thereafter until the service achieved 100 percent cost recovery. *See* Board of Governors of the Federal Reserve System, ''Fee Schedules for Federal Reserve Bank Services,'' 47 FR 53500 (Nov. 26, 1982) available at *https://cdn.loc.gov/service/ll/fedreg/fr047/fr047228/fr047228.pdf;* Board of Governors of the Federal Reserve System, ''Fee Schedules for Federal Reserve Bank Services,'' 50 FR 47624, 47625 (Nov. 19, 1985) available at *https://cdn.loc.gov/service/ll/fedreg/fr050/fr050223/fr050223.pdf.* The Board does not believe it is appropriate at this time to similarly set a specific year in which the new FedNow Service would recover costs, as was done for the ACH service. This is largely because the ACH service was not an entirely new service at the time the principles were adopted and, for a new service in a dynamic market, the likelihood of accurately forecasting when cost recovery will occur is low. The Board will annually review the appropriateness of setting such an expectation for the FedNow Service.

[79] The ACH service became fully operational in 1974. *See* ''The Federal Reserve System Purposes & Functions,'' *supra* note 4.

[80] *See* ''Adoption of Fee Schedules and Pricing Principles for Federal Reserve Bank Services,'' *supra* note 78.

[81] *See id.*

[82] Costs would include those related to development of the service and ongoing operations.

[83] As stated in the Board's policy ''The Federal Reserve in the Payments System,'' ''a decision to continue to provide a service that could not reasonably be expected to meet cost-recovery objectives would be made by the Federal Reserve Board only after seeking public comment and only where there were clear public benefits to such a course of action. Similarly, any decision to withdraw from the service would be undertaken in an orderly way, giving due regard to the transition problems associated with the discontinuation of a service.'' ''The Federal Reserve in the Payments System,'' *supra* note 18.

[84] Liquidity can take various forms, including funds in an account at a settlement institution or extensions of credit that allow payments to be completed when funds in an account are not sufficient to cover outgoing payments.

settlement, a faster payment cannot be completed in an RTGS-based service where, by design, interbank settlement occurs before final funds can be made available to the receiver. This risk of payments not being completed highlights the need for banks to be able to manage their liquidity on a 24x7x365 basis in accounts that support settlement of faster payments.

At present, the Federal Reserve does not offer a service that would allow banks to move liquidity as needed, in particular on weekends and holidays, to support real-time settlement of faster payments.[85] To reduce the risk of insufficient liquidity during those periods, banks can increase the funds in accounts that support settlement of faster payments to provide additional prefunding for future transactions. This additional prefunding, however, could be costly for banks because it prevents those funds from being used for other purposes. Prefunding also requires predicting the number and aggregate value of future customer payments, which has a degree of uncertainty. In consideration of the risk of failed transactions because of insufficient liquidity, the Board proposed developing a tool that would enable movement of funds between accounts at the Reserve Banks on a 24x7x365 basis, either by expanding the hours of current Federal Reserve services or through a new service.

A liquidity management tool could support private-sector RTGS arrangements for faster payments that are based on a joint account at a Reserve Bank.[86] Such a tool, as described in the 2018 Notice, could enable movement of funds between a joint account and banks' master accounts at any time of the day, any day of the year.[87] This tool would allow funds to be transferred, as needed, to support the payment activity of participants in private-sector RTGS services using a joint account.[88]

In the 2018 Notice, the Board requested feedback on whether the Federal Reserve should provide such a liquidity management tool and, if so, the desirable functionality of such a tool. The Board further requested comment on whether such a tool could be used for purposes other than supporting real-time settlement of faster payments.

A. Public Comments

Approximately 230 commenters expressed views about whether the Federal Reserve should develop a liquidity management tool to support RTGS services.[89] Approximately 225 commenters, from all segments, supported the Federal Reserve developing such a tool. Fewer than five commenters were not supportive of the Federal Reserve developing a liquidity management tool to support RTGS services.[90]

Several large banks and other commenters indicated that the proposed tool could help with managing liquidity in the existing private-sector RTGS service for faster payments. Other commenters more generally discussed the importance of liquidity management in RTGS services for faster payments and noted the challenge of managing the timing of payment inflows and outflows on a 24x7x365 basis. Many commenters emphasized the importance of automated features for a liquidity management tool, such that liquidity transfers could occur outside standard business hours without the need for operational staff at participating banks during those hours. At least one commenter noted that functionality provided through a liquidity management tool should be available to all systems that could benefit from it. This comment was consistent with those from other commenters that emphasized the Federal Reserve should more generally enhance its current services to support a variety of payment activities.

Most of the commenters that addressed how the Federal Reserve should provide a liquidity management tool expressed the view that it should do so through expansion of operating hours for the Fedwire Funds Service. Commenters noted the potential for a variety of payment activities to benefit from expanded operating hours for the Fedwire Funds Service. A few commenters stated that the Federal Reserve should expand operating hours for NSS. No commenters suggested that the Federal Reserve should develop a new service to support liquidity management in RTGS services for faster payments.

The commenters that did not support the Federal Reserve developing a liquidity management tool indicated that liquidity management could be accomplished through software developed by the private sector that would alert a bank about balance levels in their account at the Reserve Banks.

B. Board Analysis

The Board believes that expanding the operating hours of the Fedwire Funds Service and NSS, potentially up to 24x7x365, would be the most effective way to provide the liquidity management functionality described in the 2018 Notice and could provide additional benefits to financial markets broadly.

The ability to transfer funds from master accounts to a joint account during nonstandard business hours would allow participants in a private-sector RTGS service to manage liquidity on a ''just-in-time'' basis. Just-in-time liquidity management would remove the need to increase funding in a joint account ahead of weekends, holidays, and other times when liquidity transfers are not currently possible. Just-in-time liquidity management would also decrease the likelihood that a bank would have insufficient liquidity to settle a payment. As a result, the system would have less risk that an individual or business would experience an incomplete payment because its bank does not have the requisite funds available in a joint account to support settlement. These benefits might broaden the appeal of a private-sector RTGS service using a joint account, thereby potentially expanding the use of RTGS services for settlement of faster payments.

