United States Government Accountability Office

Report to the Chairman, Committee on Financial Services, House of Representatives

August 2016

PAYMENT SERVICES

Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy

Accessible Version

GAO-16-614

GAO Highlights

Highlights of GAO-16-614, a report to the Chairman, Committee on Financial Services, House of Representatives

Why GAO Did This Study

Federal Reserve Banks compete with private-sector entities to provide services while Federal Reserve Board staff also supervise the Reserve Banks and other service providers and financial institution users of these services. The Monetary Control Act requires the Federal Reserve to establish fees for its services on the basis of costs, including certain imputed private-sector costs. GAO was asked to review issues regarding the Federal Reserve's role in providing payment services. Among other objectives, GAO examined (1) how well the Federal Reserve calculates and recovers its costs, (2) the effect of the Federal Reserve on competition in the market, and (3) market participant views on the Federal Reserve's role in the payments system.

GAO analyzed cost and price data trends; reviewed laws, regulations, and guidance related to Federal Reserve oversight and provision of payment services; and interviewed Federal Reserve officials, relevant trade associations, randomly selected payment service providers, customer financial institutions, and other market participants.

What GAO Recommends

GAO recommends that the Federal Reserve consider ways to incorporate, where appropriate, additional costs faced by private-sector competitors in its simulated cost recoveries and periodically obtain an external audit that tests the accuracy of the methods it uses to capture and simulate its costs. The Federal Reserve noted steps they will take to address GAO's recommendations.

View GAO-16-614. For more information, contact Lawrance Evans at (202) 512-8678 or evansl@gao.gov.

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PAYMENT SERVICES

Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy

What GAO Found

The Federal Reserve Banks are authorized to provide payment services—such as check clearing and wire transfers—to ensure continuous and equitable access to all institutions. The Depository Institutions Deregulation and Monetary Control Act of 1980 (Monetary Control Act) requires the Federal Reserve to establish prices for its payment services on the basis of the costs incurred in providing the services and give due regard to competitive factors and the provision of an adequate level of services nationwide. GAO found the Federal Reserve had a detailed cost accounting system for capturing these costs that generally aligned with federal cost accounting standards. Although this system was evaluated and found effective by a public accounting firm in the 1980s, it has not undergone a detailed independent evaluation since then. In addition to the actual costs it incurs in providing services, the Federal Reserve also must include an allocation of imputed costs which takes into account the taxes that would have been paid and the return on capital that would have been provided if the services had been furnished by a private firm. Although its processes for simulating the imputed costs generally were reasonable, the Federal Reserve did not impute certain compliance costs private-sector firms can face—such as for planning for recovery and orderly wind down after financial or other difficulties. Including additional simulated costs competitors can incur and obtaining periodic external evaluations of its cost accounting practices would provide greater assurance that the Federal Reserve fully includes appropriate costs when pricing its services.

Since the mid-2000s, the effects of Federal Reserve participation in the payment services market have included lower prices for many customers; overall market share for competitors also increased. Although some competitors raised concerns about some Federal Reserve pricing practices, customers GAO interviewed generally were satisfied with its services and prices. The Federal Reserve also has a process for assessing its pricing and products to help ensure it is not unfairly leveraging any legal advantages. Since 2005, the Federal Reserve lowered prices for checks and smaller electronic payments while increasing prices for wire transfers. During this time, private-sector competitors' market share expanded overall. But the Federal Reserve's only competitor in small electronic payments and wire transfers told GAO that increased regulatory costs and competitive pressure from the Federal Reserve creates difficulties for the long-term viability of private-sector operators.

Most market participants GAO interviewed were satisfied with how the Federal Reserve performed various regulatory and service provider roles in the payments system. Most of the 24 participants GAO interviewed had no concerns over how the Federal Reserve separated its supervisory activities from its payment services activities. The Federal Reserve also has begun collaborating with market participants to pursue improvements to the safety, speed, and efficiency of the payment system. Although some competitors said the Federal Reserve should reduce its payment services role, many participants supported having the Federal Reserve remain an active provider. Federal Reserve staff indicated that these activities provide the Federal Reserve with sufficient revenue to enable it to provide ubiquitous access at affordable prices.

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Abbreviations

ACH	Automated Clearing House
Board	Board of Governors of the Federal Reserve System
Check 21	Check Clearing for the 21st Century Act of 2003
CHIPS	Clearing House Interbank Payment Service
ECCHO	Electronic Check Clearing House Organization
Federal Reserve	Federal Reserve System
PACS	Planning and Control System
PSAF	private-sector adjustment factor
Reserve Banks	Federal Reserve Banks
TCH	The Clearing House Payments Company L.L.C.

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
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August 30, 2016

The Honorable Jeb Hensarling
Chairman
Committee on Financial Services
House of Representatives

Dear Mr. Chairman:

With the value of checks and electronic payment transfers exceeding a quadrillion dollars in 2015, a reliable and efficient payments system is essential for the economic stability of the United States. The Board of Governors (Board) and the 12 Federal Reserve Banks of the Federal Reserve System (Federal Reserve) play multiple roles in the payments system, including functioning as the nation's central bank, supervising financial institutions, and providing payment services to market participants. The Reserve Banks offer a range of payment services to depository institutions and the federal government, including collecting checks; electronically transferring funds; issuing, transferring, and redeeming U.S. government securities; distributing and receiving currency and coin; and maintaining accounts for reserve and clearing balances.[1] The Board oversees the operations of the Reserve Banks and serves as a regulator of certain aspects of payment services in the United States. As part of its oversight, the Board issues regulations that apply to the payment services activities of the Reserve Banks and the private-sector entities that compete with them. Where these roles potentially overlap or conflict, the Federal Reserve faces the challenge of managing or separating the roles in ways that help ensure it fulfills each role without exerting undue influence or giving itself an advantage at the expense of

[1]As the nation's central bank, one of the Federal Reserve's tools for conducting monetary policy is the setting of reserve requirements that mandate that all depository institutions hold a percentage of certain types of deposits as reserves in the form of vault cash, as a deposit in the institution's account at a Federal Reserve Bank, or as a deposit in a pass-through account at a correspondent institution (one that provides check clearing and other services for other institutions). *See* 12 U.S.C. §§ 248, 461; 12 C.F.R. § 204.5(a), (d). More than 6,000 U.S. depository institutions maintain a Federal Reserve account at the Reserve Bank in their district and about 1,900 of these account holders maintain balances for the purposes of satisfying reserve requirements on behalf of themselves or other depository institutions, and these accounts also can be used to settle payments.

the banking industry or its private-sector competitors in providing payment services.

In 2000, we reviewed the potential conflicts of interest posed by the Federal Reserve's operation of a payment system that competes with private-sector systems operated and owned by institutions that the Federal Reserve also supervises.[2] We found no evidence to suggest that the Federal Reserve had not adequately separated its multiple roles in the payments system. However, the overall U.S. payments system has evolved since our 2000 report. Technology has dramatically changed many aspects of the payments process, notably in the transition from the use and settlement of paper checks to electronic payments. In addition, the Federal Reserve has begun publicly exploring how the United States can develop a near real-time payment system to facilitate payments between individuals and businesses as several other countries are moving to. When Congress mandated that the Reserve Banks offer payment services to nonmember depository institutions on terms comparable to those for member banks, it also required that the Banks publish prices for these services that were established over the long run on the basis of all the direct and indirect costs actually incurred in providing the services, including certain imputed costs that would have been incurred if the services had been furnished by a private firm.

You asked us to update our 2000 report and in particular, review the Federal Reserve's management of its potential conflicts of interest in the U.S. payments system, including issues relating to the costs and pricing of its services. This report examines (1) how effectively the Federal Reserve captures and recovers its payment services costs; (2) the effect of the Federal Reserve's practices on competition in the payment services market; (3) how the Federal Reserve mitigates the inherent conflicts posed by its various roles in the payments system; and (4) market participant viewpoints on the future role of the Federal Reserve in the payments system. This report focuses on three payment system products offered by the Federal Reserve—check clearing, electronic payments known as Automated Clearing House (ACH) payments, and wire transfer payments—because these are the services in which the Federal Reserve primarily competes with private-sector entities.

[2] GAO, *Federal Reserve System: Mandated Report on Potential Conflicts of Interest*, GAO-01-160 (Washington, D.C.: Nov. 13, 2000).

To address these objectives, we analyzed data on the reported costs and revenues of Federal Reserve payment services from 1996 to 2015 and how pricing and fee structures for the services had changed over this period. We took steps to assess the reliability of these data and determined they were sufficiently reliable for our analysis. Although we analyzed the processes by which the Federal Reserve accounts for its reported costs and revenues, we did not include detailed testing of the Federal Reserve's cost accounting controls related to its priced services activities. We reviewed relevant legislation and Federal Reserve policies, regulations, and guidance relevant to payment services activities. We reviewed audits that external and internal audit organizations performed of Federal Reserve payment system costs and activities. We also reviewed the Federal Reserve's policies that outline the criteria it would consider before offering a new payment service. We interviewed Board and Reserve Bank staff and 34 market participants, including financial trade associations whose members participate in payment systems and issue rules governing payment system activities; payment services providers, including those that compete with the Federal Reserve; and banks and credit unions that were end users of payments systems services from other private-sector providers and the Federal Reserve. The sample of banks and the sample of credit unions we interviewed were both composed of a nonprobability stratified sample based on tiers by asset size, including interviewing the five largest banks and randomly selecting a number of banks from the large, mid-sized, and smaller tiered banks. For credit unions we randomly selected institutions from larger and from smaller credit unions. We also interviewed both financial institution and nonbank entities that provided competing payments services randomly selected within type of institution. We also interviewed staff from the Department of Justice about competition issues. For more information on our methodology, see appendix I.

We conducted this performance audit from November 2014 to August 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Federal Reserve has long had a role in the U.S. payments system. One of the major impetuses for the creation of the Federal Reserve was to reduce the potential for disruptions in payments that periodically occurred in the United States. During a financial crisis in 1907 stemming from losses arising from the San Francisco fire and the failure of the Knickerbocker Trust in New York City, payments were largely suspended throughout the country because many banks and clearinghouses, which served as centralized locations for banks to exchange checks for clearing, refused to clear checks drawn on certain banks. These refusals led to liquidity problems in the banking sector and the failure of otherwise solvent banks, which exacerbated the impact of the crisis on businesses and individuals.

With the passage of the Federal Reserve Act, Congress established the Federal Reserve in 1913 in part as a response to these events.[3] The Federal Reserve Act also directed the Federal Reserve to supply currency in the quantities demanded by the public and gave it the authority to establish a national check-clearing system. Previously, some paying banks (on which checks had been drawn) had refused to pay the full amount of checks (nonpar collection) and some had been charging other fees to the banks presenting checks to be paid. To avoid paying these presentment fees, many presenting banks routed checks to banks that were not charged presentment fees by paying banks. This circuitous routing resulted in extensive delays and inefficiencies in the check-collection system. In 1917, Congress amended the Federal Reserve Act to prohibit banks from charging the Reserve Banks presentment fees and to authorize nonmember banks as well as member banks to collect checks through the Federal Reserve System.[4]

As the nation's central bank, the Federal Reserve manages U.S. monetary policy, supervises certain participants in the banking system, and serves as the lender of last resort. The Federal Reserve System consists of the Board of Governors in Washington, D.C., and 12 Reserve Banks with 24 branches located in 12 districts across the nation. The Board is a federal agency, and the Reserve Banks are federally chartered and organized like private corporations each with a board of directors and with their shares owned by their member banks. The Board is responsible for maintaining the stability of financial markets, supervising banks that are members of the Federal Reserve and bank and savings and loan holding companies, and overseeing the operations of the Reserve Banks.

[3] Federal Reserve Act, Pub. L. No. 63-43, 38 Stat. 251 (1913).

[4] Pub. L. No. 65-25, 40 Stat. 232 (1917).

The Board has delegated some of these responsibilities to the Reserve Banks, which also provide payment services to depository institutions and government agencies. As a result, the Federal Reserve has dual roles as both payment systems operator and as a regulator of payment system participants.

The role of the Federal Reserve Banks as a provider of several payment services in the United States contrasts with that of the central banks of other countries. According to a study by the Bank for International Settlements, which provides services to other central banks, of the 13 foreign jurisdictions examined, central banks in 11 operated large value payment transfer systems—as the Reserve Banks do—but only 2 central banks (those in Belgium and Germany)—also operated check-clearing and electronic retail payment networks.[5]

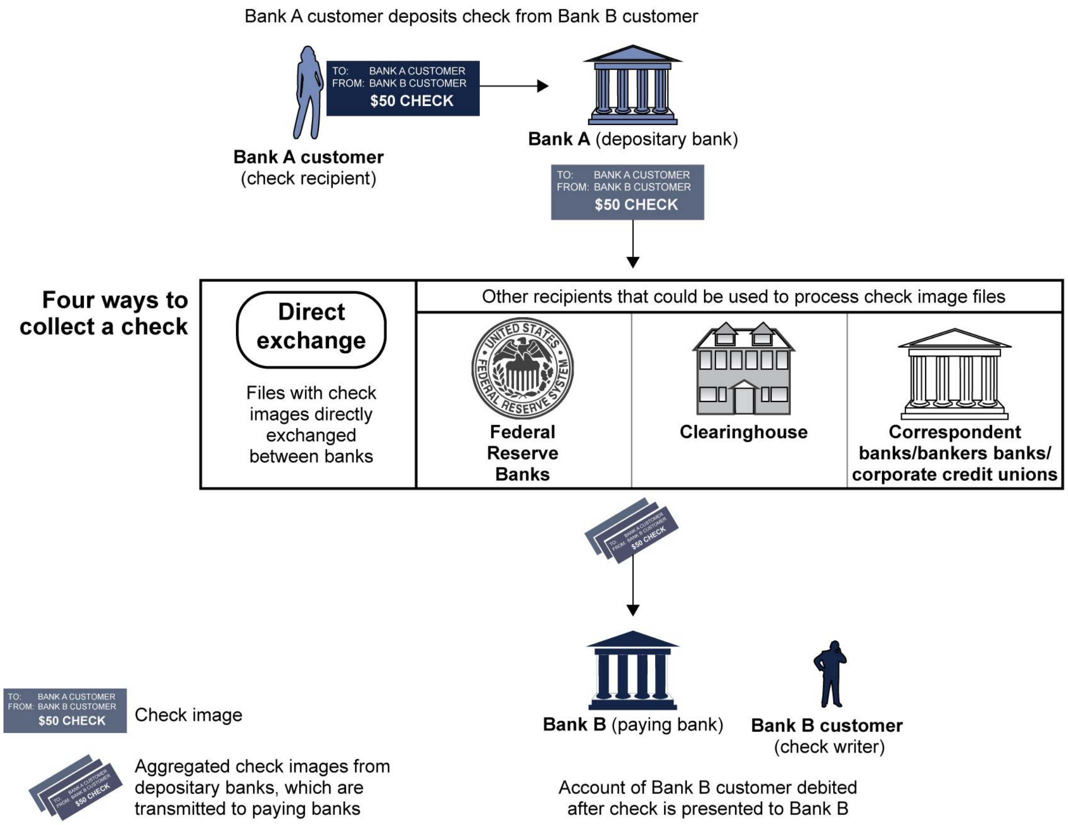
To improve the functioning of check services, Congress instituted a par-value (face value) check collection service to simplify the check-clearing process in the Federal Reserve Act, and gave the Federal Reserve operational (through the Reserve Banks) and regulatory (through the Board) roles in check collection. Interbank checks are cleared and settled through a check-collection process that includes presentment and final settlement.[6] Presentment occurs when checks are delivered by the bank that received them—which currently almost exclusively involves transmission of electronic images—to paying banks for payment. The checks may be sent either directly to the paying bank or through another entity—either another bank, a check clearinghouse, or a correspondent bank—that would ultimately deliver them to the paying banks (see fig. 1). The paying banks then decide to honor or return the checks. Settlement ultimately occurs when collecting banks are credited and paying banks debited, usually through accounts held at a Reserve Bank or at correspondent banks that provide check clearing and other services for other institutions. As part of its role in regulating check collection, the

[5]See Bank for International Settlements, Committee on Payment and Settlement Systems of the Group of Ten Countries, *Payment and Settlement Systems in Selected Countries*, (Basel, Switzerland, April 2003). The 13 foreign jurisdictions reviewed were those in Belgium, Canada, the Euro area, France, Germany, Hong Kong, Italy, Japan, Netherlands, Singapore, Sweden, Switzerland, and the United Kingdom.

[6]Interbank checks are those in which the bank of first deposit and the paying bank are different. “On-us” checks are deposited or cashed at the same bank on which they are drawn.

Federal Reserve Board promulgated regulations that govern various aspects of these processes, including Regulation CC (which covers how quickly banks must make funds from checks and other deposits available for withdrawal and governs aspects of interbank check collection and return), and Regulation J (which covers how institutions can collect and return checks and other items through the Reserve Banks).[7]

Figure 1: Steps Involved in a Typical Check Payment in the United States



Sources: GAO analysis of Federal Reserve and private-sector payment service providers information; Art Explosion (images). | GAO-16-614

[7]For Regulation CC, see 12 C.F.R. pt. 229. Section 1086 of the Dodd-Frank Wall Street Reform and Consumer Protection Act amended the Expedited Funds Availability Act to make the Board's authority for the EFA Act's provisions implemented in Subpart B of Regulation CC joint with the Consumer Financial Protection Bureau. Pub. L. No. 111-203, § 1086, 124 Stat. 1376, 2085 (2010). For Regulation J, see 12 C.F.R. pt. 210.

To facilitate electronic check processing, some banks can create an electronic image of a paper check at their branches, while others transport the paper to centralized locations where the paper is imaged.[8] After imaging, an image cash letter is assembled and sent directly to a paying bank, an intermediary bank, or to a collecting bank (such as a Reserve Bank or a correspondent bank) or to an image exchange processor for eventual presentment to the paying bank. The Reserve Banks offer imaged check products—FedForward, FedReceipt, and FedReturn—for a fee to banks that use its check collection services to present checks for payment at other institutions.[9] Similarly, other entities that offer check-clearing services charge fees or use other mechanisms to obtain compensation for such services, or institutions may not charge each other when directly exchanging images.

The Fedwire Funds Service (Fedwire), the Federal Reserve's wire payments service, began in 1918 as a funds transfer service and initially used Western Union's telegraph lines to transmit payments.[10] The current Fedwire network provides a real-time gross settlement system in which about 6,000 participants can initiate electronic funds transfers that are immediate, final, and irrevocable. Depository institutions and others that maintain an account with a Reserve Bank can use the service to send payments directly to, or receive payments from, other participants. Depository institutions also can use a correspondent relationship with a

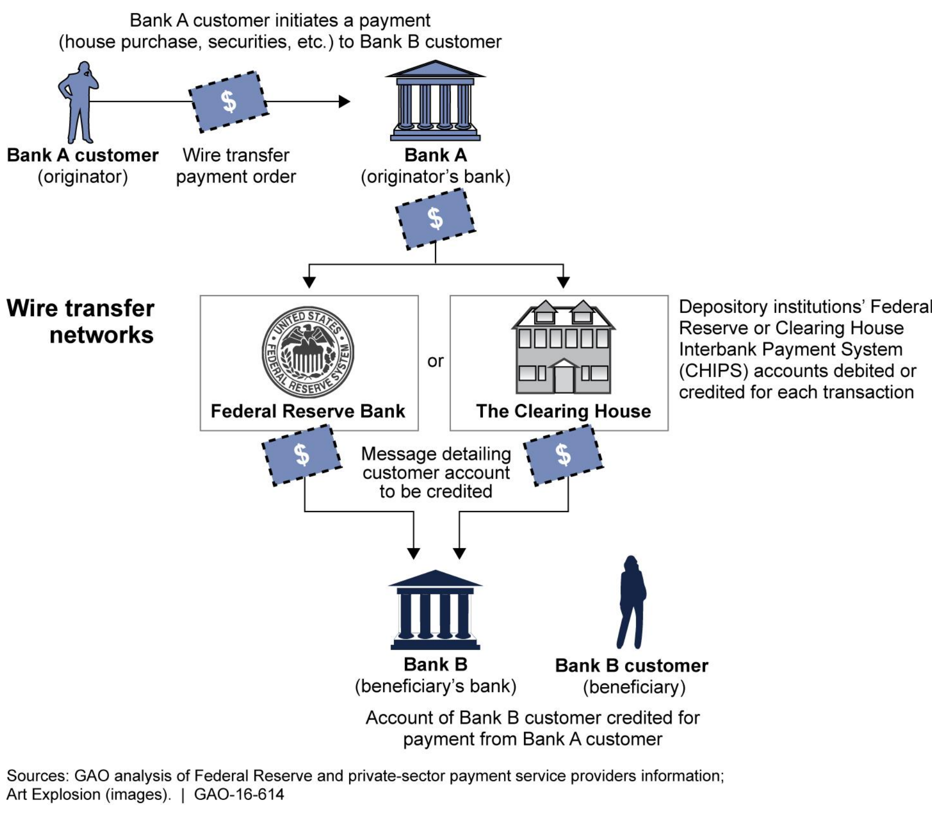
[8]Some check images are created by bank customers through a process called remote deposit capture.

[9]According to Federal Reserve staff, FedForward is a Reserve Bank service in which checks are deposited with a Reserve Bank and presented for collection either as substitute checks or electronically using image cash letters. (A cash letter is a group of checks packaged and sent by one bank to another bank, clearinghouse, or a Reserve Bank office. A cash letter is accompanied by a list containing the dollar amount of each check, the total amount of the checks, and the number of checks sent with the cash letter.) FedReceipt is a Reserve Bank service in which a paying bank agrees to permit the Reserve Banks to present checks to it electronically. FedReturn is a Reserve Bank service that permits paying banks to return checks to depository banks by sending image cash letters to the Reserve Banks, which will return the checks in image cash letters or as substitute checks to the depository banks.

[10]In addition to the Fedwire Funds service, the Reserve Banks also provide the Fedwire Securities Service, a securities settlement system that enables participants to hold, maintain, and transfer eligible securities, including those issued by the U.S. Department of the Treasury, other federal agencies, government-sponsored enterprises, and certain international organizations, such as the World Bank. Securities are held and transferred in book-entry form. This report will refer to the Fedwire Funds service as Fedwire.

Fedwire participant to make or receive transfers indirectly through the system. Participants use Fedwire to handle time-critical payments (such as settlement of interbank purchases, sales of federal funds, securities transactions, real estate transactions, or disbursement or repayment of large loans). The U.S. Department of the Treasury, other federal agencies, and government-sponsored enterprises also use Fedwire to disburse and collect funds. A private-sector entity, The Clearing House Payments Company L.L.C. (TCH), operates a competing wire transfer service—the Clearing House Interbank Payment System (CHIPS)—that is used for similar purposes as Fedwire. Figure 2 shows how a typical wire transfer payment occurs.

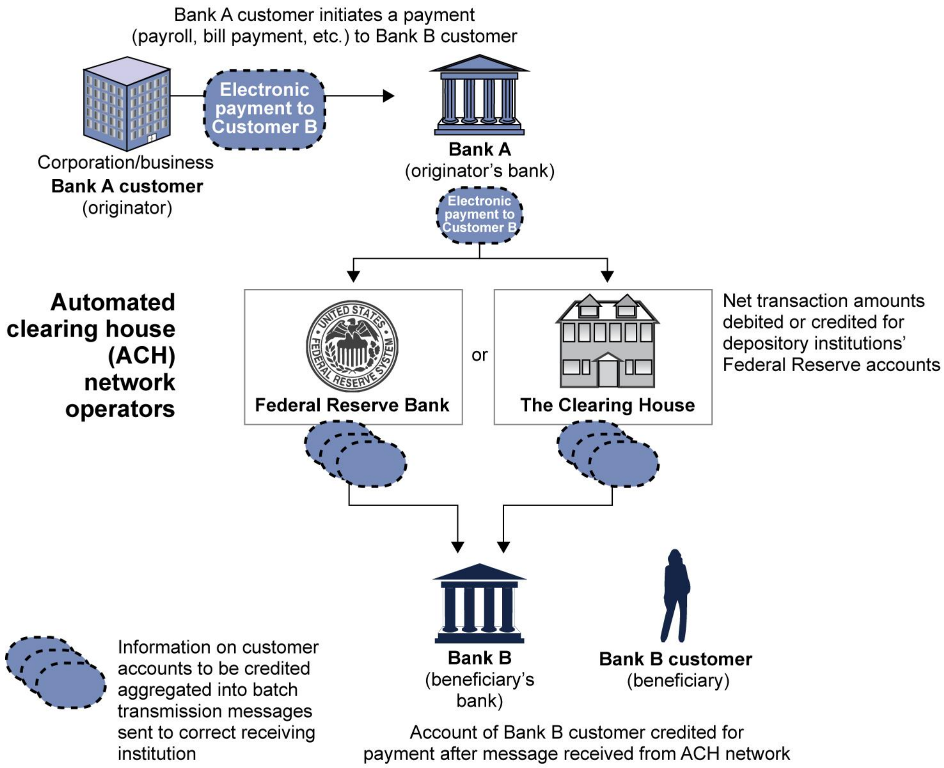
Figure 2: Steps Involved in a Typical Wire Transfer Payment in the United States



Sources: GAO analysis of Federal Reserve and private-sector payment service providers information; Art Explosion (images). | GAO-16-614

In response to concerns over high volumes of paper checks in the payments system, the Federal Reserve worked with the private sector in the 1970s to develop an electronic system to exchange payments known as Automated Clearing House (ACH). These payments are often used for small or recurring transactions, such as direct deposit of payrolls or payment of utility, mortgage, or other bills. The Reserve Banks' Retail Payments Office operates an ACH payment network (called FedACH). By agreement (in the form of an operating circular), ACH transactions are conducted under rules and operating guidelines developed by a nonprofit banking trade association, NACHA (formerly the National Automated Clearing House Association). With limited exceptions, Federal Reserve staff indicated that the Reserve Banks incorporate the association's rules by reference in their ACH operating circulars, which represents the agreement between a Reserve Bank and its customers on the terms and conditions of the FedACH services. TCH also operates its own ACH network—the Electronic Payments Network—through which its members can transmit and receive ACH payments to or from the customers of their institutions. The Federal Reserve and TCH exchange ACH payments originated by their customer institutions that are bound for institutions using the other's ACH network. Both the sending and the receiving institutions typically are charged fees for ACH transactions. Figure 3 illustrates a typical ACH payment.

Figure 3: Example of Steps Involved in an Automated Clearing House Payment from a Business to an Individual in the United States



Sources: GAO analysis of Federal Reserve and private-sector payment service providers information; Art Explosion (images). | GAO-16-614

In 1980, Congress enacted changes that expanded the role of the Federal Reserve in the payments system. The Monetary Control Act of 1980 (Monetary Control Act) extended the Federal Reserve's reserve requirements to all depository institutions, not just member banks of the Federal Reserve.[11] The act also allowed the Reserve Banks to offer payment services to all depository institutions that had previously been available at no cost to their members. Part of the legislative history of the

[11]Pub. L. No. 96-221, Tit. I, 94 Stat. 132, 132 (1980). Requiring that depository institutions hold a percentage of certain types of deposits as reserves in the form of vault cash or as deposits at accounts at a Federal Reserve Bank or a correspondent institution is one of the tools the Federal Reserve uses for conducting monetary policy. This act's extension of these reserve requirements to all institutions was to increase their effectiveness in achieving desired changes in the money supply.

Monetary Control Act indicates that since the act required nonmember institutions to meet reserve requirements, it was reasonable to also provide such institutions with access to Reserve Bank payment services.[12] At this time, the act required the Federal Reserve to begin charging all institutions for such services.

Because this change placed the Reserve Banks and private-sector providers of payment services in competition with each other, the act included certain requirements to encourage competition between the Reserve Banks and private-sector providers to ensure provision of payment services at an adequate level nationwide. The Monetary Control Act required the Board to establish a fee schedule for Reserve Bank payment services, under which all services are required to be priced explicitly. The act also required that over the long run, fees be established on the basis of all direct and indirect costs actually incurred in providing the priced services, including imputed costs that would have been incurred by a private-sector provider, giving due regard to competitive factors and the provision of an adequate level of such services nationwide.[13] In describing the policies adopted to implement the

[12] 126 CONG. REC. 6897 (1980) (statement of Sen. Proxmire).

[13] 12 U.S.C. § 248a. The Monetary Control Act requires that the Federal Reserve Board establish the schedule of fees for the following services: (1) currency and coin services; (2) check clearing and collection services; (3) wire transfer services; (4) automated clearing house services; (5) settlement services; (6) securities safekeeping services; (7) Federal Reserve float; and (8) any new services that the Federal Reserve System offers, including but not limited to payment services to effectuate the electronic transfer of funds. The act also directed the Board to publish (for public comment) a set of pricing principles and a proposed schedule of fees based on those principles and then to put into effect the fee schedule which is based on those principles. The schedule of fees prescribed must be based on enumerated principles: (1) All Federal Reserve Bank services covered by the fee schedule shall be priced explicitly. (2) All Federal Reserve Bank services covered by the fee schedule shall be available to nonmember depository institutions and such services shall be priced at the same fee schedule applicable to member banks, except that nonmembers shall be subject to any other terms, including a requirement of balances sufficient for clearing purposes, that the Board may determine are applicable to member banks. (3) Over the long run, fees shall be established on the basis of all direct and indirect costs actually incurred in providing the Federal Reserve priced services, including interest on items credited prior to actual collection, overhead, and an allocation of imputed costs, which takes into account the taxes that would have been paid and the return on capital that would have been provided had the services been furnished by a private business firm, except that the pricing principles shall give due regard to competitive factors and the provision of an adequate level of such services nationwide. (4) Interest on items credited prior to collection shall be charged at the current rate applicable in the market for federal funds.

requirements of the Monetary Control Act, the Board stated that the act's legislative history indicated Congress sought to encourage competition to ensure that these services would be adequately available nationwide and at the lowest cost to society. According to these Board policies, the Reserve Banks provide payment services to promote the integrity and efficiency of the payments mechanism and ensure that payment services are provided to all depository institutions on an equitable basis and in an environment of competitive fairness.[14]

In participating in the payments system, the Federal Reserve has taken various actions to make the system more efficient. For example, in the 1950s the Federal Reserve contributed to the adoption of magnetic ink character recognition, which allowed routing and other processing information to be printed in machine-readable ink on the bottom of the check's face, which helped automate check processing. As discussed earlier, the Federal Reserve worked with the private sector to develop the ACH system in the 1970s. Initially, ACH volumes were low with most volume growth attributed to government-initiated transactions, because high startup costs made private-sector banks reluctant to invest in and use the network. For a few years following the implementation of the Monetary Control Act, the Federal Reserve subsidized the ACH network, which helped the network obtain sufficient volume to become successful. To improve the clearing of checks, Congress passed the Check Clearing for the 21st Century Act (Check 21), which became effective October 28, 2004, which was legislation supported by the Federal Reserve.[15] Check 21 facilitates check truncation, which is the substitution of the original physical check with a legal equivalent (called a substitute check).[16] According to the trade association that establishes rules for exchanging check images, checks are generally processed as images.

[14]Federal Reserve System, *Policies: The Federal Reserve in the Payments System*, Issued 1984, revised in 1990.

[15]Pub. L. No. 108-100, 117 Stat. 1177 (2003).

[16]According to Federal Reserve staff, banks are required to present paper checks unless they have the agreement of the paying bank to accept electronic presentment. By creating the concept of a substitute check, this act allowed banks earlier in the collection chain to transmit electronically because the presenting bank has a means of creating the legal equivalent of the paper check for presentment if need be (and likewise paying banks that have some legal obligation to provide "original" checks were able to provide a substitute check).

In 1998, a committee of senior Federal Reserve executives examined whether the Federal Reserve's participation in the payments system remained justified in light of changes occurring in the financial services and technology sectors at the time. This committee's report addressed the results of its review of the role the Federal Reserve played in the use of checks and ACH payments in the retail payments system, including considering whether any changes in its role could affect the integrity, efficiency, and accessibility of this system.[17] After examining check-clearing activities, the committee concluded that Reserve Banks' withdrawal from the check collection market would disrupt the system in the short-run, with little promise of substantial benefit over the longer run. The committee noted that withdrawing from check clearing could increase check collection prices to small and remote depository institutions and could disrupt the migration from paper to electronic payments. Similarly, the report concluded that having the Reserve Banks remain in the ACH market would be more conducive to the future efficiency and migration to electronic payments, including joint efforts with industry participants to spur innovation in products and increase ACH usage.

Other Entities Involved in the Payments System

In addition to the Reserve Banks, other entities offer payment system services to financial institutions. To process check payments, financial institutions can set up direct, individual connections with other financial institutions with which they can exchange check images for clearing of checks drawn on the accounts of their respective customers. Institutions also can submit their checks to clearinghouses that process and transmit check image files for clearing to the respective clearinghouse members on which the checks are drawn. For example, in addition to operating the only other ACH and wire transfer networks that compete with the offerings of the Federal Reserve, TCH also acts as a clearinghouse for check images. Other competitors that provide checking services include correspondent banks, bankers' banks, and corporate credit unions. The financial institution customers of these entities will send or receive their checks, ACH payments, or wire transfers using these entities' systems,

[17]See Committee on the Federal Reserve in the Payments Mechanism, Federal Reserve System, *The Federal Reserve in the Payments* Mechanism, (January 1998). This study excluded cash processing, a service normally expected of a central bank, as well as credit and debit card processing in which the Reserve Banks play no direct operational role. The study also excluded other "wholesale" payment services of the Reserve Banks, such as large-value funds and Fedwire securities transfers.

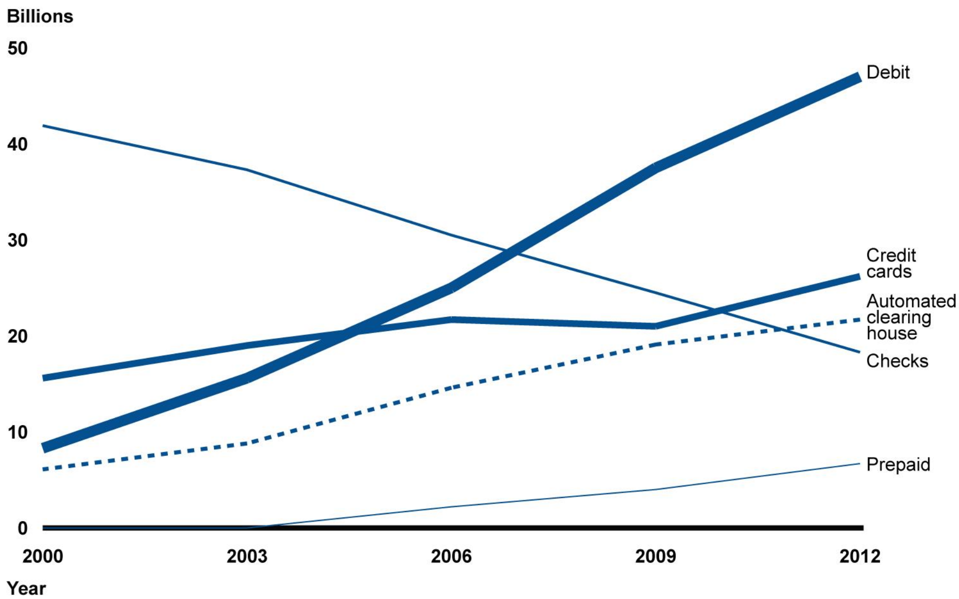
which may pass them to other entities, including individual institutions, TCH, or the Reserve Banks, for processing. Some financial institutions also use nonfinancial third-party data processors that aggregate payments for these services and route them to other entities, including the Reserve Banks or their competitors, for processing.

Check Volumes Decline as Use of Other Payment Types Rises

From 2000 through 2012, total noncash payments grew, and check volumes declined, as the use of other payments types increased. According to data the Federal Reserve reported in 2013, noncash payments—including those made with debit cards, credit cards, ACH, and prepaid cards (but excluding wire transfers)—grew almost 69 percent from 2000 to 2012.[18] The fastest growing payment method was debit cards, whose use grew by more than 466 percent over this period. The number of ACH payments also grew by more than 255 percent, while the number of check payments declined by more than 56 percent. Figure 4 shows how the use of payment types changed in this period.

[18]Board of Governors of the Federal Reserve System, *The 2013 Federal Reserve Payments Study: Recent and Long-Term Trends in the United States: 2000–2012,* detailed report and updated data release (Washington, D.C.: July 2014). This is the Federal Reserve's most recent triennial study of payment market trends, which publishes payment statistics for a single point in time every 3 years.

Figure 4: U.S. Noncash Payments by Transaction Type, 2000–2012



Source: Federal Reserve Board data. | GAO-16-614

The changes in the relative use of the various payment methods largely reflect consumers switching from check use to card-based or other payment methods. According to the Federal Reserve's analysis, consumers wrote about 8 billion fewer checks to businesses in 2012 than they had in 2006, and businesses wrote 4 billion fewer checks in 2012 to consumers or other businesses than they had in 2006. Federal Reserve staff noted that although check volumes have declined, the dollar value of payments made by checks—estimated by the checking industry association to exceed $20 trillion in 2013—indicates that checks are still an important payment method in the United States because businesses continue to use them to make payments to other businesses.

The growth in ACH payments encompassed its increased use for making various types of payments, including for payroll deposits and automatic bill payments, as well as increased use by consumers to make one-time payments over the Internet. Although it had not obtained the volume of wire transfers as part of past triennial reports, the Federal Reserve analysis estimated that more than 287 million wire transfers occurred in 2012, with a combined value of about $1,116 trillion. Consumer senders accounted for just 6 percent of total wire transfers in 2012.

Federal Reserve Has Processes in Place to Comply with Cost Recovery Requirements

The Federal Reserve Banks incur various costs as part of their provision of payment services. To fully account for these costs, the Federal Reserve uses a detailed accounting system for accumulating and reporting cost, revenue, and volume data for the payment and other services Reserve Banks conduct. The Federal Reserve's cost-accounting practices generally align with those used in the private sector and with cost-accounting standards for federal entities. As part of setting fees for its payment services, the Federal Reserve is required to also impute some additional costs that it would have incurred if it were a private entity. Although various options could be used to calculate these imputed costs, each with their own trade-offs or methodological challenges, the current methodology the Federal Reserve uses appears reasonable. However, the Federal Reserve is not currently including certain costs that its private-sector competitors may incur, including costs related to integrated planning for recovery and orderly wind down of operations. According to Federal Reserve data from 1996 through 2015, the Federal Reserve Banks generally recovered the identified costs of providing payment services, as required by the act. Although the Federal Reserve has various internal controls to help ensure it accurately captures its payment services costs, it has not obtained a detailed, independent evaluation of the reliability of these processes in over three decades.

Federal Reserve Uses a Detailed System for Accounting for the Full Costs Associated with Its Payment Services

The Federal Reserve Banks use a detailed cost accounting system that helps them meet several requirements relating to how to set the fees charged for payment services and account for and recover the costs incurred in providing them. The Monetary Control Act requires that over the long run the Federal Reserve's fees be established on the basis of all direct and indirect costs incurred in providing payment services, and an allocation of imputed costs that would have been incurred by a private-sector provider. Because the Board must set fees based on the total of these costs, failure to account for all of its actual costs could result in the Federal Reserve underpricing its services and competing unfairly with private-sector providers.

According to data provided to us by the Federal Reserve, the Federal Reserve Banks incurred over $410 million in actual costs as part of providing payment services in 2014. These costs include personnel costs, such as salaries and benefits of employees who perform payment services activities, as well as those associated with equipment, materials, supplies, shipping, and other costs for payment services activities. Additionally, costs associated with overhead and support services (activities benefitting multiple Reserve Banks, but performed under a centralized function) are allocated to the payment services. For example, expenses associated with functions such as sales and accounting are categories of support costs for payment services activities. The majority of the actual costs the Federal Reserve incurs in providing payment services—78 percent in 2014—are support costs related to activities such as developing software applications, implementing information security, and providing help desk services.

The *Planning and Control System (PACS) Manual for the Federal Reserve Banks* establishes cost-accounting policies and provides a uniform reporting structure for accumulating and reporting cost, revenue, and volume data for the payment and other services conducted by the Reserve Banks.[19] This system establishes a set of rules and procedures used to determine the full cost of these services. Costs are accounted for at the individual Reserve Bank level and subsequently aggregated to reflect costs for all payment services throughout the Federal Reserve System.

Federal Reserve Banks' Cost Accounting Practices Align with Private-Sector Practices and Federal Standards

Federal Reserve staff told us that the cost-accounting practices in the PACS manual generally align with practices used in the private sector. Additionally, based on our analysis, these practices align with cost-accounting standards developed for federal entities. While generally accepted accounting standards exist for the preparation of financial statements, no single set of authoritative or uniform standards have been developed that apply to the cost accounting practices used in the private sector. In the private sector, systems like PACS typically are used to provide management with internal information for making decisions on cost efficiency and capability.

Although no single or uniform set of standards apply to cost accounting practices in the private sector, Federal Reserve staff acknowledged that information from PACS helps them manage their operations similar to the way in which other organizations use cost accounting information.

[19]Cost accounting is the accounting process that aims to capture an entity's costs of production by assessing the costs associated with the various inputs and steps of production as well as fixed costs such as depreciation of capital equipment. While cost accounting is often used within an entity to aid in decision making, financial accounting information is what is presented to those outside the organization. Financial accounting is a different representation of costs and financial performance that includes the entity's assets and liabilities.

However, they noted that their cost accounting system is detailed and granular to ensure that they account for all costs when pricing their payment services as required. The Board engaged an independent public accounting firm to conduct an evaluation of its payment services pricing methodology in 1984. This accounting firm's evaluation included testing whether costs incurred by the Reserve Banks were adequately captured and whether support and overhead costs were appropriately allocated. This auditor's report concluded that the Federal Reserve's accounting and reporting systems that captured its payment services revenues and costs were operating effectively. In addition, the accounting firm noted that its testing confirmed that PACS had adequate controls that were being followed and ensured that costs were being accurately captured.