Expanded hours for the Fedwire Funds Service and NSS could also benefit other retail payment services. For retail services that conduct interbank settlement on a deferred basis, including certain faster payment services and traditional payment card services, expanded hours could enable these services to settle net interbank

[85] The Fedwire Funds Service operating hours for each business day begin at 9:00 p.m. eastern time (ET) on the preceding calendar day and end at 6:30 p.m. ET, Monday through Friday, excluding designated holidays. Current operating hours for NSS are 7:30 a.m. ET to 5:30 p.m. ET, Monday through Friday, excluding designated holidays.

[86] In such an arrangement, real-time settlement occurs on an internal ledger maintained by a private-sector operator of an RTGS service for faster payments, supported by funds that are held in an account at a Reserve Bank for the joint benefit of the service's participants. To support settlement through such a service, each participant bank ensures sufficient funding in the joint account to cover its payment obligations on a 24x7x365 basis.

[87] A master account is the record of financial rights and obligations between an account-holding bank and a Reserve Bank. The account is where opening, intraday, and closing balances are determined.

[88] The private sector could develop alternative mechanisms to enable liquidity management for participants in a private-sector RTGS service for faster payments based on a joint account. For example, to address liquidity needs over the weekend, a private-sector operator could allow participants with excess funds on its ledger to transfer those funds within the service to those with a shortage.

[89] At least one additional commenter raised issues related to a liquidity management tool but did not express a view about whether the Federal Reserve should offer such a tool.

[90] Commenters expressing this view included those from the following segments: Private-sector operators and fintech companies.

obligations at times not currently possible, including weekends and holidays. Expanded Fedwire Funds Service and NSS hours could also benefit ACH payments by enabling additional settlement windows.[91]

In addition, expanded Fedwire Funds Service hours would increase the overlap between the hours of the Fedwire Funds Service and those of large-value payment systems in other countries, thereby supporting wholesale payment activity in multiple markets. For example, expanded hours could allow U.S. banks that provide clearing services to global correspondents and multinational corporations to meet client needs outside standard business hours. Expanded hours could support a broad range of domestic wholesale payment activity as well, such as margin payments related to trading conducted on 24-hour platforms or payments related to mergers and acquisitions that close on a weekend.

In light of these potential benefits, the Board has determined that the Federal Reserve should explore the expansion of Fedwire Funds Service and NSS hours. However, because of the systemic importance of the Fedwire Funds Service and the Board's risk management expectations for the service, additional analysis is needed to evaluate fully the relevant operational, risk, and policy considerations for both the Reserve Banks and participants. The Federal Reserve plans to engage with the industry on issues related to expanded Fedwire Funds Service and NSS operating hours, as well as potential approaches for expanding those hours. Implementation approaches could range from limited availability on weekends and holidays to full 24x7x365 availability. Through this engagement, the Federal Reserve intends to solicit additional information about the industry's specific needs and readiness related to these options. The Board will announce any decision regarding the expansion of hours for the Fedwire Funds Service and NSS, including issuing a request for comment if necessary, after further analysis is completed.

Part Two

V. FedNow Service Description

In what follows, the Board has outlined a general description of the planned FedNow Service and provided additional details on the service's potential features and functionality. The features and functionality, along with related implementation considerations, incorporate feedback from comments received in response to the 2018 Notice.

The Board is seeking comment on all aspects of the FedNow Service. The Federal Reserve also intends to convene industry groups and facilitate other outreach forums to gather input on the service.[92] The Federal Reserve will use the feedback gained through written comments and other channels to finalize the design and features of the FedNow Service. Once these details have been finalized, a final service description will be published in a subsequent **Federal Register** notice with additional information provided through existing Reserve Bank communication channels.

A. Public Comments

In the 2018 Notice, the Board sought input on certain issues related to the design and implementation of a potential RTGS service for faster payments. First, the Board sought comment on the ideal timeline for implementing such a service. Second, the Board requested comment on the adjustments that banks and their customers would need to make under an accounting regime in which the Reserve Banks would record and report end-of-day balances for each calendar day, including weekends and holidays (a seven-day accounting regime).[93] Third, the Board sought input on the operational burden that banks would face if an RTGS service for faster payments were designed to use accounts separate from banks' master accounts.[94] Fourth, the Board sought feedback on the need for auxiliary services, such as fraud prevention services that provide tools to detect fraudulent payments or a directory that allows faster payment services to route end-user payments using the receiver's public identifier, such as a phone number or email address, rather than bank routing and account information.[95] For each question, commenters from nearly every segment provided input.

More than 140 commenters, from all segments, addressed the ideal timeline for implementing a Federal Reserve RTGS service for faster payments. The majority of these commenters encouraged the Federal Reserve to implement such a service as quickly as possible. These commenters noted that the market for faster payments is rapidly evolving and that, if the Federal Reserve were unable to provide a service in the near future, it would face difficulty achieving widespread adoption. A few commenters cautioned that, while acting quickly may be ideal, the timing of a new service should take into consideration the adjustments that banks and service providers would need to make to implement the service.

Approximately 40 commenters addressed operational adjustments that would be required if an RTGS service for faster payments used a seven-day accounting regime.[96] Some of these commenters noted that, although certain banks may have already adopted 24x7x365 accounting for services such as ATM and debit card transactions, some banks and their business customers may need to make substantial back-office adjustments to implement a seven-day accounting regime. These adjustments included system upgrades, operational changes, and staffing outside of standard business hours. Approximately 10 commenters stated that the option to defer receipt of transaction reporting during

[91] In a separate notice, the Board has requested comment on potential modifications to Federal Reserve payment services to facilitate adoption of a later same-day ACH processing and settlement window. Under the proposal in that notice, the Federal Reserve would extend the daily operating hours of the Fedwire Funds Service and NSS by 30 and 60 minutes, respectively, to accommodate a third same-day ACH settlement window at 6:00 p.m. ET. *See* Board of Governors of the Federal Reserve System, ''Potential Modifications to the Federal Reserve Banks' National Settlement Service and Fedwire Funds Service To Support Enhancements to the Same-Day ACH Service and Corresponding Changes to the Federal Reserve Policy on Payment System Risk, Request for Comments,'' 84 FR 22123, 22129 (May 16, 2019). Available at *https://www.federalregister.gov/d/2019-09949*.