Furthermore, representatives of the independent public accounting firm that conducted the 2014 financial audit of the financial statements of the Federal Reserve System told us that the Reserve Banks have thorough and redundant internal controls for financial reporting even in comparison to many commercial organizations. The representatives of this firm told us that their audits of the expense categories that appear in the Federal Reserve's financial statements had not identified significant problems. They noted that this likely reflected the Federal Reserve's thorough system of controls. However, the representatives of this firm told us that they had not audited the expenses allocated to the payment services specifically.

In addition, our analysis indicated that the Federal Reserve's cost accounting practices aligned with broad cost accounting standards for federal entities. The Federal Accounting Standards Advisory Board developed the *Statement of Federal Financial Accounting Standards 4: Managerial Cost Accounting Standards and Concepts* (*SFFAS 4*) to help federal entities provide reliable and timely information on the full cost of federal programs. Reserve Banks are not required to comply with these accounting standards because they are not a government agency but rather federally chartered corporations. However, to provide one measure of the quality of the Federal Reserve's practices, we compared PACS with the requirements of the cost accounting standard for federal entities. *SFFAS 4* directs government entities to meet five standards for their cost accounting, and our analysis indicated that the Federal Reserve's PACS addressed each of these.[20] For example, as prescribed in *SFFAS 4*, PACS defines specific responsibility segments and provides the Reserve Bank a process for accounting for the full costs of their services. Based on this analysis, we concluded that the design of the Federal Reserve's system generally aligned with the elements recommended by the standard. See appendix II for further details on the Reserve Banks' cost accounting practices.

Federal Reserve's Current Process for Simulating Private-Sector Costs Appears Reasonable, but Does Not Currently Account for Certain Costs

Based on our analysis and discussions with market participants and financial experts, the methodology the Federal Reserve uses to calculate imputed payment services costs appears reasonable, but some market participants noted that alternate methodologies might be more appropriate. As previously discussed, the Monetary Control Act requires the Federal Reserve to establish fees on the basis of direct and indirect costs, including an allocation of imputed costs which takes into account the taxes that would have been paid and the return on capital that would have been provided if a private firm had provided the services. The total of the imputed costs and return on capital is referred to as the private-sector adjustment factor (PSAF). The Board approves the PSAF annually as part of its annual process for approving fees for the Reserve Banks' priced services. The PSAF methodology calculates four additional costs that a typical private-sector payment services provider would incur: debt financing costs, equity financing costs (or return on equity), taxes, and payment services' share of Federal Reserve Board expenses.[21] See appendix III for further details on the PSAF methodology.

Over the years, the PSAF has declined significantly, following similar trends in declining transactions, revenues, and assets associated with the Federal Reserve Banks' payment service activities. Following declining payment services revenues and assets, as well as changes in practices

[20]The five standards are (1) accumulating and reporting costs of activities on a regular basis for management information purposes, (2) establishing responsibility segments to match costs with outputs, (3) reporting full costs of goods and services, (4) recognizing the costs of goods and services provided from federal entities, and (5) using appropriate costing methodologies to accumulate and assign costs to outputs.

[21]Federal Reserve officials said that the Board Expenses included in the PSAF are real expenses that represent the costs associated with the Board's supervision of the Reserve Banks' payment services. They noted that Board expenses are included in the PSAF because they are not captured in PACS, as that cost accounting system only captures real costs incurred by the Reserve Banks.

among payment services customers, the total imputed costs arising from the Federal Reserve's PSAF calculations declined from $150 million in 2002 (or an inflation-adjusted basis of nearly $194 million using 2015 dollars) to $13 million in 2016. However, as a percentage of total payment services assets, the PSAF increased slightly from 1.3 percent to 1.5 percent during this period. Federal Reserve staff said that they use publicly available information to calculate the imputed elements of their PSAF methodology and publish the methodology and its results annually in the *Federal Register*. Additionally, all proposed and finalized changes to the PSAF methodology, as well as a summary of the public comments on these changes, are published in the *Federal Register* and posted to the Federal Reserve's website. Federal Reserve staff indicated that they follow this approach to help ensure that the PSAF methodology is transparent and that its results can be more easily verified by the private sector.

As part of its attempts to improve its accuracy and conform the PSAF to changes in the payment system market, Federal Reserve staff noted that the Board has made numerous changes to the methodology over the years. The Federal Reserve staff said that they consider changes to the PSAF methodology when conditions in the marketplace or industry suggest that practices in the markets or other changes have occurred that should be considered in the methodology for imputing costs. They said that in those situations they evaluate different options to improve the methodology and request public comments on the strongest options before adopting a new approach. We reviewed the changes made between 1980 and 2014 and found that the Federal Reserve had publicly sought comment on significant changes to its PSAF methodology 10 times during this period. These include changes to how the return on equity is calculated and to the peer group used to approximate the levels of debt and equity in the model. See appendix III for further details on changes to the PSAF methodology over time.

Concerns over Whether All Relevant Costs Are Included in the PSAF

Private-sector market participants have criticized the Federal Reserve for not accounting for or imputing into the PSAF certain regulatory compliance costs that private-sector providers incur. These costs include those associated with federal antimoney-laundering requirements, increased audit and risk management, overseeing the risks posed by service vendors, and integrated planning for recovery and wind down of operations. The Federal Reserve has said that it accounts for some of these costs as actual expenses incurred by the Reserve Banks, and that it has been considering how the other costs might be incorporated into the PSAF.

In May 2015, the Electronic Check Clearing House Organization (ECCHO) submitted a letter to the Board expressing concerns over the Federal Reserve's failure to account for certain costs being borne by private-sector check services providers and urged it to conduct a complete (*de novo*) competitive impact analysis of the Reserve Banks' check image services. ECCHO specifically noted that many of its members that provide check processing services to other institutions incur costs associated with compliance with federal antimoney-laundering requirements. In a written response sent in December 2015, the Chair of the Federal Reserve Board's Committee on Federal Reserve Bank Affairs said that if private-sector banks incur material antimoney-laundering compliance costs related to their check collection services that the Reserve Banks do not, it might be appropriate for Reserve Banks to impute such costs as part of the PSAF. However, Federal Reserve staff said that correspondent banks have informed them that determining the proportion of antimoney-laundering costs that relate to check services specifically would be difficult, because they do not allocate compliance costs directly to this service. Federal Reserve officials said in their response to ECCHO that, while they did not see the need for the complete competitive impact analysis that ECCHO requested, they continue to consider how they could identify ways to incorporate these costs into the PSAF methodology if they are material. However, until the Federal Reserve determines and implements such costs into the PSAF, the imputed costs will not reflect these actual expenses incurred by many of the Federal Reserve's competitors.

Additionally, enhanced regulatory standards, including those that apply to entities designated as systemically important financial market utilities, have raised regulatory compliance costs for the Federal Reserve's key competitor.[22] Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, entities engaged in payment, clearing, or settlement activity must be designated as systemically important by the Financial Stability Oversight Council if the Council determines that the failure of or a disruption to the functioning of the entity could create, or increase, the risk of significant liquidity or credit problems spreading among financial institutions or markets and thereby threaten the stability of the U.S.

[22]Financial market utilities are any persons that manage multilateral systems for the purpose of transferring, clearing, or settling payments, securities, or other financial transactions among financial institutions or between financial institutions and the persons, subject to certain exclusions. 12 U.S.C. § 5462(6).

financial system.[23] Such entities then become subject to heightened prudential and supervisory provisions intended to promote robust risk management and safety and soundness. The act required the Federal Reserve to issue rules to prescribe risk-management standards for those financial market utilities designated as systemically significant for which the Board is the supervisory agency. In November 2014, the Board issued amendments to Regulation HH, based on the international risk-management standards for payment services that are systemically important developed by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO).[24] Regulation HH requires designated financial market utilities to implement rules, procedures, or operations designed to ensure that the financial market utility meets or exceeds various standards, including, among others, those relating to its governance, risk management and credit risk.[25] For example, the entity must have an integrated plan for its recovery and orderly wind down, maintain unencumbered liquid financial assets sufficient to cover the greater of the cost to implement its recovery and orderly wind-down plans and 6 months of current operating expenses, and hold equity greater than or equal to the amount of unencumbered liquid financial assets required.

Representatives from TCH told us that complying with these standards has increased their regulatory compliance costs and that they question the extent to which the Federal Reserve has appropriately incorporated these costs into the PSAF.[26] TCH estimated that their efforts to comply with these requirements have increased their operating costs by 10 percent, including additional costs associated with their Risk Office that conducts activities related to information technology security, risk management, liquidity risk and orderly recovery and wind-down planning,

[23]Pub. L. No. 111-203, Tit. VIII, 124 Stat. 1376, 1802 (2010).

[24]79 Fed. Reg. 65,543, 65,557 (Nov. 5, 2014) (codified at 12 C.F.R. pt. 234). The international standards on which the revised Regulation HH was based were the Principles for Financial Market Infrastructures (PFMI) developed by CPSS and IOSCO in 2012. Effective September 2014, the CPSS changed its name to the Committee on Payments and Market Infrastructures.

[25]12 C.F.R. § 234.3.

[26]The Financial Stability Oversight Council designated TCH as a systemically important financial market utility on the basis of its role as the operator of CHIPS.

among other things. They also said that they incur greater costs associated with responding to their customers' due diligence reviews regarding vendor management, an element of the federal bank examination process in which federal bank examiners evaluate a financial institution's third-party relationships as a component of their overall risk-management processes.

The Federal Reserve has incorporated some, but not all, of these expenses into the imputed costs it calculates as part of the PSAF. Federal Reserve staff have said that although the Reserve Banks' payment services are not always subject to the same regulatory regime as similar services provided by the private sector, the Reserve Banks are subject to Board supervision and that these oversight costs are already included in the PSAF as Board expenses and are being recovered through revenue from the services. Additionally, Federal Reserve staff told us that the Reserve Banks have devoted increased resources to audit and risk management functions and that costs associated with these functions—including additional personnel—are captured in PACS as internal audit costs at the product line level. Federal Reserve staff said that the amount of these costs had increased in recent years as they hired additional staff to perform expanded oversight activities. Additionally, in order to foster competition with private-sector financial market utilities that are required to hold liquid net assets funded by equity to manage general business risk, the Federal Reserve Board requires the Fedwire Funds service to impute equity held as liquid financial assets equal to 6 months of estimated current operating expenses. To meet this requirement the Fedwire Funds service imputed an additional $2.7 million in equity above the $51.1 million it imputed to meet other capital requirements.[27] This additional imputed equity, at the equity financing rate in the 2016 PSAF, resulted in the Federal Reserve having to recover additional imputed financing costs of $265,000. Federal Reserve staff also clarified that, as a service provider of last resort, the Fedwire Funds Service is subject to unique requirements that do not apply to CHIPS. For example, the staff noted, Reserve Banks have incurred (and continue to incur) substantial expenses in recent years to develop, implement, and test manual procedures for settling systemically important transactions in

[27]For its imputed PSAF capital structure, the Federal Reserve seeks to have its level of equity meet the requirements for a well-capitalized institution, which includes the standards that total capital to risk-weighted assets ratio of at least 10 percent and a leverage ratio (tier 1 capital to total assets) of at least 5 percent.

the unlikely event that the Fedwire Funds Service automated systems are not available. Additionally, Federal Reserve staff told us that they also receive inquiries from customers conducting vendor management due diligence. Federal bank examiners told us that they have not noticed any differences in how either the Reserve Banks or TCH respond to questions from financial institutions on their vendor relationship and that in the course of an examination they would look at an institution's relationship with the Federal Reserve the same way as they would view an institution's relationship with TCH.

However, the Federal Reserve has not incurred or imputed costs related to a plan for recovery and orderly wind down that is required of CHIPS. In a 2014 request for comment on revisions to its Policy on Payment System Risk, the Board noted that Fedwire services do not face business risk that would cause the service to wind down in a disorderly manner and disrupt the stability of the financial system because the Federal Reserve, as the central bank, would support a recovery or orderly wind down of the service, as appropriate, to meet public policy objectives.[28] As a result, Federal Reserve staff said, the Board currently does not require the Fedwire service to develop recovery or orderly wind-down plans or to estimate or impute the costs of developing those plans. However, estimating what these costs would be for its own operations if it were a private firm and including them in its PSAF methodology would enable the Federal Reserve to more completely impute costs that it would have incurred as a private firm in order to meet its cost recovery goals.

Reasonableness of Methodology

As previously noted, the Monetary Control Act states that the Federal Reserve must impute certain costs for its payment services that would have been incurred if a private firm had provided them. Additionally, the

[28] 79 Fed. Reg. 2838, 2842 (Jan. 16, 2014). The Federal Reserve's Policy on Payment System Risk sets out standards on management of risks of financial market utilities that are subject to the Federal Reserve's supervisory authority but are not designated financial market utilities, including those operated by the Federal Reserve Banks. The policy applies to public and private-sector systems expected to settle a daily aggregate gross value of U.S. dollar-denominated transactions exceeding $5 billion on any day during the next 12 months. These payment systems are required to identify, monitor, and manage general business risk and hold sufficient liquid net assets funded by equity to cover general business losses so that it can continue operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind down of critical operations. Designated financial market utilities subject to the Board's Regulation HH are not subject to the risk-management standards set out in the policy.

act states that the Federal Reserve's pricing principles shall give due regard to competitive factors and the provision of an adequate level of services nationwide. However, the act does not specify exactly how the Federal Reserve should impute these costs and various ways could reasonably exist to do so. The Federal Reserve has stated that there is no perfect private-sector proxy for imputing these costs and that the PSAF methodology represents a reasonable approximation of the costs, though some market participants have criticized the methodology.

Nevertheless, some market participants have questioned the appropriateness of the Federal Reserve's current PSAF methodology. Representatives from TCH said that the PSAF should be calculated using a peer group comprising payments-processing companies. They noted that in 2015 their company's equity capital was materially larger than the imputed equity levels calculated by the Federal Reserve. However, neither the Board's rule on risk management standards for systemically important financial market utilities that it regulates nor the international framework for addressing risks of financial market utilities on which it was based dictates any specific equity requirements other than to hold at least 6 months of current operating expenses funded by equity for liquidity reasons and equity greater than or equal to the amount of liquid net assets required.

Some have argued that the Federal Reserve's current approach for imputing debt and equity into the PSAF—in which it uses financial data from all U.S. publicly traded firms in Standard and Poor's Compustat database—does not sufficiently reflect the financial activities that its payment services represent. Furthermore, the U.S. publicly traded firm market includes many firms that are engaged in industries outside of payment services that may be even less similar to the Federal Reserve than is TCH. However, Federal Reserve staff said that basing the imputed debt and equity levels on a peer group consisting of firms providing payment services, such as large bank holding companies, is not optimal because such firms engage in many different lines of business and have risk profiles dissimilar to the payment services provided by the Reserve Banks. Additionally, the Federal Reserve has noted that a methodology based on all publicly traded firms decreases the risk of price volatility that could result from changes in the characteristics or financial results of a limited peer group. If the Federal Reserve's product pricing had to vary widely each year because of large variability in the PSAF, such volatility could be disruptive to its customers and the payment systems market.

Furthermore, the PSAF methodology uses data in the public domain to help ensure that the PSAF calculation is replicable and transparent. Federal Reserve staff noted that the Monetary Control Act states that all Reserve Bank services shall be priced explicitly, which the Board interprets as being fully transparent in their pricing. Many private-sector payment services providers, including TCH, are not publicly traded and do not provide publicly available financial information, which, if used to calculate the PSAF, could hamper the Federal Reserve's goal of maintaining the transparency and replicability of its methodology. Transparency can be an important goal, and our 2000 report included recommendations that the Federal Reserve implemented to increase the transparency and involvement of market participants in its pricing activities.[29]

As noted, the Federal Reserve has attempted to use different methodologies for calculating the PSAF, including previously using the financial data from a peer group of bank holding companies to calculate the PSAF's target return on equity. Although the Federal Reserve no longer bases the PSAF methodology's peer group on the top 50 bank holding companies, the resulting equity financing rates have remained similar. We reviewed the return on equities for the top 50 bank holding companies from 2006 through 2015, and found that the average pre-tax return on equity was 10.5 percent for these bank holding companies, which is similar to the 10.1 percent pre-tax return on equity used in the Federal Reserve's 2015 PSAF calculation.

Because the PSAF is a proxy for private-sector costs and profit dependent on a range of variables, and because of the Reserve Banks' unique structure and operation and the lack of perfectly comparable private-sector competitors, the calculation of the PSAF amount involves trade-offs and assumptions that could be reasonably debated. For example, assumptions on how to impute the return on equity in the methodology can dramatically affect the overall figure. However, as previously noted, changing the way the equity is imputed to include nonpublic financial information might come at the cost of transparency and replicability of the methodology.

[29]See GAO, *Federal Reserve System: Mandated Report on Potential Conflicts of Interest* GAO-01-160 (Washington, D.C.: July 19, 2001).

While the Federal Reserve's approach seems reasonable, any single PSAF figure calculation could be reasonably criticized based on the assumptions made and trade-offs chosen. Likewise, different trade-offs and assumptions could result in higher or lower PSAF figures. We asked three finance experts to review the Federal Reserve's PSAF methodology.[30] All three experts said that the methodology and the assumptions used to make the calculations seemed reasonable. One finance professor said that specific assumptions on rates that the Federal Reserve uses were standard assumptions to use, though there may be some disagreement within each one, which could be expected. Another finance professor said that the Federal Reserve's approach appears to be reasonable without being unnecessarily complex, and added that any alternative models might add more complexity for little benefit.

We also reviewed the methodology and the changes made from 2005 through 2014 and determined that many of the assumptions used rely on professional judgments and involve trade-offs between precision and ease of calculation. For example, the Federal Reserve simplified its calculation for computing the methodology's equity financing rate in 2005. Previously, the methodology averaged the results of three separate financing models based on (1) the return on equity investors would demand based on the risk in the market, (2) the average 5-year ratio of net income-to-book value of equity among a peer group of bank holding companies, and (3) a forward-looking approach estimating the discounted present value of all future cash flows. Ultimately, the Board changed the methodology to use only the model based on the expected rate of return on equity that investors would demand based on the risk in the market, because they considered this approach to be a well-known, generally accepted, and theoretically sound model that is simpler and more transparent than other approaches. In 2005, this change reduced the PSAF from the $161 million it would have been under the three-model approach, to $90.8 million under the simplified one-model approach. However, annual fluctuations in peer group earnings or in projected cash flows could have made the PSAF lower under the three-model approach than under the one-model approach in a given year.

[30]The finance experts were business school professors selected based on their background or expertise in finance and were interviewed about their opinions of how the PSAF methodology imputed debt and equity financing costs.

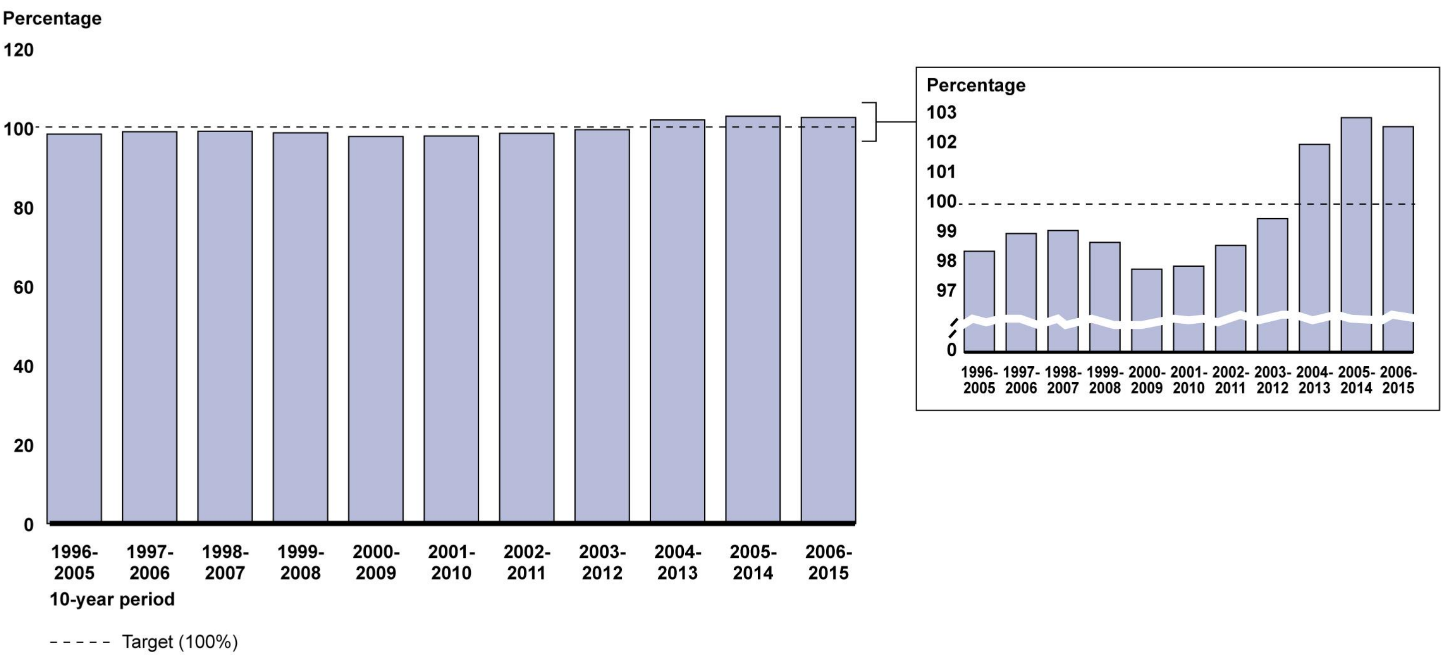
Federal Reserve Generally Has Achieved Its Cost Recovery Goals

According to Federal Reserve reporting on cost recovery rates from 1996 through 2015, the Reserve Banks have recovered or come close to recovering all actual and imputed costs for all of their payment services. As noted previously, the Monetary Control Act requires fees to be established, over the long run, on the basis of the costs actually incurred, and an allocation of the imputed costs that would have been incurred by a private-sector provider. To meet this mandate, the Board has developed an internal goal of recovering 100 percent of its costs for all its explicitly priced payment services over a 10-year period. Federal Reserve staff told us that the Monetary Control Act did not provide a specific definition of "over the long run," but they used 10 years for their targeted recovery time frame.

The Federal Reserve annually reports how well it has met its 100 percent recovery goal over 10-year periods. As shown in figure 5, in the rolling 10-year periods that cover 1996-2015, the Federal Reserve achieved at least a 97.9 percent recovery for every 10-year period during this span. However, a relatively low-cost recovery rate of 85.1 percent in 2003 lowered the 10-year rates for eight of the periods.[31] In 2003, the Federal Reserve's check services had a net loss of more than $65 million that the Federal Reserve attributed to significant one-time costs related to consolidation activities, a decline in volumes, and greater use of products with lower margins. The significant loss in that one year resulted in the Federal Reserve falling short in achieving its 100-percent cost recovery goal in each of the ten periods that included 2003 in the calculations. The Federal Reserve's cost recovery rates in the three most recent periods—none of which include the 2003 cost recovery figures—exceeded 100 percent.

[31]In 2003, the Federal Reserve's check services had a net income loss of more than $65 million. According to the Federal Reserve, the net income loss that year largely resulted from higher-than-planned pension costs, lower-than-forecasted volume, customers' moving to lower-margin products, and check restructuring costs for staff separation and writing down legacy paper equipment. The significant loss in that one year resulted in the Federal Reserve falling short in achieving its 100-percent cost recovery goal in the eight periods that included 2003 in the calculations.

Figure 5: Rolling 10-year Average Cost Recovery Rates for Federal Reserve Payment Services, 1996-2015 (percentage)



Source: GAO analysis of Federal Reserve data. | GAO-16-614

Although the Federal Reserve Banks generally have come close to recovering all of their actual and imputed costs for their payment services in aggregate, the extent to which individual payment services recovered their costs varied more widely from year to year (see table 1). Cost recovery variations between products in a given year may be due to circumstances specific to those products. For example, in 2014, the Federal Reserve Banks' ACH service recovered 86.7 percent of its costs. The lower rate was due to a nearly $32 million charge incurred that year associated with a multiyear technology initiative that was to have modernized a processing platform but had been suspended that year. In contrast, in the same year, greater-than-expected check volume resulted in cost recoveries of more than 115 percent for that product line, which helped the Federal Reserve Banks achieve their overall cost recovery goals for that year and in the 10-year periods that included 2013 and 2014.

Table 1: Annual Cost Recovery Percentages for the Federal Reserve, by Payment Service Type, 2007—2015 (percentage)

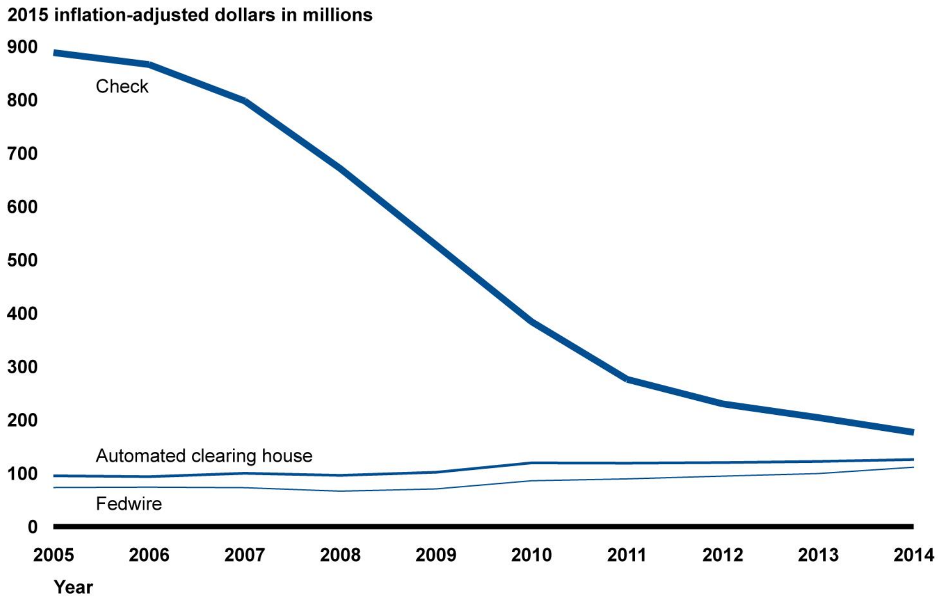
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Check	100.7	97.8	92.8	107.1	105.4	108.8	115.4	115.6	113.0
ACH	107.6	101.5	93.4	103.4	100.8	101	101.2	86.7	100.7
Fedwire[a]	107.3	100.4	92.1	100.6	103	98.8	98.6	103.2	103.9

Source: Federal Reserve. | GAO-16-614

[a]Fedwire cost recovery figures include revenues and expenses associated with the National Settlement Service, a multilateral settlement system that provides financial institutions involved in private-sector settlement arrangements a means to settle the obligations that arise under that arrangement using accounts held at their Reserve Bank.

From 2005 to 2014, annual revenues and expenses across the Federal Reserve Banks' payment service products varied. Since 2005, the total revenue the Federal Reserve Banks earned from providing check, ACH, and wire transfer services declined by nearly 54 percent, from about $881 million in 2005 to $409 million in 2014 (a decline of nearly $1.1 billion to $414 million, almost 61 percent in 2015 dollars). This decline was largely due to a steep reduction in the expenses and imputed costs related to the Federal Reserve Banks' check services, which corresponded with the transition to digital check images and the decline in commercial check transactions. From 2005 to 2014, the number of checks the Federal Reserve Banks processed fell from 12.2 billion to 5.7 billion. The decline in expenses correspondingly reduced the need for the Federal Reserve Banks to obtain as much revenue from this product line (that is, to achieve cost recovery). Check service revenue fell from over $740 million in 2005 to almost $175 million in 2014, which was a decline from $888 million to nearly $177 million in 2015 dollars (see fig. 6). In contrast, total revenues for ACH and Fedwire increased from a combined total of about $140 million in 2005 to over $234 million in 2014. In inflation-adjusted 2015 dollars, this equals an increase of almost $69 million.

Figure 6: Federal Reserve Revenues by Payment Service, 2005–2014 (2015 Dollars in Millions)



Source: GAO analysis of Federal Reserve data. | GAO-16-614

Federal Reserve staff said that the cost structures for each of the check, ACH, and wire payment services have significant differences. For example, check clearing is more labor-intensive than the other services and consequently incurs more personnel costs as a share of its expenses. In 2015, personnel costs for check services represented more than 15 percent of that service's operational costs, while personnel costs represented less than 3 percent of operational costs for Fedwire. Federal Reserve staff identified personnel, information technology services, and software application development as key cost drivers for the payment services.

Federal Reserve's Process for Capturing Its Payment Services Costs Has Not Been Externally Reviewed in Decades

Although the Federal Reserve appears to have a sound system for capturing its payment services costs, it has not obtained an independent review involving detailed testing of the accuracy of its cost accounting process in more than 30 years. As previously noted, in 1984, shortly after it was mandated to capture and recover these costs, the Board had an external review by an independent public accounting firm of its pricing methodology, including evaluations of its cost accounting PACS process and the PSAF. At that time, the accounting firm's report concluded that the processes the Federal Reserve had implemented to capture its costs were sound and that the overall PSAF methodology was logical and complied with the Monetary Control Act.

The Federal Reserve obtains some assurance that cost accounting practices for its payment services continue to be adequate from a unit within the staff of the Board that conducts rotating reviews of the Reserve Banks' operations. Federal Reserve staff said that this unit reviews all the Reserve Banks on a triennial basis (4 of the 12 banks each year) to evaluate each bank's effectiveness in producing reliable expense information in compliance with PACS manual requirements. These reviews examine the processes and controls relating to the cost-allocation processes (including how expenses related to centrally provided information technology activities are allocated) and internal support charges. In these reviews, this internal unit identifies deficiencies and control weaknesses and makes recommendations for improvement. In addition, we reviewed the reviews the internal unit performed of the 12 Reserve Banks and of the Federal Reserve Information Technology group between 2012 and 2015. Although some of these reviews noted deficiencies with how the Reserve Banks were complying with the cost accounting practices prescribed in the PACS manual, these issues were characterized as "minor" or "less-significant" by the reviewers and, according to Federal Reserve staff, did not result in any material cost distortion. In addition, we reviewed a sample of nine audits that Reserve Banks' internal auditors had completed since 2011. Of these nine audits, eight included reviews of controls relating to cost accounting practices. All of the reviews concluded that overall management controls were "effective" and one which provided a "generally effective" assessment.

External audits of the financial statements of the Federal Reserve System overall and of the individual Reserve Banks are conducted annually. However, these audits do not include detailed testing of the accuracy of the processes used to capture or allocate costs associated with the payment services, and thus the Federal Reserve does not obtain specific assurance about the accuracy of these practices. Although staff from the independent public accounting firm that conducted the Federal Reserve's financial audit in 2014 told us that the Federal Reserve Banks have thorough processes, their audits did not include steps to review payment services costs and revenues because these costs were not in the scope of the audit.

The Committee of Sponsoring Organizations of the Treadway Commission's (COSO) *Internal Control-Integrated Framework*—a leading framework for designing, implementing, and conducting internal control and assessing the effectiveness of internal control—states that compliance with applicable laws and regulations is a key objective for an organization establishing internal controls. Under this framework, a key means of providing such assurance can be the performance of monitoring activities, which includes the use of an independent third party to perform specific evaluations of whether aspects of an organization's internal controls are present and functioning. The annual financial audit does not address the Federal Reserve's payment services, representatives from the accounting firm told us, because they do not meet the materiality threshold. However, the Federal Reserve Banks must accurately capture their costs to ensure the Board is meeting the mandate in the Monetary Control Act for the Board to set fees on the basis of all direct and indirect costs.

The Federal Reserve believes that the internal controls of the Reserve Banks, internal audits by the Reserve Bank audit departments, and the review process and examinations by the Board of Governors staff are adequate for reasonably ensuring the accuracy of its accounting of costs associated with payment services. Although we analyzed the processes by which the Federal Reserve accounts for actual and imputed costs, we did not include detailed testing of the Federal Reserve's calculations or cost accounting controls related to its priced services activities. By obtaining periodic independent reviews to determine if the practices used to capture all costs directly incurred by payment service activities and the methods used to identify costs arising in other areas that should be allocated to payment services are sound and that staff are adequately complying with these practices, the Federal Reserve could attain greater assurance that it is complying with its requirements under the Monetary Control Act to set fees on the basis of all direct and indirect costs.

While Some Competitors Expressed Concerns about Some Federal Reserve Payment Service Practices, Users Appeared to Benefit

The Reserve Banks have added new services and fee structures (including volume-based pricing) for customers to help ensure that they retain adequate revenues to maintain their presence in the market. Financial institution customers we interviewed generally were satisfied with the Reserve Banks' services and fees; however, some competitors questioned the fairness of some Reserve Bank pricing practices such as bundling discounts and volume-based pricing. To help ensure that the Reserve Banks compete fairly, the Board has established pricing policies and processes for assessing the competitive effects of changes to the Reserve Banks' payment fees and services. Although the Reserve Banks' actions may be affecting some competitors' profitability, our analysis of the Reserve Banks' fee and volume trends suggests that their actions to compete appear to have reduced payments services costs for some users to date.

As Product Markets Changed, the Federal Reserve Added New Services and Price Tiers for Some Customers to Ensure It Earns Sufficient Revenue

In response to changes in the product market for payments, and in an effort to generate sufficient revenues to achieve full cost recovery, the Federal Reserve has added new products and pricing structures. According to Federal Reserve documents, the Reserve Banks have introduced new services and pricing structures to retain existing customers and attract volume from both existing and new customers. As noted earlier, the Reserve Banks provide payment services both to promote the efficiency of the payments mechanism and to ensure that payment services are provided to all depository institutions on an equitable basis. To achieve this, the Reserve Banks expanded the use of pricing structures that provide discounts to customers that send them higher volumes of transactions to process. In 1993, the Board approved volume-based fees for the Reserve Banks' noncash collection service and several check products. One of the objectives of adopting volume-based fees at that time was to encourage more efficient use of payment services (by addressing differences in demand through fees). In approving these fees, the Board asked its staff to recommend guidelines on the use of volume-based fees, which were then adopted in 1997 and published in the *Federal Register*.[32] At that time the Board also approved specific volume-based fees for the ACH origination service. In 2010, the Reserve Banks expanded this practice by introducing several volume-

[32]62 Fed. Reg. 14,146 (Mar. 25, 1997).

based pricing tiers for customers receiving ACH transactions.[33] The new pricing tiers charge customers lower per-item fees as transaction volumes with the Federal Reserve increase.

The Reserve Banks also introduced fixed monthly fees to retain or increase their payment services revenues. In 2009, the Board approved a new monthly participation fee for the Reserve Banks' Fedwire service in addition to the per-item charges. Originally set at $60 per month, by 2014 this fee had increased to $90. For the ACH service, the Board approved a new monthly minimum fee in 2010, which was $25 for customers that originated payments and $15 for customers that received payments. By 2015, these fees had risen to $35 and $25, respectively. Because fixed expenses constitute much of the costs of providing these services, Federal Reserve staff said that adding fixed fees was their way of better matching pricing structures to corresponding cost structures.

In addition to pricing changes, the Reserve Banks have introduced discounts to benefit customers that use them to process transactions for multiple payment products. For example, customers that transact at least 90 percent of their ACH payments a month through the Reserve Banks and enable electronic receipt of checks from the Reserve Banks for all of their routing numbers can receive a per-item fee discount on certain check-clearing transactions. According to Federal Reserve staff, this allows them to reward customers that use multiple services with a discount in one of those services, which increases the likelihood that these customers will continue to use the Federal Reserve.

Customers Generally Were Satisfied with Federal Reserve Services, but Some Competitors Questioned the Fairness of Some Practices

Reserve Bank customers with whom we spoke generally were satisfied with the services and pricing they received, but some competitors raised concerns about the fairness of a number of pricing practices. Representatives of Reserve Bank customers—12 banks and credit unions that were selected, in part, using random selection across three asset size groupings—with whom we spoke generally were satisfied with the Reserve Banks' service offerings and prices.

[33] ACH services include origination and receipt services. Also, ACH transactions can be either debits or credits. For example, an institution can use an ACH origination service to send either a debit or credit to a receiving institution.

- Representatives of seven institutions said that they thought the Reserve Banks' pricing of payment services was reasonable and competitive. For example, representatives from one large credit union said that the Federal Reserve's prices are low and that they also provided a good service.

- Representatives from two other institutions said that they valued the Reserve Banks above private-sector providers for other reasons. For example, the representative of one small community bank said that, while private-sector payment service pricing generally may be lower or even significantly cheaper, the bank will continue to use the Reserve Banks' services because doing so allows it to remain independent and provide top-quality service to its customers without depending on a private-sector provider. A representative of a large credit union said that, while the credit union might be able to get more favorable pricing from private-sector providers, the difference would not be enough to warrant switching from the Reserve Banks. The representative added that the credit union had confidence in the Reserve Banks' services and felt that the Reserve Banks were looking out for its interests.

- For the remaining three institutions, representatives from two said that, while they did not have much insight into the pricing of providers they do not use, they generally believe that pricing was comparable or competitive between the Federal Reserve and the private sector. A representative of one of the three institutions told us that the institution switched to the Federal Reserve in 2007 because of unhappiness with the fees and service of its private-sector provider. Representatives from one institution said that the Federal Reserve and private-sector pricing was similar for checks and wire payments, but not for ACH payments, where they said the Federal Reserve had better prices.

However, some private-sector competitors with whom we met expressed concerns with the fairness of some of the Federal Reserve's pricing practices, specifically in the following areas: bundling discounts, volume-based pricing, the competitive environment for check clearing, the ACH interoperator fee, cost effectiveness, and the Federal Reserve's ability to innovate.

Bundling Discounts

TCH—the Reserve Banks' largest competitor in general and their sole competitor in ACH and wire payment services—stated that a bundling discount offered by Reserve Banks to customers that use multiple payment services unfairly take advantage of the Federal Reserve's unique market position. Specifically, TCH staff said that the Federal

Reserve's Retail Payments Premium Receiver product, which rewards banks that transact a higher volume of ACH transactions with the Reserve Banks by offering a discount for certain check forward payments, represents an unfair bundling of services. According to TCH representatives, this discount represents a cross-subsidy between services, which they allege violates the intent of the Monetary Control Act. Federal Reserve staff noted that this product offers attractive pricing discounts to smaller financial institutions, unlike many of its other discounts that focus on larger financial institutions, and is intended to serve as a customer retention tool. Specifically, they said that the lower price allowed them to retain customer volume, which is needed to achieve economies of scale. According to its policy on the provision of financial services, the Federal Reserve maintains an operational presence in the payment system to contribute to economic efficiency. Additionally, the Federal Reserve has said that the Retail Payments Premium Receiver product is consistent with the letter and spirit of the Monetary Control Act and the Board's pricing principles, noting that revenues from either check or ACH services do not contribute toward recovering costs for the other service and therefore do not represent a cross-subsidy. Furthermore, staff said that the Reserve Banks are not in a unique position in relation to providing "relationship pricing," as private-sector institutions also use such pricing structures. Officials at the Department of Justice told us that product bundling is not necessarily anticompetitive and is practiced in a wide range of industries.

Volume-Based Pricing

Some private-sector competitors expressed concerns that the Reserve Banks charged customers more in markets in which the Reserve Banks face less competition to enable lower pricing in markets in which they face more competition. Competitor concerns included the following:

- One large bank provider with large corporate customers explained that, because the Reserve Banks have access to some smaller or more remote financial institutions, they charge other institutions a higher rate to collect checks drawn on these smaller institutions, taking advantage of their access and relatively exclusive relationships. The price for sending a check to another institution is determined, in part, by the pricing tier in which that institution is included.

- TCH staff said that the Reserve Banks offer steep discounts to large financial institutions in markets where they compete for business and offset these discounts by charging higher fees to smaller financial institutions that have no alternatives to the Federal Reserve. They considered this to be an anticompetitive pricing practice. They noted that TCH faces difficulty obtaining smaller financial institutions as customers because the costs in switching providers may outweigh the pricing benefits for these institutions.

Federal Reserve staff said that volume-based pricing is a common practice they believe helps maintain the efficiency of payment services. Federal Reserve staff said that they follow volume-based pricing principles when establishing pricing tiers and do not price their services below marginal cost. They added that they assign items drawn on a financial institution to a tier based on the number of checks the Reserve Banks present to that financial institution, with those institutions with more volume assigned to a lower-priced tier. They also noted that the private sector similarly establishes tiers based on volume. Because private-sector competitors have similar price structures, and because any higher prices paid by lower-volume customers likely do not increase their overall costs significantly (as discussed later), this practice also appears to benefit the payment services market overall.

Competitive Environment for Check Clearing

Some private-sector competitors raised concerns that certain protections that helped ensure fair competition for processing paper checks have not been carried over into the electronic environment. The Federal Reserve has been examining this issue. Staff from TCH and ECCHO noted that, until a regulatory change in 1994, the Reserve Banks had a statutory advantage over private-sector competitors when presenting paper checks to paying banks. According to the Federal Reserve Act and Federal Reserve regulations, the Federal Reserve can obtain a same-day payment from a paying bank by debiting the paying bank's account at a Reserve Bank without being charged a presentment fee. To address this advantage the Board adopted Regulation CC's same-day settlement rule in 1992, effective beginning in 1994.[34] The same-day settlement rule allowed any bank to present paper checks to any other bank by 8:00 a.m. for settlement that same day without presentment fees. According to Federal Reserve staff, this regulatory change reduced the Federal Reserve's competitive advantage and allowed banks to compete more effectively.[35]

[34] 57 Fed. Reg. 46,956 (Oct. 14, 1992) (codified at 12 C.F.R. § 229.36(f)).

[35] The Board originally requested comments on a proposal to provide for a later 2:00 p.m. deadline, but stated that the overwhelming proportion of commenters opposed this deadline.