[92] The Reserve Banks will communicate information about industry groups and forums through established channels. Industry engagement is expected to be a continual process as part of ongoing service and product development.

[93] At present, end-of-day balances are recorded and reported for each banking day that Federal Reserve services operate. Normal banking days are Mondays through Fridays. Because Federal Reserve services do not currently operate over the weekend (or on holidays), this current practice corresponds to a five-day accounting regime.

[94] As described previously, a master account is the record of financial rights and obligations between account-holding banks and a Reserve Bank. The Reserve Banks typically permit a single master account per eligible institution, and the settlement activity for most Federal Reserve payment services occurs in master accounts.

[95] The receiver's bank routing and account information is generally required to deliver payments between end-user bank accounts. This information can be difficult for the sender of a payment to obtain. As a result, some payment services allow the sender to direct a payment using a public identifier of the intended receiver. For such a public identifier to be used in a payment, the sender's bank must be able to link the public identifier to the intended receiver's banking information. A directory allows a bank to obtain this information through a database that connects public identifiers with the receiver's banking information, without requiring the sender to have that information or the receiver to reveal it to the sender.

[96] These commenters included small and midsize banks, large banks, individuals, consumer organizations, service providers, fintech companies, trade organizations, and other interested parties.

nonstandard business hours might be useful until banks are able to support 24x7x365 back-office operations.

Approximately 50 commenters expressed views on the incremental operational burden if an RTGS service were to settle faster payments in dedicated Federal Reserve accounts, separate from banks' master accounts.[97] The majority of these commenters indicated that, if necessary, banks would likely be able to manage separate settlement accounts. Some of these commenters further stated that if separate accounts were used, the benefits of such a structure would need to outweigh the burden for banks of managing separate accounts. Commenters also noted that a liquidity management tool would be needed to move funds during nonstandard business hours between master accounts and separate accounts for settlement of faster payments. Most commenters that addressed the use of separate accounts stated that, if separate Federal Reserve accounts were used for settlement of faster payments, balances in those accounts should earn interest and count towards reserve requirements.

More than 100 commenters, from all segments, discussed whether a directory service is needed for an RTGS service for faster payments. Many of these commenters stated that directories are an important driver for adoption of faster payments because individuals and businesses value the ability to make payments based on public identifiers. These commenters often indicated that the Federal Reserve should support development of a directory service for faster payments, citing their views of the Federal Reserve as a trusted service provider with broad reach. Some of these commenters suggested the Federal Reserve could build and operate its own directory service whereas others suggested that it could serve as a centralized link to existing directories. A few commenters did not support the Federal Reserve developing its own directory service because private-sector directories are already available.

More than 90 commenters addressed the importance of fraud prevention services.[98] Many of these commenters suggested that an RTGS service for faster payments should include fraud prevention services, with some noting that such services could be more efficient and less susceptible to vulnerabilities if they were an integral part of an RTGS service for faster payments. Some commenters noted that fraud prevention services could include a database of known fraudulent accounts or automated fraud detection tools to identify unusual payment activity. Some commenters noted that a potential Federal Reserve RTGS service for faster payments would not require fraud prevention services because the private sector already offers such services. In the context of discussing fraud prevention services, some commenters also highlighted the need for tools that would assist in compliance with regulations to prevent money laundering and terrorist financing.

B. General Description of the FedNow Service

The FedNow Service would process individual payments within seconds, 24 hours a day, 7 days a week, 365 days a year. The service would be designed to support credit transfers, where a sender initiates a payment to an intended receiver for a variety of use cases, such as person-to-person payments, bill payments, and smaller-value business-to-business payments.[99] The service would settle interbank obligations through debit and credit entries to balances in banks' master accounts at the Reserve Banks. All settlement entries for transactions through the FedNow Service would be final, meaning that settlement cannot be cancelled or revoked once a transaction is processed by the service. Consistent with the goal of supporting faster payments, use of the service would require participating banks to make the funds associated with individual payments available to their end-user customers immediately after receiving notification of settlement from the service. The service would support values initially limited to $25,000.[100] The service would have the ability to process a large volume of payments rapidly, including volumes that may be unusually large at certain times of the day or days of the year.

The FedNow Service would incorporate clearing functionality with messages containing information required to complete end-to-end payments, such as account information for the sender and receiver, in addition to interbank settlement information. The service would also support the inclusion of additional descriptive information related to a payment, such as remittance or invoice information, and may further allow for nonvalue message types.[101] Payment message format would be based on the ISO 20022 standard.[102]

In its simplest form, a completed payment through the FedNow Service involving two participating banks would have the following steps.[103] To start, a sender would initiate a payment through its bank, by submitting instructions to it using an end-user interface outside the FedNow Service. After the sender's bank authenticates the sender and validates the payment, it would submit a payment message to a Reserve Bank using the FedNow Service. The FedNow Service would authenticate the sender's bank and validate the payment message, for example, by verifying that the message meets the FedNow format specifications. Before the Reserve Bank executes the payment message, the service would place a provisional hold on funds in the master account of the sender's bank and would then send an inquiry message to the receiver's bank seeking confirmation that the receiver's bank, among other things, maintains a valid account for the receiver included in the payment message received by the Reserve Bank. If the receiver's bank sends a positive response to the inquiry, the FedNow Service would execute the payment for the Reserve Banks by sending a payment message forward with an advice of credit to the receiver's bank and nearly simultaneously processing a final debits and final credit to the master accounts of the sender's bank and receiver's bank,

[97] These commenters included small and midsize banks, large banks, individuals, service providers, fintech companies, and trade organizations.