However, according to ECCHO staff, the transition to the exchange of check images has removed the effect of the competition-enhancing change because Regulation CC does not apply to electronic images. They explained that check image exchange, unlike the presentment of paper checks, requires institutions to have legal agreements for and electronic connections between both parties, both of which can be costly to establish. The Board attempted to address this advantage by twice requesting comment, in 2011 and in 2014, on whether to modify Regulation CC to include similar presentment provisions for the exchange of check images. Although the Board has not yet taken final action on these proposals, they did not receive significant support from commenters, with payments trade groups noting both policy and operational issues.[36] Additionally, commenters did not provide any alternative approaches that could be used to address the perceived competitive disadvantage. In a December 2015 letter (in response to a May 2015 letter from ECCHO raising these issues), the Chair of the Federal Reserve's Committee on Federal Reserve Bank Affairs said that Federal Reserve staff have been asked to review certain pricing practices related to electronic checks to determine whether any changes to Federal Reserve policies, procedures, products, or fee structures were warranted. This letter states that the Federal Reserve will continue to engage in dialogue with ECCHO and industry stakeholders on steps to improve the competition and efficiency of the check system, and Federal Reserve staff told us in that they continue to consider ways to address these concerns.

ACH Interoperator Fee

TCH, as the only private-sector operator of ACH payments, told us that it is concerned that the Reserve Banks have been taking advantage of their market position to charge an artificially high fee for processing transactions that TCH sends to them. Representatives of TCH explained that, for ACH payments, both institutions involved have to process a transaction, regardless of which one originates or receives the payment. ACH payments generated by customers of TCH or the Federal Reserve but bound for customers of the other provider must pass between both operators, thus creating an interoperator transaction. In such cases, the party that receives the item charges the other party "interoperator fees." However, TCH sends more items to the Reserve Banks because its large bank customers typically generate large volumes of payments on behalf

[36]For the two proposed rules, *see* 79 Fed. Reg. 6674 (Feb. 4, 2014); 76 Fed. Reg. 16,862 (Mar. 25, 2011).

of their business customers—many of which are sent to institutions that use the Reserve Banks for ACH receipt. As a result, according to TCH representatives, the interoperator fee benefits the Reserve Banks at the expense of TCH. TCH representatives believe no costs exist that would justify charging any price for these transactions.

However, Federal Reserve staff said that the Reserve Banks incur the same costs when processing ACH files from a depository institution or private-sector operator. If the Federal Reserve and TCH lowered or eliminated the interoperator fee, the Federal Reserve likely would have to increase prices for ACH payments made entirely within its network to recover the lost revenue. This could effectively raise prices for its customers while lowering them for TCH's customers. Federal Reserve staff said they established the interoperator fee below the average 2013 per-transaction cost to originate a FedACH item, not including electronic connection costs. This average origination cost is based on operating costs and imputed costs and has been fairly stable since the determination of the fee.

Cost Effectiveness

While differences exist in cost structures between the Federal Reserve and the private sector, these differences largely reflect differences in customer bases. For example, TCH staff raised concerns over the cost-effectiveness of the services provided by the Federal Reserve, noting that they operate much more cost effectively on a per-item basis than the Reserve Banks. Specifically, TCH said that its average cost per transaction for check, ACH, and wire items was approximately 16 percent to 29 percent of the average cost per transaction for the three products offered by the Reserve Banks.[37] However, TCH told us that they primarily serve large financial institutions. The other competitors of the Reserve Banks, including large commercial banks, a bankers' bank, corporate credit unions, and a nonbank service provider, also tended to serve narrower ranges of customers. For example, representatives of some large banks with whom we spoke said that they tended to provide payment services mostly to larger entities. Staff from a large bank told us that they mainly provide check processing services targeted to smaller institutions in areas where their bank has support staff.

[37]Although we reviewed Federal Reserve pricing schedules, we did not review TCH's pricing information.

In contrast, our analysis of Federal Reserve data indicated that the Reserve Banks provide payment services to thousands of institutions across a range of asset sizes, including large numbers of smaller institutions. For example, about 86 percent of the Reserve Banks' 3,665 forward check customers and about 94 percent of their ACH receipt customers had less than $1 billion in assets. Federal Reserve staff told us that providing payment services to many of these customers is more costly because low-volume users are the largest users of customer support services, resulting in higher per-item costs for these customers. The account setup and maintenance costs also result in higher per-item costs for low-volume customers. The Federal Reserve staff also noted that they incur other expenses not borne by their private-sector competitors, such as those related to processing transactions manually in the event of a disruption. If TCH had a similar customer base and costs as the Reserve Banks, its costs would likely be higher on a per item basis and would be more similar to that of the Reserve Banks. Similarly, if the Reserve Banks left the market for payment services, and TCH and the other providers took on these customers, their costs per transaction would likely increase due to the higher costs of serving the customers currently served by the Reserve Banks, thus reducing or eliminating any cost-effectiveness advantage. Correspondingly, if the Reserve Banks provided services only to the larger customers that process larger volumes, their costs per item would similarly be lower and their cost effectiveness would appear higher.

The Federal Reserve noted that some of the differences in cost structures provide competitive advantages to competitors of the Reserve Banks. However, these cost differences may not be significant enough incentive for current Federal Reserve customers to turn to other providers. For example, staff from TCH said they have difficulty encouraging smaller institutions to use TCH for payment services because many of these institutions have payment volumes that are too low to produce savings significant enough to justify a switch from the Federal Reserve.

Ability to Remain Profitable and Innovate

TCH representatives expressed concerns that the Federal Reserve's pricing and other behaviors have limited competitors' ability to promote innovation in the payments system. Representatives from TCH said that the Federal Reserve's pricing strategies have left little room for profitability in providing payment services, leading to an overall reduction in investment in research and development necessary for continued innovation in the payments industry. They also added that any innovations developed by TCH need to be accepted by the Federal Reserve, which can present a challenge. For example, TCH representatives said that they developed a universal payments identifier to increase privacy protections and reduce fraud in electronic payments, but the Federal Reserve did not adopt this innovation. Representatives from the Federal Reserve noted that they partnered with TCH to deploy this capability so that TCH customers wishing to use these identifiers for ACH payments could do so without concern that such payments would be rejected if they were routed across ACH networks. However, the Reserve Banks said that there was little market demand for this capability by their customers and determined not to offer the service directly.

In contrast, Federal Reserve staff said that the Federal Reserve's involvement in the payments market has contributed to the development of new products and more efficient processes over time. Federal Reserve staff and some market participants cited the Federal Reserve's role in multiple market innovations. For example, Federal Reserve staff indicated that the remote capture of check deposits using smartphones and online service access were an outcome of the check image improvements that grew out of the Check 21 Act, which the Board helped to develop and the Reserve Banks helped to implement. In addition, a representative from a payment service provider said that the Federal Reserve was essential in transitioning the check-clearing industry to image exchange after Check 21 became effective in 2004. The representative added that the Federal Reserve has been helping to facilitate international ACH payments by creating connections to other countries. Other market participants said that the Federal Reserve has been leading the way on faster payment initiatives such as same-day ACH (payments can clear and settle on the same day they are submitted). The Reserve Banks began offering an opt-in same-day ACH settlement service for certain debit transactions in 2010, and expanded this service to include support for credit transactions in 2013. Federal Reserve staff said that their push toward instituting a same-day ACH service, along with NACHA's rule amendment in 2015 allowing for same-day ACH payments, will help their customers develop new products, such as direct deposit for hourly payroll, which benefits users as well. With customers increasingly demanding faster, ubiquitous, safe, and inexpensive payment solutions, at least 18 other countries have developed real-time retail payments systems, according to a 2015 white paper from an international payments network.[38]

Representatives from TCH said that increased regulatory costs along with what they see as the unfair way that the Federal Reserve is competing in payment services is creating difficulties for the long-term viability of private-sector operators. TCH staff said that appropriate competition in the market for payment services, including higher prices, would facilitate continued research and development by the private sector, leading to ongoing private-sector innovation in the payments system.

While the Monetary Control Act requires the Federal Reserve to give due regard to competitive factors and the provision of an adequate level of such services nationwide when pricing its payment services, the act does not address the preferred type or extent of private-sector competition in the payments industry. Federal Reserve staff said that there are clear benefits to vigorous competition with the private sector, such as the additional resilience provided to large bank customers due to the presence of two wire payment operators. In addition, they said that the competition between the two is helpful in ensuring both entities are as responsive as possible to customer needs. However, they also noted that the overall costs to the market of having two ACH operators are higher because of the loss of some economies of scale. Federal Reserve staff added that, while it is not their intent to drive TCH out of business, they also are not convinced it is necessary to have two operators, as many other countries only have one provider for such services. Because the effect of changing any Federal Reserve pricing likely would allow TCH to raise its own prices, the benefits of such actions for the overall marketplace and end-users is not clear. Conversely, if the Federal Reserve withdrew from the market, the costs to the overall payments system could decrease, but since TCH would likely have to expand its infrastructure and market reach, its costs would increase, and the effect on overall prices also would be unclear.

[38]SWIFT, *The Global Adoption of Real-Time Retail Payments Systems (RT-RPS)* (La Hulpe, Belgium: 2015), accessed on June 6, 2016, this white paper can be downloaded at: https://www.swift.com/your-needs/real-time-payments

Federal Reserve Has Processes and Policies to Help Ensure Pricing Fairness

To help ensure that they compete fairly with private-sector payment services providers and set fair pricing, the Reserve Banks must adhere to various pricing principles and Board policies. As discussed previously, the policies include the pricing principles established in the Monetary Control Act, which required Federal Reserve payment services to be priced at the same fee schedule for Federal Reserve members and nonmembers and that such fees be established on the basis of all direct and indirect costs, giving due regard to competitive factors and the provision of an adequate level of such services nationwide. The Board has adopted several additional pricing principles to help ensure that the Reserve Banks compete fairly.

- Generally, the Reserve Banks must set prices for each payment service so that revenues match costs over the long run. However, the Board's pricing principles acknowledge that the Reserve Banks may set below-cost prices for a service if it is in the interest of providing adequate service nationwide. But such a decision would require a Board announcement.
- The Reserve Banks also must ensure that their services and pricing are responsive to the changing needs of particular markets and provide advance notice for changes in fees and significant changes in service arrangements to permit orderly adjustments by users and providers of similar services.

To help ensure that Reserve Bank pricing determinations give adequate regard to competitive factors, Federal Reserve staff told us that they follow industry standards and best practices for pricing their services. They said that the factors they consider are similar to those that other service providers such as correspondent banks would consider. These factors include

- the costs associated with the service;
- the cost structure, such as the extent to which costs are fixed or variable;
- payment volumes;
- industry trends;
- the price sensitivity of customers; and
- the extent to which the market for the product or service is competitive.

They explained that price sensitivity—the extent to which a customer is likely to react to a pricing change—for a product is particularly important when determining whether to use volume pricing. For example, they said that higher-volume customers are fairly price sensitive; that is, they are more likely to send more or less business to the Reserve Banks depending on the prices charged. With the cost to provide services to higher-volume customers being lower than for other customers, staff said that using volume pricing to set lower prices for higher-volume customers was reasonable. Federal Reserve staff also said that they sometimes use pricing to influence consumer demand. For example, for a legacy product such as the access fee for using a dial-up connection to the Reserve Banks, they might increase the price to discourage its use. The Federal Reserve considers the various competitive factors for each pricing or service change proposal (typically during its annual pricing process). Each pricing or service change proposal during the process must consider customer, competitive, and policy implications before the Reserve Banks bring a formal proposal to the Board. At the beginning of this process, Federal Reserve staff consider market feedback from the prior year's pricing changes and analyze market trends and projections as they develop new pricing proposals.

The Board also has policies to prevent the Reserve Banks from engaging in anticompetitive or predatory pricing. According to the Department of Justice, predatory pricing occurs when a firm charges prices that are temporarily set below its incremental costs in an attempt to harm competitors. Department of Justice staff involved in antitrust and anticompetitive legal cases told us that a firm can be deemed to be competing unfairly if it is engaged in predatory pricing, bundling its products anticompetitively, or engaged in anticompetitive tying—requiring the purchase of additional products as part of another purchase. Federal Reserve staff told us that they used volume-based pricing in accordance with principles the Board published in the *Federal Register* in 1997, which are intended to avoid the risk of predatory pricing. These principles note that volume-based fees "promote the efficient use of payment services by allowing Reserve Banks to set variable fees closer to the incremental costs of providing services."[39] Federal Reserve staff said that they take into account competitive factors when establishing volume-based pricing because the need to attract sufficient revenue from large-volume

[39] 62 Fed. Reg. 14,146, 14,147 (Mar. 25, 1997).

customers better ensures that prices charged to low-volume customers do not get too expensive. However, these principles also state that the Reserve Banks will not price a particular service below its marginal cost, or the cost of clearing one more item. According to these principles, this type of pricing constraint is well established in antitrust law and is intended to prevent predatory pricing.

In addition to these principles, the Federal Reserve conducts a competitive impact analysis for all proposed changes to products and prices and for all new products and prices. The analyses help ensure that the Reserve Banks are not unfairly leveraging any legal advantages they have over private-sector competitors—such as differing legal authority or their dominant market position deriving from such legal differences. According to a policy statement outlining its practices, the Federal Reserve will conduct a competitive impact analysis on all proposed operational or legal changes determined to have a substantial effect on market participants, even if the competitive effects are not apparent on the face of the proposal.[40] In practice, Federal Reserve staff noted that they also conduct competitive impact analyses for routine proposals (those that only moderately affect existing product offerings). See appendix IV for more information about how the Board conducts and reviews competitive impact analyses.

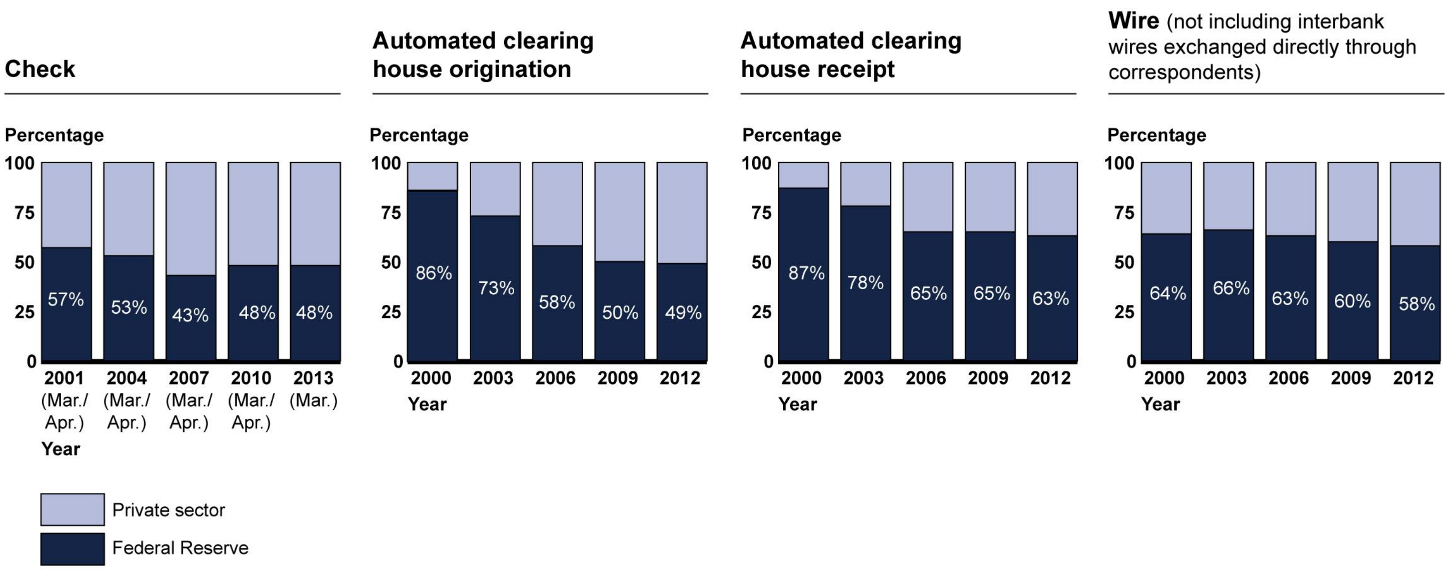
The Federal Reserve's Presence Appears to Have Generally Benefitted Payment Service Users

Based on Federal Reserve data and estimates and our analysis and interviews, the presence of the Reserve Banks in the payments services market appears to have reduced payments services costs for some customers to date. For instance, from 2001 through 2013 private-sector providers increased their market share for check, ACH, and wire services—an indication that the Reserve Banks have not necessarily negatively affected competition in these markets (see fig. 7). In 2001, the Reserve Banks had about 57 percent of the share of the market for check payments, about 64 percent of the market for wire payments, and more than 85 percent of the market for ACH transactions. By 2013 (the most recent data available at the time of this review), the Reserve Banks' market share had declined in each of these payment services, with the largest declines occurring in the ACH market. Their share of payments

[40]Federal Reserve System, *Policies: The Federal Reserve in the Payments System,* issued in1984, revised in 1990, accessed on June 2, 2015, http://www.federalreserve.gov/paymentsystems/pfs_frpaysys.htm

originated declined from 86 percent to 49 percent and their share of payments received from 87 percent to 63 percent.

Figure 7: Market Shares (Based on Dollar Volume) of Federal Reserve and Private-Sector Providers in Check, Automated Clearing House (ACH), and Wire Transfer Payments, 2001–2013



Source: Federal Reserve data. | GAO-16-614

Although the Federal Reserve's most recent triennial payments study included market share data through 2013, some more recent data also exist.

- ECCHO staff, using a different methodology, in 2014 and 2015 estimated that the Federal Reserve had between 42 percent and 44 percent of the check-clearing market.
- For ACH, the Federal Reserve had around 55 percent of the market share for ACH originations and about 62 percent of the market for ACH receipts in 2014 and 2015, according to our analysis of Federal Reserve and NACHA data provided by the Federal Reserve.
- For wire payments, the Federal Reserve had about 55 percent of market share in 2014 and 51 percent in 2015, according to our analysis of Federal Reserve and TCH data provided by the Federal Reserve.

These data suggest that the Reserve Banks' market share for both check and wire payments has continued to decline since 2013, although their share of the ACH market has stabilized in the last few years.

The effect of the Reserve Banks' competition in the markets for payment services can vary across customers, but generally has resulted in lower prices for payment transactions, according to Federal Reserve and TCH staff. Federal Reserve staff told us that by competing actively to gain more volume and new customers through their pricing and product offerings, they have exerted downward pressure on prices for payment services. TCH staff told us that the prices they charge their customers are largely based on the cost of providing those services, taking into account the prices set by their competitors in the marketplace.

The competition with the Reserve Banks often lowered prices for competitors' customers as well. Private-sector payment service providers told us that the Reserve Banks' published prices act as a baseline for the industry. For example, TCH primarily serves large banks in a network that, with few exceptions, offers the same pricing to all its members. Representatives of TCH told us that they price their services based largely on the cost of providing those services, taking into consideration the price set by the marketplace, which includes the pricing offered by the Reserve Banks and other private-sector entities. One nonbank service provider that performed check processing said that most large banks try to keep their prices about 10 percent lower than the Reserve Banks'. The bankers' bank and corporate credit unions we interviewed generally serve smaller institutions in distinct geographical areas, such as a particular state. Staff from the bankers' bank said that the Reserve Banks' fee schedules serve as the pricing starting point for the industry.

Some of these competitors told us that they often offer additional services to attract customers, similar to the Reserve Banks, and one also offers discounts for customers that use multiple products and services. Another servicer said that although they used to set prices directly off of the Reserve Banks, they now use a model that can generate a range of prices that allows them to maintain profitability. Although staff from one bankers' bank said that they were unable to offer prices as low as the Reserve Banks', they competed by offering more personalized customer service than other competitors.

Our analysis of the Reserve Banks' revenue and volume data shows that many customers generally appear to have benefitted from lower prices in recent years. We examined volume and revenue data for each of the

Reserve Banks' check, ACH, and wire services and determined that, in general, while price ranges have expanded as previously noted, average costs for financial institution customers generally decreased in recent years.[41]

- For all check items, the Reserve Banks earned average revenue per item of $0.0249 in 2014, down 82 percent from $0.160 in 2007. Federal Reserve staff noted that the primary driver of this cost decline has been the transition from exchanging paper checks to check images.

- One of the most used check processing product types the Reserve Banks offer involves processing files containing check images.[42] From 2004 to 2011 the most used product of this type was for files submitted by 8:00 p.m. (in 2012, the deadline was changed to 9:00 p.m.). The average cost per file processed went from $0.054 in 2007 to $0.020 in 2015—a decline of almost 63 percent.

Similarly, many customers paid less for their ACH origination and receipt transactions over time as the Reserve Banks' average per-item ACH revenues declined, although some customers benefited more than others. Specifically, the average revenues per item for ACH items decreased from $0.0046 in 2005 to $0.0044 in 2014, or about 5 percent. For both ACH origination and receipt services, the Reserve Banks saw the proportion of revenue, and the total revenue earned from their largest customers, decline while revenues increased from all other customers, despite the number of institutions in these categories remaining stable. For example, the share of ACH revenue earned from institutions with more than $1 billion in assets declined from 60 percent in 2005 to 56 percent in 2014, although total revenues from these customers grew from $35.6 million to $46.4 million, or from $42.7 million to $46.9 million in 2015 dollars. Because these larger institutions likely serve many other end-user business and retail customers, these lower costs likely benefited such end-users. The tendency of other providers to match or attempt to set lower prices than the Reserve Banks also would extend the benefits

[41]The Federal Reserve revenue data we analyzed represent the payment services costs paid by financial institution customers of the Federal Reserve.