[98] These commenters included small and midsize banks, individuals, merchants, service providers, and trade organizations.

[99] Some traditional payments, such as card payments and certain ACH payments, are conducted as debit transfers. In a debit transfer, the party that wishes to be paid provides instructions that allow its bank to pull funds from the account of the party that needs to pay for a good or service, subject to the approval of that party and its bank. Because credit transfers require the sender to authorize and initiate each individual payment, services based on such transfers can decrease the risk of fraudulent or otherwise unauthorized payments. This and other considerations have led credit transfers to be the basis of faster payment systems in other countries.

[100] The initial $25,000 value limit would be intended to restrict the size of potential fraudulent transactions, while also supporting payments associated with a variety of use cases. Like other aspects of the service, this value limit could change after experience with the service provides additional information about whether a change would be appropriate. Banks would also be able to establish value limits for their customers below the $25,000 limit.

[101] For example, one possible message type is a ''request for payment'' in which the intended receiver submits a request for the sender to initiate a payment. A request-for-payment message type is addressed in the discussion of specific service features.

[102] Additional information about the ISO 20022 standard is provided in the discussion of specific service features.

[103] Other steps could occur, for example, if either bank were to use an agent, service provider, or correspondent or if a directory service were used.

respectively.[104] The banks are responsible for debiting and crediting their customers' accounts and providing further notification to their customers that the payment has been completed. The entire process would take place within seconds.

Like current Federal Reserve services, the FedNow Service would be available to banks eligible to hold accounts at the Reserve Banks under applicable federal statutes and Federal Reserve rules, policies, and procedures.[105] Participating banks would be able to designate a service provider or agent to submit or receive payment instructions on their behalf. Participating banks could also choose to settle payments in the account of a correspondent bank.[106]

The service would establish a ''business day'' by setting opening (beginning-of-day) and closing (end-of-day) times (in eastern time). This business day would be used to determine end-of-day balances and conduct associated reserve and interest calculations, as well as for transaction reporting and account reconciliation purposes. The existence of these opening and closing times would not affect the service's 24x7x365 continuous processing of payments. End-of-day balances would be calculated for master accounts on each calendar day, including weekends and holidays, as part of a seven-day accounting regime. Banks would be expected to manage their accounts to have a positive end-of-day account balance each day and avoid overnight overdrafts.

The Board recognizes that, in a market structure with multiple operators of RTGS services for faster payments, the ability to achieve ubiquity in faster payments is advanced when customers of a bank participating in one RTGS service are able to reach the customers of a bank participating in another RTGS service. This type of reach can be achieved in multiple ways, such as by banks participating in multiple services, or through interoperability where direct exchange of payments across services is possible. Each of these requires some degree of cooperation among private-sector operators, banks, and service providers. During its engagement with the industry, the Federal Reserve intends to explore both interoperability and other paths to achieving nationwide reach in support of ubiquitous faster payments, recognizing that these approaches may change over time.

C. Discussion of Specific Features and Functionality

The Board has considered the specific features and functionality of the planned FedNow Service. These features and functionality, as well as whether they would be part of the service initially, offered incrementally after the service is operational, or offered at all, may need to be adjusted based on the Federal Reserve's industry engagement efforts. In addition, industry engagement may identify other features and functionality not described here that may be addressed in the subsequent **Federal Register** notice as part of the final service description or through existing Reserve Bank customer communication channels.

1. Message Standard

Payment message formats in the FedNow Service would be based on the ISO 20022 standard and its implementation with respect to faster payments in the United States.[107] The service would support various message types, including payment instructions, confirmations, and request for payment. As part of a payment, the service would also support the exchange of remittance or other information related to a specific payment or invoice. Message specifications for the service, including specific message types and interpretation of ISO formats, would be provided to the industry prior to the initial launch of the service through established Reserve Bank communication channels.

2. Settlement Account

Like other Federal Reserve payment and settlement services, the FedNow Service would settle payments in master accounts.[108] Depending on the services used by a participating bank, transactions from multiple Federal Reserve services would settle in a master account at any given time during standard business hours.[109] Banks would need to monitor their master accounts and possibly adjust practices in managing those accounts because of the real-time settlement activity associated with the FedNow Service (see also the *Liquidity and Credit* discussion).

3. Seven-Day Accounting Regime

After considering Financial Accounting Standards Board (FASB) principles, the Board believes that a seven-day accounting regime is appropriate for the FedNow Service.[110] Funds associated with a payment made using the FedNow Service would be transferred between the sender's bank and the receiver's bank upon final settlement. Therefore, in light of the FASB principles' guidance on when transferred assets should be recognized on each parties' financial records, the Reserve Banks would record and report transactions for accounting purposes as they occur, each day of the week, including weekends and holidays.[111]

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[104] The receiver's bank would need to respond to the message sent to it by the service within a certain amount of time. In the event that the response process is not completed within the expected time, the transaction would not be completed. Instead, the payment would be rejected, with the provisional hold on funds removed from the master account of the sender's bank and the banks being notified of the rejection. A payment could also be rejected, with associated notifications of payment rejection, if any of the necessary steps were not completed. For example, a payment could be rejected because of invalid account information for the receiver, which would cause the receiver's bank to reject the payment.

[105] Section 13(1) of the Federal Reserve Act permits Reserve Banks to receive deposits from member banks or other depository institutions. 12 U.S.C. 342. Section 19(b)(1)(A) of the act includes as depository institutions any federally insured bank, mutual savings bank, savings bank, savings association, or credit union. 12 U.S.C. 461(b). The Reserve Banks may maintain accounts for additional institutions under other statutory authority.

[106] A correspondent bank is a bank that has authorized a Reserve Bank to settle debit and credit transaction activity to its master account for a respondent bank. Correspondent/respondent relationships are established under Federal Reserve Operating Circular 1.