[42]This product is the Federal Reserve's Mixed Image Cash Letter.

of lower Reserve Banks prices to the end-users that use other payment service providers.

For its Fedwire service the Reserve Banks increased their revenues from larger and midsize customers as their revenues declined from their largest customers.

- Overall, Reserve Bank customers paid 76 percent more for wire transfers from 2005 to 2014—which reflects the costs of system upgrades that occurred during this time.
- From 2005 to 2014, the share of Fedwire revenues earned from the largest institutions (more than $1 billion in assets) declined from 78.1 percent in 2005 to 64.9 percent in 2014, although total revenues from these customers grew from almost $36 million to almost $50 million (or from about $43.2 million to $50.5 million in 2015 dollars) in that span.
- Revenues from the next largest institutions ($200 million to $1 billion in assets) increased from 8.5 percent to 13 percent.
- In contrast, the revenues from the smallest institutions (less than $50 million in assets) remained under 1 percent.

Although smaller customers faced price increases, their actual costs are smaller than those incurred by larger institutions. For example, small credit union customers paid the Reserve Banks an average of $1,672 annually to receive ACH payments and small banks paid $1,772 in 2014. In contrast, banks with more than $1 billion in assets paid an average of almost $78,000 annually to send and receive FedACH payments that year. We compared these average ACH expenses to the noninterest expense amounts for all banks and credit unions with more than $1 billion in assets and found that these ACH expenses would represent from about 0.12 percent to 0.18 percent of the median institution's total noninterest expenses, but for the small institutions (those with less than $50 million in assets), these ACH expenses would represent from about

0.05 percent to 0.48 percent of the median institution's total noninterest expenses.[43]

Smaller institutions received far fewer Fedwire payments than larger institutions, on average. The average small credit union received between 100 and 224 Fedwire payments annually from 2005 through 2014, and small banks similarly received between 115 and 188. In contrast, the average Reserve Bank customer with more than $1 billion in assets received between 188,000 and 210,000 Fedwire payments annually in the same period. As a result, the average amount spent on Fedwire originations and receipts by smaller institutions was far lower than for larger institutions. From 2005 to 2014 (the last year full data were available), the average small credit union spent between $244 and $1,838 annually to send and receive Fedwire transactions, or $914 on average. Similarly, small banks spent between $396 and $1,442 on Fedwire transactions, or $1,058 on average. In contrast, the largest Federal Reserve customer banks spent between $48,000 and $77,000 annually, or almost $62,000 on average.

Market Participants Generally Viewed the Federal Reserve as Managing Potential Payment Services Conflicts

The Federal Reserve performs various roles, including managing monetary policy, supervising bank holding companies and certain banks, and acting as a lender of last resort, which create potential conflicts of interest with the Reserve Banks' role as provider of payment services. To prevent Reserve Bank staff from inappropriately using any knowledge gained from other activities (such as bank examinations) to increase the competitiveness of their payment services, the Board has established various policies and processes. In 1984, the Board issued various standards to minimize the potential that the various roles of the Federal Reserve could provide advantages for its payment services activities. These include organizing the Reserve Banks' operations so that the duties of staff responsible for the Reserve Banks' nonpayment services activities do not overlap with those of the staff who conduct payment services. Under this structure, Reserve Bank personnel with responsibility for payment services (unless acting in the capacity of president or first vice president) are prohibited from being responsible for monetary policy, bank supervision, or lending.

[43]Noninterest expenses are for resources other than borrowed funds and generally include the costs of resources (such as compliance staff or consulting services) banks and credit unions are likely to employ to comply with regulations.

Similarly, payment services personnel are prohibited from making policy decisions affecting monetary policy, bank supervision, or lending matters. Reserve Bank personnel involved in monetary policy, bank supervision, or lending are permitted to provide to Reserve Bank payment services personnel certain confidential information obtained in the course of their duties. However, sharing the information would have to fulfill an important supervisory objective, preserve the integrity of the payment mechanism, or protect the assets of the Reserve Banks. In such cases, information is to be provided on a need-to-know basis and only with the approval of senior management.

To prevent payment services staff from obtaining information that could be used for competitive advantage from the Federal Reserve's supervisory activities, Federal Reserve staff told us they have restrictions on access to the databases that store examination information and other confidential supervisory information. Board staff noted that the Reserve Banks have groups that monitor credit risks to the Reserve Bank to protect the assets of the Reserve Bank as well as to protect the payment system generally. The staff in these groups have access to confidential supervisory information to perform this activity, and sometimes must share information with the payment services staff when implementing risk controls on particular institutions' accounts. The guidance that Federal Reserve staff provided to us addressing credit risk monitoring activities includes a section reminding Reserve Bank staff to share information on a need-to-know basis only. A Board review conducted in 2005 that surveyed the Reserve Banks on their information-sharing practices found that staff were sharing information only when appropriate.

To limit potential for conflicts, Federal Reserve staff also have limited the extent to which the information technology systems that financial institutions use to access payment systems activities integrate with functions related to other Federal Reserve activities. For instance, the Reserve Banks offer a system known as Fedline, which provides the ability to conduct transactions across various payment system services. A July 2015 memorandum to staff responsible for statistics and deposit reserves activities noted that staff responsible for payment services sales had suggested that the applications for other business lines be more fully integrated into Fedline to allow more seamless movement among these activities. However, the memorandum reminds these staff that the applications for the other business line functions were purposefully segregated from the payment system applications in Fedline to better ensure that staff adhered to conflict-of-interest standards for payment services.

The Federal Reserve also includes information in training to help ensure that relevant staff are aware of restrictions intended to prevent payment services activities from benefiting from information obtained from other Federal Reserve activities. Federal Reserve Board staff explained that conflict-of-interest issues are not covered in a separate training course but instead are addressed as part of other training. The 1984 standards note that Reserve Bank staff are expected to provide full and accurate information on Federal Reserve services (including features, quality, prices, and operating requirements) to enable depository institutions to make informed decisions, and that comparisons of Federal Reserve services with those of other providers should be fair and objective. During initial training, employees who work in the sales and marketing areas are made aware of these policies to help ensure that their sales interactions with banks avoid any inappropriate discussions. The staff noted that the credit risk management staff developed some training modules and an online training course that was shared among the 12 Reserve Banks that includes information on the Board’s guidance on information sharing.

In addition to the Board’s policies, the individual Reserve Banks whose staff conduct payment service activities also have policies that restricted information sharing and other activities that could create potential conflicts. We reviewed the policies of five of the Reserve Banks that conduct payment services activities to determine if they addressed behavior that could create conflicts of interest among supervisory, payment services, and other activities. Each of the five Reserve Banks have policies that restrict the sharing of information between payment services staff and supervisory or other Reserve Bank staff. In addition, four of the banks specifically restrict supervisory staff from discussing payment services issues with financial institutions. Three of the banks’ policies also note that payment services staff should not disclose to other Reserve Bank staff whether a financial institution was a payment services customer. In addition, three of the banks’ policies note that decisions on whether to take supervisory actions against a financial institution should not be based on whether or not the institution was a payment services customer. The Reserve Bank policies generally note that sharing of information between payment services and staff with other responsibilities could occur if such sharing served a specific supervisory purpose or if the information was otherwise publicly available.[44]

To determine compliance with the policies to prevent staff from sharing information or exerting influence to advantage its payment services activities, the Board also conducts periodic reviews to evaluate the Reserve Banks' application of the policies. The Division of Reserve Bank Operations and Payment Systems within the Board is responsible for conducting operations reviews of the Reserve Banks. As previously discussed, Board staff told us that they review operations at four Reserve Banks each year. As part of these reviews, Board staff discuss the Reserve Banks' information sharing practices for staff and provide feedback to the banks about any concerns with the management of confidential supervisory information.

The Federal Reserve also indicated that oversight by other auditors also helps provide assurance that it is taking adequate steps to minimize conflicts between its payment system activities and its other roles. The Board's Inspector General conducts reviews that sometimes address the Board's oversight of Reserve Bank payment systems activities. For example, in September 2014 the Inspector General reported on the extent and effectiveness of oversight (by the Division of Reserve Bank Operations and Payment Systems) of the Reserve Banks' Fedwire and other wholesale financial services activities.[45] The Inspector General's review stated that it had not identified any deficiencies regarding the efficiency and effectiveness of the Board staff's oversight, and that the staff employed off-site monitoring, ongoing communication, on-site reviews, and assistance from the general auditors at the Reserve Banks to provide oversight of the Reserve Banks' wholesale financial services. The Board's 1984 policy that sets out standards for the Reserve Banks' payment services activities notes that an additional level of external review comes from providing the public with the ability to comment on significant Board proposals on Reserve Bank payment services activities.

[44]In some cases the banks' policies also specifically noted other reasons for allowing sharing, including preserving the integrity of the payment mechanism or protecting the assets of the Reserve Banks.

[45]Office of the Inspector General, Board of Governors of the Federal Reserve System, *Opportunities Exist to Enhance the Onsite Reviews of the Reserve Banks' Wholesale Financial Services*, 2014-FMIC-B-014 (Washington, D.C.: Sept. 30, 2014).

The Federal Reserve also has a process for addressing complaints about its payment system activities. Federal Reserve staff told us that they have sometimes received questions from market participants on these operations. If the issue is not resolved to the participant's satisfaction, they can escalate the matter to the chair of the Board's Committee on Federal Reserve Bank Affairs. This person is responsible for investigating and responding to complaints concerning actions of Reserve Bank personnel who are alleged to be inconsistent with the standards related to conflicts arising from its payment systems' activities.

Discussions with Federal Reserve staff and market participants suggest that the Reserve Banks comply with the policies intended to prevent them from using their other roles to benefit their payment services activities. When we last reported on the potential conflicts between the Reserve Bank's payment services activities and the other roles of the Federal Reserve in 2000, we found no evidence to suggest that the Reserve Banks had not adequately separated their multiple roles.[46] Since then, Board staff told us that they have rarely received complaints relating to conflicting roles in the payments system. For example, in the last 5 years, staff recalled one instance in which they received a complaint from a competing payment clearing organization. The complaint related to an alleged incident in which a Reserve Bank payment systems sales employee purportedly told a financial institution that use of Reserve Bank payment services would help them comply with any regulatory requirements. Board staff pursued the complaint, but were unable to address the specific allegation due to lack of details regarding the incident. However, Board staff held discussions with Reserve Bank staff responsible for payment services sales to reinforce policies concerning conflicts of interest. According to the Federal Reserve staff, Board staff advised the competing payment clearing organization of the steps that were taken in response to its complaint, and the organization did not pursue its concern with the chair of the Board's Committee on Federal Reserve Bank Affairs.

Most market participants we interviewed also indicated that they did not have concerns that the Reserve Banks were inappropriately using their various roles to benefit their payment services activities. To help assess how well the Reserve Banks were managing potential conflicts among

[46] GAO-01-160.

their different roles, we interviewed 24 providers and users of payment services (including the top 5 largest banks and a randomly selected group of service providers and end users).[47] These entities included:

- 12 financial institutions and nonbank entities that compete with the Reserve Banks to provide payment services; and
- 12 banks and credit unions that were end-user customers of private-sector providers, the Reserve Banks, or both (including 6 also supervised by the Federal Reserve).

Of the 12 entities we interviewed that were end-user customers of payment services, most (10 of 12) did not express concerns with the Federal Reserve's multiple roles. For example, staff at one large bank said the Federal Reserve managed any potential conflicts of interest between its payments side and its regulatory side well and that they had not seen evidence of conflicts. They noted that their discussions with Federal Reserve examination staff focused on safety and soundness, and conversations with the Federal Reserve payments services staff were similar to those they would have with a private-sector vendor. Of the entities with concerns, one was a credit union not supervised by the Federal Reserve whose representatives said that they were unsure of the need for the Federal Reserve to function as both a regulator and provider in the payment system. The other was a large bank, whose staff noted that although they were not aware of any situation where a Federal Reserve examiner raised concerns with their bank's use of private-sector providers, they did note that concerns existed over whether the Federal Reserve is fully recovering its costs or whether it uses its advantages over private-sector competitors.

Similarly, of the 12 entities we interviewed that competed with the Reserve Banks, representatives of 9 of these entities did not express any concerns over the Federal Reserve's management of its multiple roles.

[47] To ensure that we obtained opinions from a range of payment services competitors and end-users, we interviewed the top 5 largest banks, 4 of which compete with the Reserve Banks and 1 that was only an end-user of their services. We also interviewed 11 institutions that were randomly selected banks from large, medium, and small size groupings and large and small size groupings of credit unions. The 12 entities we interviewed that competed with the Reserve Banks included 4 of the top 5 largest banks, 7 randomly selected entities and 1 judgmentally selected service provider identified in other interviews as being a major provider of payment services.

Representatives of the 3 remaining entities did express some concerns. For example, staff at one payment services provider told us that some banks have been told by Federal Reserve staff that if they did not process sufficient volumes on both of the competing ACH networks—those operated by The Clearing House and by the Reserve Banks—it could be seen as a supervisory issue. Representatives of another institution told us that when they moved their check-clearing business from the Federal Reserve to a competing provider more than 3 years ago, Federal Reserve payment services employees allegedly made comments suggesting negative implications for the institution. But since then, the Federal Reserve has been this entity's primary supervisor and the representatives said that the Federal Reserve has not taken any inappropriate actions. The third entity that expressed concerns was a large bank that is supervised by the Federal Reserve and offers payment services to others. Representatives of this bank noted their Federal Reserve examiners had not exercised any pressure on their institution to use the Federal Reserve's payment services but questioned the appropriateness of the Federal Reserve offering comments on pricing on the ACH payment association's proposal to implement same-day ACH transactions.[48] Federal Reserve staff noted that these concerns related to the establishment, calculation, and future management of an interbank fee (in the nature of an interchange fee) for the ACH system's same-day settlement transactions that would be processed by the Reserve Banks as an ACH operator under the proposed rules of NACHA for this service.

Market Participants Generally Support a Continued Role for the Federal Reserve in the Payments System

Market participants we interviewed generally support the Reserve Banks' role as providers of payment services. Many of the 34 market participants we interviewed—bank and credit union users of payment services and private-sector providers of payment services (both direct competitors and others involved in payment services activities)—said that the Federal Reserve has an important role in the payment system. Several market participants, including those that compete with the Reserve Banks in providing payment services, said that the Federal Reserve successfully promotes ubiquitous access to payment services and should continue to do so.

[48]While ACH transactions are normally processed and settled the next day, in December 2014, NACHA sought public comments on implementing same-day processing of ACH.

Representatives of all 12 financial institutions that we interviewed that used the Reserve Banks' payment services generally expressed positive views about the Federal Reserve's roles in the payment system, including comments about the Federal Reserve providing stability, promoting competition, ensuring access to all institutions, and promoting innovation in the payments industry. Representatives of one large bank said that the Reserve Banks have strengthened competition in the market and put pressure on private-sector providers, which has benefitted all parties. Representatives of a community bank said that they think the Reserve Banks provide a valuable service, especially to community banks. Representatives from 2 of the 12 financial institutions had concerns about the Federal Reserve's roles in payment services. Representatives from one large federal credit union said that the Reserve Banks' prices were low and their service very good, but worried that the Reserve Banks' actions to lower prices might weaken competition in this market. In contrast, representatives of several smaller financial institutions with whom we met said that they appreciated the Reserve Banks' services in the payments system and preferred to use their services over a private-sector competitor. One bank official from a smaller institution said that although the Reserve Banks' prices were not necessarily lower than the prices of private-sector providers, the official preferred the quality of service in the provision of services.

Similarly, in our interviews all three payment service providers that do not compete directly with the Reserve Banks said that they generally thought the Reserve Banks' provision of payment services has helped the payment services industry. One provider said that the Federal Reserve actively promoted innovation in the payments industry, citing the Federal Reserve's involvement in transitioning the check industry to digital imaging, despite the resulting decrease in its own market share in that payment service. Representatives from another provider said that they believed that the Federal Reserve has always played the role of an "industry helper" and cited the Federal Reserve's roles in guiding the industry toward adopting innovations in the coming years.

However, representatives from some competing payment service providers said that they would prefer the Reserve Banks to compete less actively in the payment services market. At least 6 of 12 competing payment service providers and one trade association with members that are competing providers said that they thought the Reserve Banks should compete less actively in the payment services market, and several suggested that the Federal Reserve instead become more of a payment service "provider of last resort," as illustrated in the following examples.

- Representatives from one large bank said that for years they considered the Reserve Banks as providing a critical function through their connections to many institutions. But they noted that the Reserve Banks recently made price and product changes to attract more business and that undermined market competition. The staff said that they would prefer the Reserve Banks to become providers of last resort.

- Some private-sector providers suggested that the Federal Reserve stop providing payment services and instead focus more on ensuring ubiquitous access to all financial institutions or simply act as a regulator by creating and overseeing rules for the private-sector providers. Staff from one medium-sized bank said that they thought the Reserve Banks should instead focus on setting the rules as a regulator of the payments system, while staff from a corporate credit union said the Reserve Banks should instead focus on settlement, and not clearing of payments. However, Federal Reserve staff told us that cost recovery requirements dictate that the Reserve Banks remain an active service provider, because being a "provider of last resort" would require them to make transactions too expensive. They said that larger-volume customers likely would use other providers, leaving revenue from the lower-volume customers that remained to recover costs. Moreover, they indicated that, if the Reserve Banks were providers of last resort, the Federal Reserve would likely not be able to meet its statutory cost-recovery requirement and would not further its mission to foster the efficiency of the payments system or ensure ubiquitous access.

- Representatives of two payment service providers said that the Federal Reserve could be more transparent in its payment service pricing and compliance with the Monetary Control Act's cost recovery requirements. The pricing principles the Board developed in response to the Monetary Control Act require the Reserve Banks to publish their prices and to solicit public comments when proposing pricing or product changes that are expected to have significant longer-term effects on the payments system.

Representatives of TCH said that, while TCH welcomes competition from the Federal Reserve, they believe that such competition should be strictly in compliance with the Monetary Control Act, and that the Federal Reserve should be transparent about such compliance.

The Federal Reserve Has Been Engaging Stakeholders to Improve the Payments System

In acknowledgment of the need to ensure that the United States keeps pace with advancements in the payments system, the Federal Reserve has been convening groups of stakeholders to explore ways to improve the payments system, including bringing about faster and more secure payments. The Federal Reserve cited the rapid changes to the payments process brought on by high-speed data networks and other technology, as well as the escalating security threats towards existing payment systems, as evidence of the need for all stakeholders to join to improve the payment system. (Payment system stakeholders include large and small businesses, emerging payments firms, card networks, payment processors, consumers, financial institutions, and government agencies.) Furthermore, consumers and businesses have begun to desire fast, convenient, ubiquitous, safe, and inexpensive payment options, according to an international payments network. While other countries have developed real-time or near real-time retail payments systems, the U.S. payments system does not have a ubiquitous, convenient, and cost-effective way for consumers and businesses to make real-time or near real-time payments. According to a 2015 white paper from the same international payments network, 18 countries have real-time retail payments systems, an additional 12 countries have been either exploring or developing them, and another 17 have been considering developing a system that would span multiple countries.[49] In one example, Australia has been making the transition to its New Payments Platform, which is designed to enable future payments to be processed and settled in real time with finality, even outside of normal banking hours.

To help begin the process and explore and solicit input on concepts and criteria for a new system for the United States, the Federal Reserve published a public consultation paper on improving the payments system in September 2013.[50] This paper provided perspectives on the key gaps in the current U.S. payment system and identified desired outcomes to address the gaps. Specifically, the Federal Reserve identified eight gaps and opportunities for improvement in the current payment environment,

[49]SWIFT, *The Global Adoption of Real-Time Retail Payments Systems (RT-RPS)* (La Hulpe, Belgium: 2015), accessed June 6, 2016. https://www.swift.com/your-needs/real-time-payments.

[50]The Federal Reserve Banks, *Payment System Improvement – Public Consultation Paper*, September 10, 2013, accessed June 6, 2016. https://fedpaymentsimprovement.org/wp-content/uploads/2013/09/Payment_System_Improvement-Public_Consultation_Paper.pdf.

which included end users' increased demand for real-time transactions and timely notifications; the lack of ubiquity in currently operating electronic payment services (as compared with legacy systems such as checks); and the challenges associated with cross-border payments. The paper also identified five desired outcomes to be achieved within 10 years to address these gaps and opportunities. These desired outcomes included having payment participants collectively identify and embrace key improvements, implementing process improvements that reduce costs and increase innovations over the long run, and having a system that offers consumers and businesses greater choice and security.