[107] The ISO 20022 standard is a message format standard for payments, securities, trade services, payment cards, and foreign exchange. For more information, see *https://www.iso20022.org/*. The standard is published by the International Organization for Standardization (ISO), an independent, non-governmental organization comprised of 161 national standards bodies. For more information, see *http://www.iso.org.* The ISO 20022 standard is increasingly being adopted around the world as part of efforts to modernize payment services, including those that are used for faster payments.

[108] As discussed in the 2018 Notice, the Board contemplated a two-account structure, with a separate account dedicated to settlement of faster payments to possibly reduce the technical complexity of an RTGS service and reduce time-to-market. However, this structure would introduce significant operational complexity for both the Federal Reserve and participating banks. For example, a separate account for settlement of faster payments would require new balance reconciliation procedures and introduce the need for participating banks to make transfers between the two accounts.

[109] These other services are check services, the Fedwire Funds Service, NSS, the Fedwire Securities Service, and FedACH services.

[110] FASB accounting principles are developed under the FASB Statements of Financial Accounting Concepts, which the FASB states are ''intended to serve the public interest by setting the objectives, qualitative characteristics, and other concepts that guide . . . financial reporting.'' More information on the FASB Statements of Financial Accounting Concepts is available at *https://www.fasb.org/cs/ContentServer?c=Page&cid=1176156317989&d=&pagename=FASB%2FPage%2FPreCodSectionPage.*

[111] The Board considered a five-day accounting regime for the service, which would be consistent with the Federal Reserve's current approach and that of many banks, but determined that, under the FASB principles, a seven-day regime is most appropriate for the FedNow Service. Specifically, the FASB principles outline that once control of an

Similarly, an end-of-day balance would also be calculated for each participating bank at the FedNow Service's designated closing time each day of the week, including weekends and holidays (see also the *Business Day* discussion).

A seven-day accounting regime adopted by the Federal Reserve for the FedNow Service does not dictate or preclude use of specific other accounting regimes by participating banks. Based on their interpretation of accounting principles, participating banks may choose to use other accounting approaches internally; for example, banks may use five-day accounting in which they record and report weekend transactions on their financial records as occurring on Monday.[112] The service would provide queries, confirmations, and reports to support transaction monitoring, reporting, and reconciliation by participating banks under their chosen internal accounting approach. Banks could elect either to receive daily accounting reports at the end of each business day to allow management of reserve balances or to receive reports for weekends and holidays on the next business day.

4. Business Day

In considering the implications of a business day for the FedNow Service in light of business day practices for current Federal Reserve services, the Board has determined that the business day of the FedNow Service should align with the business day of the Fedwire Funds Service.[113] Given the 24x7x365 nature of the FedNow Service, the opening time would be designated to occur immediately after the closing time, with the intention that transitions between closing and opening for the next business day would not disrupt continuous processing. Transactions completed after the FedNow Service's closing but before midnight each calendar day would be recorded on Federal Reserve accounting records as transactions occurring on the next business day.

A business day for the FedNow Service that aligns with the Fedwire Funds Service, however, does not dictate that participating banks adopt the same convention, or preclude other conventions, for recording transactions in their customers' accounts. For example, banks could post faster payment transactions occurring after the close of the FedNow business day to customers' accounts in real time based on the calendar day in which they are received.[114]

5. Liquidity and Credit

Comments in response to the 2018 Notice indicated concerns about adequate liquidity being available to support faster payments, particularly on weekends and holidays. To support their current payment services, the Reserve Banks provide liquidity in the form of intraday credit, also known as daylight overdrafts, to eligible banks and subject to the Federal Reserve's Policy on Payment System Risk (PSR Policy).[115] Intraday credit supports the smooth functioning of the payment system by supplying temporary liquidity to cover shortages that can result when the timing of payment inflows and outflows are not balanced.

Like current services, access to intraday credit for FedNow transactions could support the smooth functioning of payments through the service. The Board is considering the impact of providing intraday credit on a 24x7x365 basis under the same terms and conditions as for current Federal Reserve services. As is the case today, participating banks would be expected to manage their master accounts in compliance with Federal Reserve policies, including avoiding overnight overdrafts.[116] These expectations would apply over weekends and holidays given that the FedNow Service would operate 24x7x365.

Account balance management would become more complex in a 24x7x365 environment where payments settle continuously in master accounts. Given the retail nature of payments through the FedNow Service, transaction values are expected to be relatively small compared with other activity in master accounts, such as Fedwire Funds transfers. Nevertheless, participating banks may need to adjust internal account monitoring practices to manage intraday liquidity. Liquidity management would be particularly important to avoid a negative balance at the service's closing time. Specifically, banks would need to carefully monitor transactions in real time or ensure that sufficient funding is available in their master accounts to cover payments that may arise shortly before the service's closing.

The Federal Reserve is conducting analysis of when it may be beneficial to extend discount window operations to include weekends or holidays.[117] At least initially, however, discount window loan originations would likely not be available on weekends and holidays. The discount window would continue to be available until the close of the Fedwire Funds Service on Fridays under the same or similar terms as today.

The Board will engage with the industry to consider features and tools to assist institutions with the effective management of intraday and end-of-day account balances.[118] The Board may

asset, such as balances in a Federal Reserve account, is transferred to a new owner, the asset should be removed from the original owner's financial records and recognized on the new owner's financial records.

[112] Over time, participating banks could alternatively choose to adopt a seven-day accounting approach.

[113] Today, the Fedwire Funds Service closes at 6:30 p.m. ET and re-opens for the next business day at 9:00 p.m. ET on the same calendar day. The Board recently requested comment on moving the close of the Fedwire Funds Service to 7:00 p.m. ET to accommodate later settlement for ACH transactions. *See* ''Potential Modifications to the Federal Reserve Banks' National Settlement Service and Fedwire Funds Service,'' *supra* note 91.

Fedwire Funds transactions between 9:00 p.m. ET and midnight ET are recorded as occurring on the next business day and typically support international markets and settlement of other domestic and global payment systems. The Board considered setting a midnight ET closing time for the FedNow Service to align across business and calendar days. However, such an approach would not allow balance calculations performed by the Federal Reserve to be measured on the same business day for the Fedwire Funds service and the FedNow Service, making calculation of balances problematic. Such a misalignment could have consequences for the current activity occurring over the Fedwire Funds Service.

[114] This practice would be akin to banks' common practice of ''memo posting'' for ATM withdrawals and certain other transaction activity. Under this practice, transactions are provisionally posted to customers' accounts on the date they are made but are reported on a later date for the purposes of monthly account statements.

[115] Intraday credit is generally available to banks that are financially healthy and have regular access to the discount window (the Federal Reserve's program for overnight lending to banks). *See* Board of Governors of the Federal Reserve System, ''The Federal Reserve Policy on Payment System Risk,'' (As amended effective September 15, 2017). Available at *https://www.federalreserve.gov/paymentsystems/psr_about.htm.*

[116] To minimize Reserve Bank exposure to overnight overdrafts, policy established by the Board discourages institutions from incurring overnight overdrafts by charging a penalty fee. *See* Board of Governors of the Federal Reserve System, ''Policy on Overnight Overdrafts,'' (Effective July 12, 2012). Available at *https://www.federalreserve.gov/paymentsystems/oo_policy.htm.*

[117] The discount window is a Federal Reserve lending facility that helps to relieve liquidity strains for individual banks and for the banking system as a whole by providing a reliable backup source of funding. Additional information on the discount window is available at *https://www.federalreserve.gov/regreform/discount-window.htm.*

[118] Today, banks use the Reserve Bank's Account Management Information services for a near real-time view of account balances. At least initially, the Federal Reserve expects that banks would need to monitor account balances outside standard business hours by reconciling payment activity against the last available closing balance. However, the Federal Reserve expects that the Reserve Bank's Account Management Information services would be

Continued

apply additional controls, initially or over time, in the PSR Policy as necessary to mitigate the credit risk incurred by the Reserve Banks in providing access to liquidity and credit.

6. Network Access

Participating banks would access the FedNow Service through the FedLine® network, which would be enhanced to support the service's 24x7x365 processing.[119] Participating banks would need to deploy and test enhanced or upgraded FedLine components to enable the FedNow Service. Depending on their electronic connection with the FedLine network, banks also would need to maintain adequate telecommunications services to support the expected end-to-end speed of payments through the FedNow Service.

7. Service Pricing

Before the FedNow Service is launched, the Board will announce the service's fee structure and fee schedule.[120] Based on prevailing market practices, the Board expects that the fee structure would include a combination of per-item fees, charged to sending and potentially to receiving banks, and fixed participation fees.[121] Separate per-item fees could also be charged for other message types that may be offered in the future.

As discussed in Section III under the *Cost Recovery Criterion,* the Board expects that the FedNow Service will take significant time to mature, as the industry takes steps to adopt the service. The Board expects the service's first instance of long-run cost recovery to occur outside the 10-year cost recovery period typically applied to mature services. The Board anticipates that, until the FedNow Service reaches maturity with relatively stable costs and revenues and a critical mass of bank participation, fees would be based on costs associated with mature volume estimates.[122] The Board believes that this approach to cost recovery for the FedNow Service, as a new service, which would not rely on the standard applied to mature services, is consistent with the language and purpose of the MCA and the Board's pricing principles. The Board is requesting comment on factors that may be relevant to consider in evaluating the long-run cost recovery of new Federal Reserve services compared with mature services.

8. Request for Payment

In the FedNow Service, a request for payment would be a separate nonvalue message type that, when received through an end-user service, would prompt a sender to initiate a payment to the receiver who is requesting funds. The request for payment functionality allows a sender to authorize a credit transfer in real time, based on the receiver's request message. This functionality may increase the use of faster payments by allowing end users to more easily conduct certain types of transactions, such as bill payments. This functionality allows a sender to retain control of the authorization in sending a payment in real time, helps avoid mistakes of sending payments to the wrong party, and reduces the fraud risk relative to that of debit transfers.[123] The Board is seeking input on the incremental value and ideal implementation timing of such functionality to advance broad adoption of faster payments in the United States.

9. Directory Service

Comments received in response to the 2018 Notice indicated the ability to originate payments using a receiver's public identifier, such as an email address or cell phone number, would be beneficial to help drive adoption of faster payments. To send a valid payment message in the FedNow Service, however, the sender's bank must have the banking information of the receiver. Therefore, if a sender wanted to originate a payment using a public identifier, the sender's bank would need to be able to find the banking information of the intended receiver using the public identifier. The availability of a directory that connects public identifiers with receivers' banking information would provide the sender's bank with the needed information, without ever revealing that information to the sender.

Access to a directory for purposes of payments made using the FedNow Service could be accomplished in multiple ways. Individually, banks could establish connections to existing private-sector directories and develop an automated mechanism for populating payment messages with information provided by these external directories. Alternatively, the Reserve Banks could establish a centralized link with private-sector directories on behalf of participating banks, rather than each participating bank needing to do so individually. A further option would be for the Reserve Banks to build their own directory, enabling a message type that would allow banks to query the directory as part of the FedNow Service. The Federal Reserve intends to engage with industry stakeholders to understand more fully the benefits and drawbacks of these potential approaches and to assess possible paths forward to advance broad adoption of faster payments in the United States.

10. Fraud Prevention Services

Comments received in response to the 2018 Notice emphasized the heightened risk of fraud with real-time transactions and noted the importance of fraud-monitoring solutions to aid in mitigating fraud risk. The Board agrees that strong security mechanisms are necessary to support the overall safety of the nation's payment system. Across the payment system, payment security at the end-user level rests between end users and their banks, while at the payment system level, service operators may have additional layers of security.