The Federal Reserve obtained nearly 200 written responses from industry stakeholders on the consultation paper, and published these responses and the Federal Reserve staff summary of the responses on its website.[51] According to the summary document, about 75 percent of the written responses agreed with the gaps, opportunities, and desired outcomes the paper had identified. Commenters also suggested additional areas for focus, particularly related to ensuring comparable regulation for payment providers and addressing the needs of the unbanked or underbanked.[52] For example, according to the Federal Reserve's summary document, depository institutions broadly argued that they are held to higher regulatory and risk-management standards than nonbank payment providers, and merchants expressed desire for a payment system governance structure that allows them to have more influence. According to the summary document, many respondents opined that a 10-year plan to improve the payments system was not aggressive enough, and that more action should be taken in the near term.

To advance this effort, in January of 2015 the Federal Reserve issued *Strategies for Improving the U.S. Payment System*, a document that sets forth its strategies for bringing together all stakeholders to improve the

[51]Stakeholder comments and comment summary documents available at: http://www.fedpaymentsimprovement.org.

[52]The Federal Deposit Insurance Corporation has defined "unbanked" households as those without checking or savings accounts and "underbanked" households as those that have such accounts but also rely on alternative financial services. See Federal Deposit Insurance Corporation, *2013 FDIC National Survey of Unbanked and Underbanked Households*, October 2014, accessed July 5th, 2016. http://www.fdic.gov/householdsurvey.

payment system.[53] In this document, the Federal Reserve refined and finalized the five desired outcomes into the following categories: speed, security, efficiency, international, and collaboration. In addition, the Federal Reserve identified five strategies to improve the payment system in the United States:

- actively engage with stakeholders on initiatives designed to improve the U.S. payment system;
- identify effective approaches for implementing a safe, ubiquitous, faster payments capability in the United States;
- work to reduce fraud risk and advance the safety, security, and resiliency of the payment system;
- achieve greater end-to-end efficiency for domestic and cross-border payments; and
- enhance Reserve Bank payments, settlement, and risk-management services.

Since then, the Federal Reserve has been forming task forces of industry stakeholders, with one task force focused on evaluating effective approaches of a faster payments system, and the other focused on promoting payment security. These task forces have developed effectiveness criteria for assessing alternative solutions for faster payments and the Federal Reserve has also appointed key staff to support and guide these efforts.

Although some market participants expressed concerns to us about the Federal Reserve's process for moving toward a faster payments solution, Federal Reserve staff told us that these concerns appeared to reflect misunderstandings of the process. For example, representatives from a payment service trade association with whom we spoke said that the Federal Reserve was making edits and inserting criteria in documents containing stakeholder perspectives to emphasize its own service offerings. Specifically, they said that the Federal Reserve inserted a criterion that suggested that all faster payments positions should settle

[53]Federal Reserve System, *Strategies for Improving the U.S. Payment System*, January 26, 2015. https://fedpaymentsimprovement.org/wp-content/uploads/strategies-improving-us-payment-system.pdf

with the Reserve Banks. However, Federal Reserve staff noted that the criterion in question states “The solution should either enable settlement in central bank money, or minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money for the inter-provider settlement process.” They added that settlement in central bank money does not mean that the Reserve Banks would operate the faster payments solution, as evident in TCH’s ACH service that settles using central bank money. Federal Reserve staff also told us that the drafting of the criteria documents for the Faster Payments Initiative took place during meetings of the Faster Payments Task Force and Steering Committee, and that this was a transparent and rigorous process.

Representatives from a large bank also said that they were concerned about an intellectual property requirement contained in the participation agreement for stakeholders involved in the faster payments planning process. They said that the Federal Reserve required participants to sign an agreement that included language noting anything coming out of the discussion would be the intellectual property of the Federal Reserve. Because of these terms, the bank decided not to participate, and they said that they knew of other financial institutions that felt similarly. However, Federal Reserve staff said that the characterization of the participation agreement language is not correct and that the agreement does not limit a participant’s use of its own intellectual property. Instead, they said that the agreement includes terms for fair, reasonable, and nondiscriminatory licensing of intellectual property. In addition, there is an opt-out provision in the agreement that allows participants to identify any intellectual property present in a final report before it is published and decline to grant the license for it. Furthermore, based on feedback from the industry related to the intellectual property provisions, the Federal Reserve revised the participation agreement in March 2016 to reduce the scope and legal burdens for the participant in licensing its intellectual property. Federal Reserve staff said that the vast majority of current members have signed this agreement and additional industry participants have also joined their effort after these revisions were made.[54]

[54]Federal Reserve staff stated that 29 new members and approximately 81 percent of the existing members executed the new agreement, with total membership of 292 as of July 1, 2016. According to Federal Reserve staff, feedback provided to them suggested that slight attrition in membership was due to interest and capacity and not a result of concerns with the amended agreement.

Conclusions

The presence and activities of the Federal Reserve in the payments system generally have been beneficial, including by helping to lower the cost of processing payments for many end-users. Market participants also generally supported having the Federal Reserve continue to play multiple roles in the payment system. The Federal Reserve also continues to support innovation and process improvements for the payments in the United States.

To help ensure that it competes fairly with the private sector, the Federal Reserve uses a cost accounting system for capturing its payment system costs that is detailed and generally in alignment with comparable federal standards. It also uses a reasonable approach to impute the costs that it would bear if it was a private entity and includes these in the costs that it recovers with its payment services revenues. However, the Federal Reserve has not included in its imputed costs some costs that its competitors incur. These include those related to developing plans for recovery and orderly wind down, which are costs that its primary competitor in wire transfers has had to incur to comply with new requirements for resolution planning for systemically important payment system entities. Also, the Federal Reserve has not included costs borne by private-sector providers related to complying with antimoney-laundering requirements. By including these costs, the Federal Reserve would more completely impute and recover costs that it would have incurred as a private firm.

In addition, although it also conducts internal reviews to help ensure that it captures the required costs accurately, the cost accounting system has not been specifically reviewed by an external auditor in more than 30 years. Internal control standards state that compliance with applicable laws and regulations is a key internal control objective, and a key means of providing such assurance can be the performance of monitoring activities, which can include external reviews, to ensure that such compliance is occurring. Having its cost accounting practices periodically subject to independent testing would provide greater assurance that the Federal Reserve is complying with the Monetary Control Act.

Recommendations for Executive Action

To provide greater assurance that the Federal Reserve is complying with the Monetary Control Act's requirement to establish fees on the basis of costs actually incurred and an allocation of imputed private-sector costs, the Chair of the Federal Reserve Board of Governors of the Federal Reserve System should:

- Consider ways to incorporate the costs related to integrated planning for recovery and wind down and compliance with antimoney-laundering requirements, to the extent practicable, in its imputed private-sector cost methodology.
- Periodically obtain independent testing of the methods the Federal Reserve uses to capture its actual costs and simulate those of the private sector.

Agency Comments, Third-Party Views, and Our Evaluation

We provided a draft of this report to the Federal Reserve and to The Clearing House for review and comment. The Federal Reserve provided written comments that we reprinted in appendix V. The Federal Reserve and The Clearing House also provided technical comments that we incorporated, as appropriate.

In written comments, the Federal Reserve stated that it is planning to take steps in response to both recommendations. In response to our recommendation that it consider ways to incorporate costs related to integrated planning for recovery and wind down and compliance with antimoney-laundering requirements in its imputed private-sector cost methodology, the Federal Reserve's letter stated that it will consider ways to incorporate these costs. The Federal Reserve noted that, in some cases, these costs are difficult to measure, given the challenges in obtaining financial information from private-sector payment service providers. In other cases, the Federal Reserve noted that it already bears costs that its competitors do not. In response to our recommendation that the methods the Federal Reserve uses to capture its actual costs and simulate those of the private sector be independently tested periodically, the Federal Reserve stated that it will procure an independent review of the methods used for capturing actual and imputed costs related to its payment services. We acknowledge this step and note that having such reviews performed periodically will provide greater assurance to all payment services market participants of the Federal Reserve's compliance with the Monetary Control Act.

Along with its technical comments, The Clearing House noted an appreciation of our recommendations that the Federal Reserve consider ways to incorporate certain costs borne by the private sector in providing payment services and obtain periodic independent cost-capturing system testing. However, The Clearing House also stated that it was disappointed in our other findings, which did not appear to reflect the data provided to us on a variety of issues. We believe we incorporated the information provided by The Clearing House to the extent possible as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Federal Reserve and other interested parties as appropriate. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-8678 or evansl@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix v.

Sincerely yours,

Lawrance L. Evans, Jr.

Lawrance L. Evans, Jr.
Director, Financial Markets
and Community Investment

Appendix I: Objectives, Scope, and Methodology

This report focuses on three payment system services offered by the Federal Reserve—check clearing, electronic payments known as Automated Clearing House (ACH) payments, and wire transfer payments—because these are the services in which the Federal Reserve competes with private-sector entities. This report examined (1) how effectively the Federal Reserve captures and recovers its payment services costs; (2) the effect of the Federal Reserve's practices on competition in the payment services market; (3) how the Federal Reserve mitigates the inherent conflicts posed by its various roles in the payments system; and (4) market participant viewpoints on the future role of the Federal Reserve in the payments system.

To examine how effectively the Federal Reserve has recovered the costs of providing these payment services, we analyzed data on overall reported revenues and expenses associated with the three payment services from 1996 through 2015. We also analyzed data on the specific expenses associated with the payment services from 2001 through 2014 to identify relevant trends and cost structures. We assessed the reliability of these data by interviewing relevant Federal Reserve officials about the controls and quality assurance practices they used to compile these data, and determined the data were reliable for these purposes. We interviewed Federal Reserve staff about the processes used for capturing these costs and reviewed the Federal Reserve's *Planning and Control System (PACS) Manual for Federal Reserve Banks*, which establishes cost accounting policies for the payment services at all Federal Reserve Banks, whose staff conduct the payment services activities. We obtained expert opinions on the soundness of the policies and practices detailed in the PACS manual, including consulting internally with a cost accounting expert within GAO, as well as with representatives from the auditing firm that had conducted the 2014 audit of the Federal Reserve's financial statements. We analyzed 12 reviews conducted by an internal Board staff between 2012 and 2015 and a judgmental selection of 9 audits conducted by the internal audit staff of the Reserve Banks to determine the extent of their findings related to cost accounting practices.[1] We also reviewed the only external audit that had examined the cost accounting practices at the Federal Reserve Banks that had been conducted in 1984. No private-sector cost accounting standards existed to compare to the cost

[1]The internal Reserve Bank audits were selected from a list of payment service audits conducted at the Reserve Banks between 2011 and December 2015.

accounting practices followed by the Reserve Banks, which are federally chartered but organized as private corporations. As a result, we compared the design of PACS to the elements that federal managerial cost accounting standards—*Statement of Federal Financial Accounting Standards 4*—recommend be included in federal agency cost accounting systems to determine how the Federal Reserve's practices aligned with a comparable standard.

To determine how the Federal Reserve was imputing and recovering costs that would have been incurred had its payment services been provided by a private firm, in accordance with the Monetary Control Act, we examined data and documentation relating to the Federal Reserve's methodology for computing this "private sector adjustment factor" (PSAF). Based on our assessment of the controls and quality assurance practices the Federal Reserve used to compile these data, we determined the data were reliable for this purpose. We consulted with an internal GAO financial markets expert, a financial analyst who monitors payment service market participants, and three academic financial experts on the reasonableness of the methodology's assumptions. We reviewed notices in the *Federal Register* from 2005 through 2014 that detailed proposed and final changes to the methodology over this period. For further explanation of these issues we spoke with Federal Reserve staff who oversee payment services activities. We also interviewed a financial trade association that issues rules governing payment system activities and whose members participate in the payments industry, as well as representatives of a major payment services provider to get their opinions on the Federal Reserve's PSAF methodology. We also reviewed industry documentation on criticisms of the Federal Reserve's PSAF methodology.

To examine how the Federal Reserve prices its payment services and assesses the impact of its competition in this market, we analyzed volume and pricing data for the Federal Reserve's check, wire, and ACH payment services from 2004 to 2014, including publicly available fee schedules. We also analyzed Federal Reserve pricing and revenue data for each of these services, including examining trends in service prices over time. To ensure that these data were sufficiently reliable for our purposes, we verified that we had obtained complete data on the revenue by type of customer by comparing them to the annual revenue totals reported publicly by the Federal Reserve. Based on this comparison and our assessment of the controls and quality assurance practices the Federal Reserve used to compile these data, we determined the data were reliable for this purpose. We also reviewed Federal Reserve documentation on pricing its services and on competitive impact analyses, including policies, guidance, and *Federal Register* notices. We interviewed Federal Reserve staff for information on how they price their services and compete in the payments market. We also interviewed staff from the Department of Justice to better understand what practices can be considered anticompetitive.

For the perspectives of market participants on the Federal Reserve's pricing and competitive impact in the payments industry, we interviewed 34 market participants, including:

- 7 financial trade associations whose members participate in payment systems and/or issue rules governing payment system activities (NACHA and the Electronic Check Clearing House Organization).
- 12 entities that provide payment services that compete with the Federal Reserve, including
    - 3 nonfinancial institution service providers,
    - 6 correspondent banks that provide payment services to other institutions but also offer banking services to individual corporate and retail customers,
    - 2 corporate credit unions and 1 bankers' bank that conduct payment services and other activities for other institutions.
- 3 nonfinancial institution payment services providers that did not compete with the Federal Reserve.
- 12 financial institutions that were end users of payment services from other private-sector providers and/or the Federal Reserve, including
    - 8 banks (including 6 that were regulated by the Federal Reserve), and
    - 4 credit unions.

We selected the financial institutions that used the Federal Reserve or private-sector providers in two ways. First, we interviewed the 5 largest bank holding companies by total assets in the United States. Some of these institutions are both providers of payment services and users of the

Federal Reserve's services. Second, we interviewed an additional 11 banks and credit unions that were chosen by random selection within the following tiers based on total assets:

- Banks (7)
  - >$50 billion (3 large)
  - $10-$50 billion (2 midsized)
  - <$10 billion (2 small)
- Credit Unions (4)
  - >$5 billion (3 large)
  - <$5 billion (1 small)

The entities we interviewed that provide payment services were those selected randomly from a larger sample of institutions identified by a payments industry association and those identified in other interviews as service providers with valuable knowledge of the industry.

We also analyzed data from the Federal Reserve that included the revenues it earned from various customer categories that it tracked internally. These categories included various ones for customer institutions of various asset sizes and for other entities, such as bankers' banks or foreign banks. We used these data to identify the extent to which the Federal Reserve's revenues had changed over time and how the amounts paid by different customer groups had changed. Because of circumstances in the check market—including the industry's transition to images—we determined that the data for check were only sufficiently comparable from the period between 2007 and 2014, which was the last year that we obtained complete transaction volume data from the Federal Reserve. Data for ACH and wire transfers appeared to be sufficiently comparable from 2005 to 2014. Based on our assessment of the controls and quality assurance practices the Federal Reserve used to compile these data, we determined the data were reliable for this purpose.

To examine how the Federal Reserve mitigates the inherent conflicts posed by its various roles in the payments system, we reviewed the Federal Reserve's policies related to its payment services organizational structure and the requirements related to the conduct of its staff in the Monetary Control Act and relevant Federal Reserve policies. We also reviewed additional guidance the Federal Reserve provided to its staff on the conduct of its payment services activities. We also reviewed training materials the Federal Reserve used to inform its staff about requirements relating to its payment services activities. In addition, we reviewed audits or other reviews done by the Board's Inspector General or other bodies related to the conduct of its payment services activities. We interviewed the Federal Reserve Board staff who oversee payment services activities, including about the extent to which they received complaints from market participants and about the conduct of the Federal Reserve's payment services activities. In addition, we interviewed representatives of the 34 market participants to obtain their perspectives on the conflicts in the Federal Reserve's roles in the U.S. payments system.

To examine market participant viewpoints on the future role of the Federal Reserve in the payments system, we interviewed representatives of the 34 market participants, including bank and credit union users of payment services and private-sector providers of payment services (both direct competitors and others involved in payment system activities). We also reviewed the Federal Reserve's policies that outline the criteria it would consider before offering a new payment service, including comment letters publicly posted by industry stakeholders in response to the Federal Reserve's public consultation paper. We also obtained views of Federal Reserve staff about their payments improvement initiative.

We conducted this performance audit from November 2014 to August 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Federal Reserve Payment Services Cost Accounting

The Monetary Control Act requires that over the long run the Federal Reserve's fees be established on the basis of all direct and indirect costs actually incurred in providing payment services, and an allocation of imputed costs that would have been incurred by a private-sector provider. The Federal Reserve Banks use a detailed cost accounting system that helps them meet their requirements relating to how to set fees and account for and recover costs incurred as part of providing payment services.

Federal Reserve Payment Services Costs

According to data provided to us by the Federal Reserve, The Federal Reserve Banks incurred more than $410 million in costs as part of providing payment services in 2014 (see table 2). Of these, personnel costs represented about 7 percent of total payment services costs. Support costs represented the large majority of the costs of payment services activities. Nearly 78 percent of the overall costs of providing payment services arose from almost $320 million of expenses allocated to those services by the Federal Reserve's National Support Services. These costs included the expenses arising from developing software applications, implementing information security, providing help-desk services, business development activities, accounting, and other support functions. The Federal Reserve Banks' payment services were also allocated more than $28 million in local support services costs that include Reserve Bank information, technology services, audit expenses, and general administrative services. More than $22 million in various overhead costs—representing about 5 percent of overall payment services costs—were also allocated to payment services activities, and these included, Federal Reserve staff told us, expenses associated with overall corporate-wide functions such as bank administration, accounting, and contingency planning.

Table 2: 2014 Federal Reserve Payment Services Direct and Indirect Costs (in Dollars)

	Actual cost ($)	Percentage of total cost
Total cost	**410,305,215**	**100.0**
Personnel	28,961,178	7.06
Materials and supplies	146,077	0.04
Equipment	356,925	0.09
Software costs	8,124,382	1.98
Shipping	316,514	0.08
Travel	566,509	0.14
Communications	148,557	0.04
Building	160,946	0.04
Other	1,154,666	0.28
Recoveries[a]	(95,851)	-0.02
Support	348,120,529	84.84
Local support	28,156,949	6.86
National support	319,963,580	77.98
Development/maintenance of software applications	138,817,178	33.83
Use of the Fedline application and associated utilities	75,146,371	18.31
National information technology support	31,173,454	7.60
Management, including planning, oversight and management of production environment	32,353,097	7.89
Sales and business development services	19,308,006	4.71
Accounting and other support functions	23,165,475	5.65
Overhead	22,344,784	5.45

Source: Federal Reserve. | GAO-16-614

Notes: This table excludes the additional imputed costs that the Federal Reserve adds to its payment services costs to simulate the costs that would also be incurred if these services were provided by a private-sector entity.

[a]Recoveries are defined as receipts of funds for an incidental service or product produced by the Reserve Banks in the course of accomplishing the basic responsibilities of the Federal Reserve System. Recoveries include, but are not limited to, receipts for such items as tenant rent, cafeteria services, and manual fees, periodicals, publications, and regulations.

Reserve Banks' Cost Accounting System

According to the *Planning and Control System (PACS) Manual for the Federal Reserve Banks*, every dollar expended (or received) by the Reserve Banks is recorded into three cost categories: account, department, and activity. Federal Reserve staff described how a Reserve Bank's expense related to a $10,000 contribution to the employees' retirement thrift plan account would be recorded in the following way.

- Initially, costs are recorded at the account level. In this example, these contributions are recorded in a “Retirement and other benefits – Thrift Plan” expense account.

- Because the contributions were made for employees who work in different departments, the Federal Reserve would allocate these expenses to departments using various allocation methods. For example, the Retail Electronic Payments Department at a given Reserve Bank would be allocated some of the retirement expenses. The allocation would be calculated based on a “salary dollar ratio distribution,” equal to the salary expense of the department divided by the total salary expense of the Reserve Bank. Therefore, if the salaries in the department represented 1 percent of the salaries of the Reserve Bank, 1 percent of the retirement plan contribution ($100) would be allocated to the Retail Electronic Payments Department.

- Subsequently, the Federal Reserve would further allocate this departmental expense among the various activities that the department tracks. For example, if 70 percent of the department’s operations were devoted to automated clearing house (ACH) activities and 30 percent were associated with check processing, $70 of the department’s allocated retirement expense would be recorded under ACH activity and $30 under check activity.

Similarly, the Federal Reserve Banks’ payment services would be allocated support and overhead expenses using the methods and procedures prescribed in the PACS manual, such as using a fixed percentage of some other factor or on a dollar-ratio basis. For example, maintenance expenses incurred at one Reserve Bank may be allocated to payment services activities on the basis of the amount of space their operations occupy in the bank’s buildings.