For the FedNow Service, participating banks would continue to serve as a primary line of defense against fraudulent transactions, as they do today, with solutions to mitigate fraud enabled as part of the end-user services banks offer their customers. At the payment system level, the FedNow Service could offer additional fraud mitigation features, such as payment monitoring to alert participating banks of unusual transactions. In addition, the Federal Reserve remains committed to working with the industry on best practices and standards for mitigating fraud across these levels. The Federal Reserve intends to engage with industry stakeholders to better assess FedNow Service features that could help mitigate fraud risk and advance the safety of faster payments in the United States.

available during the same hours as the FedNow Service shortly after the service becomes available.

[119] FedLine Solutions is a set of electronic connection products that over 10,000 banks (or their agents) use to access Federal Reserve payment and information services. More information is available at *https://frbservices.org/fedline-solutions/index.html.*

While not envisioned at this time, the Board may consider in the future whether enabling access to the FedNow Service through alternate messaging networks would enhance resiliency or interoperability for faster payments.

[120] After announcing the initial fee schedule, consistent with existing practice, the Board would include the FedNow Service with its annual service-pricing process for all priced services.

[121] The ultimate fee structure and schedule would be informed by the Board's assessment of market practices at the time of implementation, which could evolve from today's practices.

[122] This approach is consistent with that used for the Federal Reserve's ACH service before it became a mature service.

[123] Many payments in the United States, such as electronic bill payments and card payments have traditionally been accomplished as debit transfers, in which the sender provides the receiver with information and authorization to debit the sender's bank account.

D. Implementation

The Board acknowledges the time-to-market pressure for industry participants related to faster payment services and is committed to launching the FedNow Service as soon as practicably possible. The Federal Reserve will engage quickly with industry participants to gather input for finalizing the initial design and features of the service. Pending engagement with the industry, the Board anticipates the FedNow Service will be available in 2023 or 2024.

VI. Competitive Impact Analysis

The Board conducts a competitive impact analysis when considering an operational or legal change to a new or existing service, such as the planned FedNow Service. The Board has considered whether the FedNow Service as described in Section V would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services due to differing legal powers or constraints or due to a dominant market position of the Federal Reserve deriving from such legal differences.[124]

In conducting a competitive impact analysis, the Board first determines whether the proposal has a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services. In instances where such direct and material adverse effects on the ability of the private-sector provider to compete are identified, the Board then considers whether such effects were due to either legal differences or a dominant market position deriving from such legal differences. If the Board determines that the material adverse effects were the result of legal differences or the Federal Reserve's dominant market position, the Board then evaluates the potential public benefits of the new service in order to determine whether those benefits could be reasonably achieved with a lesser or no adverse competitive impact. Based on these considerations, the Board then either modifies the proposal to lessen or eliminate the adverse impact on competitors' ability to compete or determines that the payment system objectives may not be reasonably achieved if the proposal is modified. If reasonable modifications would not mitigate the material adverse effect, the Board then determines whether the anticipated benefits of the new service are significant enough to proceed with the service even though it may adversely affect the ability of other service providers to compete with the Federal Reserve in that service.

The Board has conducted an initial competitive impact analysis for the FedNow Service. However, the Board will conduct a final competitive impact analysis after considering the comments received during the public comment period.

A. Relevant Private-Sector Providers of Similar Services

In conducting its initial competitive impact analysis, the Board first identified relevant private-sector providers of similar services. At present, there is one private-sector RTGS service for faster payments in the United States, which has been operational since November 2017.[125] Like the planned FedNow Service, the private-sector RTGS service conducts real-time payment-by-payment final settlement of interbank obligations on a 24x7x365 basis. Unlike the FedNow Service, which would settle in central bank money using master accounts, the private-sector RTGS service relies on an internal ledger kept by its operator to conduct settlement, which is supported by funds held in a joint account at a Reserve Bank.[126]

B. Material Adverse Effects on the Ability of Relevant Service Providers To Compete Effectively

After identifying relevant private-sector providers of similar services, the Board then compared those providers' services with the FedNow Service. The purpose of this comparison is to identify differences between private-sector and Federal Reserve services. Such differences could create a direct and material adverse effect on the ability of the private-sector services to compete effectively with the Federal Reserve. Ultimately, it would be difficult to create total parity between the Federal Reserve and private-sector providers in their provision of payment services. Certain differences may provide advantages in the Federal Reserve's provision of priced services, while other differences may provide competitive advantages to private-sector entities.[127]

In this regard, certain specific differences between the FedNow Service and the private-sector RTGS provider are relevant. For example, the eligibility of funds held in master accounts to earn interest and count toward reserve requirements is a particularly notable difference between the two services. However, whether these and other differences between the two services will, on net, have a direct and material adverse effect on the ability of the private-sector RTGS service to compete effectively with the Federal Reserve is unclear.

First, the FedNow Service would allow participants to use their master accounts at the Reserve Banks, whereas the private-sector RTGS provider uses a separate non-interest-bearing joint account that each participant must prefund. Use of master accounts may provide an advantage to the FedNow Service because funds remain in participants' Federal Reserve accounts, earning interest and counting towards reserve requirements, and can be used for other purposes. Unlike funds held in a master account, funds held in the private-sector service's joint account do not earn interest or count towards reserve requirements and are not available for other purposes that may arise, such as satisfying payment or liquidity needs outside the private-sector service.[128]

Second, if the Board confirms that the FedNow Service would provide access to intraday credit under the same terms and conditions as for current Federal Reserve services, such intraday credit would lower the risk that payments will be rejected because of lack of funds. In such a scenario, the Federal Reserve would expect banks to manage their

[124] "The Federal Reserve in the Payments System," *supra* note 18.

[125] The Board recognizes that the FedNow Service may affect additional private-sector entities that may be indirect competitors to or users of the FedNow Service. However, because these entities do not provide RTGS services for faster payments, the Board does not view them as private-sector providers of similar services and, therefore, has not considered them as part of this analysis.

[126] A joint account enables settlement for participants in a private-sector arrangement to be supported by funds held for the joint benefit of the service's participants. Accordingly, the operator of a private-sector arrangement that relies on a joint account can perform real-time, payment-by-payment settlement by adjusting participant positions on its own ledger, which, in the aggregate, will be equal to or less than the amount held in the joint account. Settlement supported by a joint account can occur at any time or on any day at the settlement-arrangement operator's discretion because settlement takes place on the ledger of the settlement-arrangement operator.

[127] For example, although private-sector providers generally do not need to publish their fees, the Federal Reserve publishes fees for their priced services in a manner that is transparent to competitors and customers alike.

[128] In adopting guidelines for evaluating joint account requests, the Board explained that the treatment of joint account balances depends on the nature of the private-sector arrangement, including the rights and obligations of the parties involved. Therefore, determining whether balances held in a joint account can be used to meet reserve requirements or are eligible for interest is assessed for each request individually. *See* Board of Governors of the Federal Reserve System, "Final Guidelines for Evaluating Joint Account Requests," 82 FR 41951, 41956 (Sept. 5, 2017). Available at *https://www.federalregister.gov/d/2017-18705.*

master accounts at all times in compliance with Federal Reserve policies. Further, because the Board does not expect that the discount window would be available initially on weekends and holidays, participants in the FedNow Service would need to manage their master accounts more actively during those times to avoid overnight overdrafts.

In the private-sector service, participants are able to use intraday credit available to them under the Federal Reserve's PSR Policy to fund the joint account. Access to intraday credit in funding the joint account mitigates the risk of private-sector RTGS faster payment transactions being rejected. However, access would be limited to the current operating hours of the Fedwire Funds Service, resulting in continued risk of rejected payments because of lack of prefunding outside those hours. Participants in the private-sector service, however, can manage this risk by establishing credit arrangements outside of Federal Reserve services, making the materiality of this possible difference unclear.

The Board identified additional differences between the two services that may provide advantages or disadvantages to either service. The FedNow Service and the private-sector service require participants to manage their account positions in different ways, presenting different challenges for some institutions. The FedNow Service's use of master accounts requires consideration of the defined closing and opening of other Federal Reserve payment services also settling in the same account. Further, use of master accounts for a service operating 24x7x365, such as the FedNow Service, adds a layer of complexity to banks' management of their positions to meet reserve requirements and avoid overnight overdrafts and associated penalties. At the same time, use of a joint account requires participants to prefund that account, removing liquidity from their master accounts, and to manage their contributions to the joint account to ensure sufficient liquidity to avoid rejected payments.

The Board is requesting comment on whether the differences identified above would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve and whether additional differences are also relevant. The Board will conduct a final assessment of these differences and others that may be identified in light of comments received.

C. Legal Differences Between the FedNow Service and the Private-Sector Service

The Board has considered whether the differences between the FedNow Service and the private-sector service that have potential direct and material adverse effects are due to legal differences or due to a dominant market position deriving from such legal differences. The Board invites comment on the following initial analysis.

Several of the differences identified above as potentially advantageous to the FedNow Service would be available to a private-sector service if it were to use an operating model other than one based on a joint account at a Reserve Bank. For example, the service could use a commercial bank to hold the prefunding that backs the service's internal ledger. The funds in an account at a commercial bank could potentially earn interest. A commercial bank may also allow overdrafts and extensions of credit, thereby reducing the risk of rejected payments. Depending on the arrangement, balances held at a commercial bank to settle faster payments may count towards reserve requirements.

Choice of a different operating model, however, would have potentially negative implications for other aspects of a private-sector RTGS service for faster payments. Most significantly, if a commercial bank were used, balances would be subject to risk of loss if the commercial bank holding the account were to fail. The use of a joint account at a Reserve Bank to support settlement mitigates this risk by reproducing, as closely as possible, the risk-free nature of settlement in central bank money.

The Board believes that the inherently risk-free nature of deposits at a central bank relative to deposits at a commercial bank is a unique legal difference between the Federal Reserve and other possible institutions, such as a commercial bank, that may result in a competitive advantage for the FedNow Service. This advantage may have a direct and material effect in light of the private-sector operator's use of a joint account.

D. Achieving Potential Benefits With a Lesser, or No, Adverse Competitive Impact

As described in Section III, the Board believes the FedNow Service would offer clear public benefits. Specifically, the service would promote the Federal Reserve's objective of an accessible, safe, and efficient payment system by helping ensure nationwide access to an RTGS infrastructure for faster payments, promoting the safety of the payment system and reducing risks associated with faster payments, and having positive effects on competition and innovation in the payment industry.

If the differences between the FedNow Service and the private-sector service discussed above are determined to have a material adverse effect on the ability of the private-sector provider to compete effectively with the Federal Reserve as part of the Board's final competitive impact analysis, certain actions may help to lessen those effects while still advancing the Federal Reserve's objectives. Specifically, if the Federal Reserve were to offer expanded Fedwire Funds Service or NSS hours, those services could enable access to liquidity during nonstandard business hours, when such access is currently not available. With expanded Fedwire Funds Service or NSS hours, direct participants in the private-sector RTGS service may be able to reduce the amount of prefunding, in particular, on weekends and holidays. This reduction in prefunding could then reduce the amount of liquidity committed to the joint account and allow more funds to remain in participants' master accounts, where those funds could accrue interest, count towards reserve requirements, and be used for purposes other than faster payments. Further, an expansion of Fedwire Funds Service or NSS hours could eventually allow participants in the private-sector RTGS service to have access to intraday credit during times that Fedwire Funds Service and NSS are currently closed.

The expanded functionality provided by these actions, if implemented, may help reduce, if not fully eliminate, the potentially adverse effects described earlier. The Board is requesting comment on modifications to the FedNow Service or other actions that would further reduce or eliminate potentially adverse effects without significantly compromising the anticipated public benefit associated with the service. The Board will conduct and publish its final competitive impact analysis of the FedNow Service as part of the subsequent **Federal Register** notice presenting the final FedNow Service description.

By order of the Board of Governors of the Federal Reserve System August 2, 2019.

Ann Misback,

Secretary of the Board.

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