Appendix III: Private Sector Adjustment Factor (PSAF) Methodology

As it is required under the Monetary Control Act to calculate imputed private-sector costs and return on capital, the Board of Governors of the Federal Reserve System (Board) has developed a PSAF methodology that allows it to calculate four costs that they do not incur, but that a typical private-sector payment services provider would incur: debt financing costs, equity financing costs (or return on equity), taxes, and payment services' share of Federal Reserve Board expenses. A private firm providing payment services would need to raise capital to obtain the funds to invest in the necessary facilities, equipment, and other assets needed to conduct these activities. To determine the financing costs associated with this debt and equity capital, the Federal Reserve compiles the values of the actual assets it uses to conduct payment services activities. In addition to its premises, furniture, and equipment, these values may include an asset corresponding to the Federal Reserve's net pension plan obligations. The PSAF methodology assumes that any short-term assets—such as supplies—are to be financed with short-term debt and that long-term assets—such as facilities and equipment—would be financed with long-term liabilities and a combination of imputed long-term debt and equity. The methodology also assumes that the Federal Reserve would use the same percentage mix of long-term debt and equity that it derives from the U.S. publicly traded firm index to finance its long-term assets not offset by long-term liabilities.[1]

Once it has identified the imputed amount of debt and equity it would need to fund its capital structure, the Federal Reserve calculates the rates for debt and equity financing. Using publicly available, market-based interest rates, it calculates a total amount of interest that it would have to pay for the year on the mix of short- and long-term debt amounts that were identified based on its asset structure.[2] In 2016, the Federal Reserve's PSAF methodology determined that it would have paid a rate

[1]Data for U.S. publicly traded firms are from the Standard and Poor's Compustat® database. This database contains information on more than 6,000 U.S. publicly traded firms, which approximates the entirety of the U.S. market.

[2]The imputed short- and long-term debt financing rates are derived from the nonfinancial commercial paper rates from the Federal Reserve Board's H.15 Selected Interest Rates release (AA and A2/P2) and the annual Merrill Lynch Corporate & High Yield Index rate, respectively.

of 0.3 percent on $19 million of short-term debt.[3] The long-term debt financing rate was 4.2 percent.[4]

To determine the cost of the equity it would have to use to finance its payment services activities' assets, the Federal Reserve uses a generally accepted financial formula for calculating the expected rate of return on equity that investors would demand based on its risk relative to the market as a whole.[5] In 2016, the PSAF model calculated a pre-tax return on equity of about 9.8 percent, which represented additional imputed financing costs of $5.3 million.

After these total imputed financing costs of debt and return on equity are calculated, the Federal Reserve's PSAF methodology imputes two additional costs that a private-sector firm likely would incur. The first of these additional costs is an amount equivalent to the sales taxes that the Federal Reserve Banks would have incurred based on budgeted outlays for materials, supplies, and capital. These costs must be included as part of the allocation of imputed costs under the criteria listed in the Monetary Control Act. Furthermore, these costs are imputed rather than actual because the Federal Reserve Banks are exempt from paying sales taxes under the Federal Reserve Act. Then payment services' share of Federal Reserve Board expenses, which Federal Reserve staff said are costs associated with the Board's supervision of the payment services operations conducted by the Reserve Banks, are included in the PSAF, because, Federal Reserve staff told us, these costs are not captured by the PACS (which captures the actual costs Reserve Banks incur). In 2016, the expenses related to Board supervision and to imputed sales taxes were calculated to be $5.0 million and $2.8 million, respectively.

[3] 80 Fed. Reg. 70,783, 70,789 (Nov. 16, 2015).

[4] In 2016, the Federal Reserve's net long-term assets (long-term assets minus long-term liabilities) on its pro forma balance sheet were not great enough to require any additional financing using imputed long-term debt in the PSAF, so the 2016 PSAF did not include any long-term debt financing costs.

[5] The equity financing rate is calculated using the Capital Asset Pricing Model. In this model, the required rate of return on a firm's equity is equal to the return on a risk-free asset plus a market risk premium. In the Federal Reserve's methodology, the risk-free rate is based on the 3-month Treasury bill, the equity risk measure (its beta) is assumed to be equal to 1.0 or the average of the risk of the market as a whole, and the market risk premium is based on the equity market returns in excess of the risk-free rate over the most recent 40 years.

Using its PSAF methodology, in 2016 the Federal Reserve calculated a total PSAF cost of $13.1 million that would have been incurred if the Reserve Banks were a private-sector provider, down from $18.0 million in 2015, as shown in table 3. This amount was allocated to each payment service based on the percentage of the projected operating expenses of the Federal Reserve Banks' payment services that each service represented.

Table 3: Component Expenses Calculated by the Federal Reserve's Private-Sector Adjustment Factor (PSAF) in 2015 and 2016, dollars in millions

A. Cost of capital	2016			2015		
Elements of capital costs	N/A	N/A	N/A	N/A	N/A	N/A
Short-term debt	$19.0 x	0.3%=	$0.1	$18.5 x	0.2%=	$0.0
Long-term debt	— x	4.2%=	$0.0	$81.9 x	5.0% =	$4.1
Equity	$53.8 x	9.8% =	$5.3	$71.9 x	10.1% =	$7.3
N/A	N/A	N/A	**$5.4**	N/A	N/A	**$11.4**
B. Other required PSAF costs	N/A	N/A	N/A	N/A	N/A	N/A
Sales tax	N/A	$2.8	N/A	N/A	$3.3	N/A
Board of Governors expenses	N/A	$5.0	N/A	N/A	$3.3	N/A
N/A	N/A	N/A	**$7.8**	N/A	N/A	**$6.6**
C. Total PSAF	N/A	N/A	**$13.1**	N/A	N/A	**$18.0**

Legend: N/A = Not applicable

Source: Federal Reserve | GAO 16 614

PSAF Methodology Changes Over Time

As part of the Federal Reserve's attempts to improve the PSAF's accuracy and conform it to changes in the payment system market, Federal Reserve staff noted that the Board has made numerous changes to the methodology over the years.

These changes included a change made in 2000 to begin allocating a portion of the Federal Reserve's prepaid pension asset and postretirement and postemployment benefit liabilities into the asset and equity amounts the PSAF used for calculating imputed financing costs and returns on equity. This change was made because the value of the prepaid pension assets began to increase significantly due to large returns generated from its investments and because the effects of prepaid pension assets were being included in the balance sheets of the bank holding companies the Federal Reserve was using as its peer group to compute the PSAF's financing rates and return on equity. This change resulted in an additional $60.5 million of pretax imputed costs being included in the 2000 PSAF amount. In 2005, the Federal Reserve simplified its methodology for calculating the PSAF's equity financing rate by shifting from an average of three separate financing models to a single calculation based on the return on equity investors would demand based on the risk in the market.

In the past, the Federal Reserve used financial information from large U.S. bank holding companies to calculate elements of the PSAF. For example, from 1981 to 2001, the Federal Reserve had been using the average debt and equity proportions used by the top bank holding companies in the United States, before setting the equity imputed into the PSAF to meet the FDIC definition of a well-capitalized institution. Additionally, the financial information from large bank holding companies was used to calculate the PSAF's return on equity until 2006 and imputed taxes until 2013. In 2012, the Board adopted a policy of basing the imputed capital structure, debt and ROE rates, and tax rates on data for the U.S. publicly traded firm market. Federal Reserve staff noted that over time bank holding companies were engaged in different businesses and had risk profiles that were beyond those represented by the payment services of the Reserve Banks, many of which are now provided by nonbank entities. In 2012, the Federal Reserve amended Regulation D, governing reserve requirements, to eliminate the clearing balance program, which was largely modeled after similar programs offered by correspondent banks, wherein banks maintain balances with their correspondents. The level of clearing balances held at the Reserve Banks had declined after the Federal Reserve began paying interest on deposit balances held at Reserve Banks. Federal Reserve staff noted that the elimination of the clearing balance program significantly changed the size and nature of the assets and liabilities associated with the payment services to such an extent that the Federal Reserve determined that the use of bank holding companies as the peer group was no longer appropriate for the PSAF methodology.

Appendix IV: Competitive Impact Assessment Process

To ensure that it is not unfairly leveraging a possible legal advantage to benefit its payment service activities, the Board of Governors of the Federal Reserve System (Board) formally analyzes the potential competitive impact of any significant changes in the Reserve Banks' payment services pricing or product offerings. The process it uses for conducting competitive impact analyses involves determining if a proposed change would harm other providers due to legal differences, and then weighing the potential harm of the change to competitors against the potential benefits to the overall payments system. For each price or service change proposal, the Board first considers whether the change would have a direct and material adverse effect on the ability of other service providers to compete with the Reserve Banks. According to its policy, if the Board identifies such an effect, staff then determine whether the effect was due to differing legal powers or the Reserve Banks' dominant market position deriving from such legal differences. According to the Federal Reserve, existing legal disparities between the Reserve Banks and the private sector include differences in the rules for same-day settlement of paper checks, check presentment deadlines and locations, the ability of the paying bank to impose reasonable delivery requirements, and the control and timing of settlement. For example, according to the Federal Reserve Act and Federal Reserve regulations, every paying bank must accept paper checks from the Reserve Banks, and the Reserve Banks can obtain a same-day payment from a paying bank by debiting the paying bank's account at a Reserve Bank without being charged a presentment fee. While the Board addressed this advantage through the adoption of Regulation CC in 1992 (effective in 1994), some market participants we interviewed noted that Regulation CC applied to paper check clearing only, and does not address the Reserve Banks' advantage in the exchange of check images. In 1998 the Board proposed limiting or eliminating this and all remaining legal disparities between it and the private-sector competitors, but based on the public comments they received, the Board concluded that the significant costs associated with reducing the remaining legal disparities would outweigh any efficiency gains to the payment services industry, and could result in a reduction in efficiency to the payments system. For example, they said that providing for a later settlement of Reserve Bank presentments would delay the ability of the Reserve Banks to post credits for check deposits, making intraday account management more difficult for many banks and potentially increasing their daylight overdraft charges.

Federal Reserve staff told us that a competitive impact analysis could indicate that a proposed change might have an adverse effect on private-sector competitors, but still not be considered unfair as long as it was determined that the Reserve Banks would not be leveraging their legal advantages. For example, the use of volume-based pricing and the bundling of services that has concerned some private-sector competitors did not raise objections in the Board's competitive impact analysis process because these changes were not deemed to rely on a legal advantage.

If the analysis of a proposed new product or pricing change determines that the Reserve Banks would obtain a competitive advantage stemming from their legal advantages, Federal Reserve staff then must continue to evaluate the proposed change to determine if the change furthers any overarching Board objectives, such as increasing the efficiency of the payments system or ensuring ubiquitous access. Staff must also consider whether the objective of the proposed change could be met in another way that would less adversely affect competing private-sector service providers. Finally, the Board may decide to modify the proposed change to lessen any adverse effects, or decide that the benefits to customers are significant enough to adopt the proposed change despite the potential for adverse effects on other competing market participants.

To help ensure that it is complying with its pricing policies and effectively assessing its competitive impact, the Federal Reserve conducts various internal reviews. Federal Reserve staff said that all product and pricing changes must first be documented in a proposal by the relevant Reserve Bank product office. These proposals are to include customer and market competitive impact analyses. During proposal development, product office staff sometimes also consult with industry work groups to solicit their feedback. Once senior leadership in the product office achieve consensus on the proposals, staff may then send the proposals to the Reserve Banks' Financial Services Policy Committee for its review and approval.[1] The proposals—including the associated competitive impact analyses—then are sent to the Board, although Federal Reserve staff said that they often have ongoing and iterative discussions with Board staff prior to its receipt of the proposals. Board staff then conduct their own independent analysis of the proposals, and the Board will occasionally solicit additional

[1]The Financial Service Policy Committee is responsible for the overall direction of financial services and related support functions for the Federal Reserve Banks, as well as for providing Federal Reserve Bank leadership in dealing with the evolving U.S. payments system. The Committee is composed of three Reserve Bank Presidents and two Reserve Bank first vice presidents.

public comments if it anticipates any significant long-term effects associated with the proposal. Nonroutine changes to pricing and product offerings are subject to approval by the Board or the director of its Division of Reserve Bank Operations and Payment Systems.

The Federal Reserve estimated that staff have completed 32 competitive impact analyses for nonroutine proposals since 2000, in addition to the analyses conducted for routine proposals and for the Board's public rulemaking process, as necessary. Nonroutine proposals are those that create a new service, create a new product line within an existing service, introduce new pricing structures, or are expected to generate significant comment from market participants. The Board's annual repricing exercise is considered as a single, nonroutine analysis. A routine proposal, alternatively, is a new product or proposed change that only moderately affects existing products or is expected to result in minimal action from market participants. Federal Reserve staff estimated that they performed an average of 2–3 nonroutine analyses and 8–9 total analyses each year.

After a new product introduction created controversy in 2013, the Federal Reserve added additional controls to better ensure that any subsequent changes would not result in unfair competition with the private sector. For their 2013 fee schedule, the Reserve Banks introduced a new check-clearing product known as "Choice Receiver," which offered preferential prices to customers for using a Reserve Bank as the presentment bank. The Choice Receiver product was initially approved by the Board but later challenged by private-sector competitors as unfair. After reviewing more complete information about the product, Board staff said that they concluded that its approval had been inappropriate because the product office had not provided sufficient information to allow the Board to evaluate whether the product relied on the Federal Reserve's legal advantages. Once all the relevant information had been considered, the Board rescinded the product later that year because it was deemed to have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve due to legal differences.

As a result of this experience, Federal Reserve staff told us they modified their internal processes for analysis and review of proposed price and service changes. For example, they created a competitive impact analysis template that serves as a training tool for staff (staff respond to a series of questions evaluating the potential adverse effect of proposed changes). Reserve Banks also implemented a concept evaluation process, which provides a high-level overview of planned changes to products or prices in advance of formal proposals, and an enhanced postimplementation review process, which compares the actual performance of a product or service to the estimated changes in the original proposal. Federal Reserve staff said that these processes together have helped provide clarity to internal stakeholders on products in development; improved the transparency and collaboration between product offices and Board staff; and provided validation for prices and products after they have been implemented.

Appendix V: Comments from the Federal Reserve

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

DIVISION OF RESERVE BANK
OPERATIONS AND PAYMENT SYSTEMS

August 9, 2016

Lawrance Evans, Jr.
Director
Financial Markets and Community Investment
United States Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Evans:

Thank you for providing the Board of Governors of the Federal Reserve System ("Board") with an opportunity to review the final draft of the Government Accountability Office ("GAO") report titled: *Payment Services: Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy* (GAO-16-614). The GAO's report reviews the Federal Reserve Banks' processes for calculating and recovering costs associated with providing payments services, the effect of the Reserve Banks' provision of payment services on competition, and market participants' views on the roles of the Board and Reserve Banks in the payments system. We appreciate the GAO's efforts in soliciting input from a wide range of market participants in creating this report.

The report finds that most market participants interviewed are satisfied with how the Board and the Reserve Banks are performing their regulatory and service provider roles in the payments system respectively.[1] The report concludes that the Reserve Banks provide payment services in a manner that has generally allowed them to achieve cost-recovery goals and benefited competition in the market, as evidenced by the Reserve Banks' lowering of prices and competitors' increased market share in certain areas. The report also concludes that the Board has policies and processes in place to ensure pricing fairness, and that the Board's process for imputing to the Reserve Banks certain costs incurred by the private sector appears reasonable and its Reserve Bank cost accounting practices align with private-sector practices and federal standards.

[1] The Board and Reserve Bank have differing roles as part of the Federal Reserve System. The Reserve Banks offer payment services to depository institutions and the federal government. The Board oversees the operations of the Reserve Banks and serves as a regulator of certain aspects of payment services in the United States. The Board also supervises bank holding companies, savings and loan holding companies, and state member banks, and the Reserve Banks carry out supervisory activities under delegated authority of the Board.

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The GAO's report makes two recommendations:

- Consider ways to incorporate the costs related to (1) integrated plans for recovery and orderly wind-down, and (2) compliance with anti-money laundering requirements, to the extent practicable, in the Board's imputed private sector cost methodology, and

- Periodically obtain independent testing of the methods used to capture actual costs and simulate those of the private sector.

With respect to the GAO's first recommendation, we will consider ways to incorporate costs, to the extent practicable, related to (1) integrated plans for recovery and orderly wind-down, and (2) compliance with anti-money laundering requirements into the Board's imputed private sector cost methodology.[2] The particular complexities of incorporating such imputed costs into the Board's methodology warrant careful review and assessment. An important factor to consider will be the effect of imputing such costs on the Board's goal of creating a replicable, transparent cost methodology. The report notes that many private-sector payment service providers are not publicly traded and do not provide publicly available financial information that could be used to calculate costs related to integrated plans for recovery and orderly wind-down or compliance with anti-money laundering requirements. For example, as noted in the report, we have been informed by some correspondent banks that providing public financial information on the proportion and materiality of anti-money laundering compliance costs attributable to specific services would be difficult, as they do not allocate compliance costs directly in such a manner.

Additionally, it is also worth noting that, although some differences in cost structures, including those noted above, may facilitate the Reserve Banks' provision of competitively priced services, other differences may provide competitive advantages to the private sector. For example, the Monetary Control Act requires that fees for Reserve Bank priced services be published and transparent to competitors and customers alike, while competitors generally have the flexibility to individually negotiate with their customers and do not make their fees public. Also, the report notes that the Fedwire Funds Service is subject to unique requirements that do not apply to competitors, and therefore the Reserve Banks have incurred (and continue to incur) substantial expenses in recent years to develop, implement, and test manual procedures for settling systemically important transactions in the unlikely event that the service's automated systems are not available. But, despite such requirements that convey cost advantages to private sector competitors, the Board, asymmetrically, still mandates that the pricing of Reserve Bank provided services reflect certain costs borne only by private sector competitors. For example, the Fedwire Funds Service does not pose the same risk of winding down in a disorderly manner as private-sector designated financial market utilities. Nonetheless, to foster competition with the private sector, the Board requires the Fedwire Funds Service

[2] The Financial Stability Oversight Council ("FSOC") designated The Clearing House Payments Company L.L.C. as a systemically important financial market utility on the basis of its role as the operator of CHIPS. Consideration of costs related to integrated planning of recovery and wind-down will therefore be focused on the Reserve Banks Fedwire Funds Service, and not the Reserve Banks' FedACH Service.

to impute equity held as unencumbered liquid financial assets equal to six months of estimated current operating expenses, similar to the requirements relating to recovery and orderly wind-down set out for designated financial market utilities in Regulation HH.[3]

With respect to the GAO's second recommendation, we will procure an independent review of the methods currently employed for capturing actual and imputed costs related to Reserve Bank priced services.

We appreciate the GAO's review of the Federal Reserve's role in payment systems, the careful and professional approach with which the associated work was conducted, and the opportunity to comment.

Sincerely,

Matthew Eichner

[3] 12 C.F.R. § 234.3. The Board states in the adopting release of Regulation HH from November 5, 2014 (79 FR 65543), "The Board will also monitor the implementation of [Regulation HH] and [the Federal Reserve Policy on Payment System Risk] for issues of consistency and competitive equity between private-sector systems and the Fedwire Funds Service." The same year, the Board reiterated its position in a similar statement in its final revisions to the Federal Reserve Policy on Payment System Risk on November 13, 2014 (79 FR 67326).

Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact

Lawrance Evans, (202) 512-8678, or evansl@gao.gov

Staff Acknowledgements

In addition to the individual named above, Cody Goebel (Assistant Director), Nathan Gottfried (Analyst-in-Charge), William R. Chatlos, A. Nicole Clowers, Giselle Cubillos-Moraga, Robert Dacey, Simin Ho, John Karikari, Paul Kinney, Risto Laboski, Marc Molino, Patricia Moye, Barbara Roesmann, and Jason Wildhagen made major contributions to this report.

(250804)

Appendix VII: Accessible Data

Agency Comment Letter

Text of Appendix V: Comments from the Federal Reserve

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BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

WASHINGTON, DC 20551

DIVISION OF RESERVE BANK

OPERATIONS AND PAYMENT SYSTEM

August 9, 2016

Lawrance Evans, Jr.

Director

Financial Markets and Community Investment

United States Government Accountability Office

441 G Street, NW

Washington, DC 20548

Dear Mr. Evans:

Thank you for providing the Board of Governors of the Federal Reserve System ("Board") with an opportunity to review the final draft of the Government Accountability Office ("GAO") report titled: Payment Services: Federal Reserve's Competition with Other Providers Benefits Customers, but Additional Reviews Could Increase Assurance of Cost Accuracy (GAO-16-614). The GAO's report reviews the Federal Reserve Banks' processes for calculating and recovering costs associated with providing payments services, the effect of the Reserve Banks' provision of payment services on competition, and market participants' views on the roles of the Board and Reserve Banks in the payments system. We appreciate the GAO's efforts in soliciting input from a wide range of market participants in creating this report.

The report finds that most market participants interviewed are satisfied with how the Board and the Reserve Banks are performing their regulatory and service provider roles in the payments system respectively.[1] The report concludes that the Reserve Banks provide payment services in a manner that has generally allowed them to achieve cost- recovery goals and benefited competition in the market, as evidenced by the Reserve Banks' lowering of prices and competitors' increased market share in certain areas. The report also concludes that the Board has policies and processes in place to ensure pricing fairness, and that the Board's process for imputing to the Reserve Banks certain costs incurred by the private sector appears reasonable and its Reserve Bank cost accounting practices align with private-sector practices and federal standards.

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The GAO's report makes two recommendations:

- Consider ways to incorporate the costs related to (1) integrated plans for recovery and orderly wind-down, and (2) compliance with anti-money laundering requirements, to the extent practicable, in the Board's imputed private sector cost methodology, and
- Periodically obtain independent testing of the methods used to capture actual costs and simulate those of the private sector.

With respect to the GAO's first recommendation, we will consider ways to incorporate costs, to the extent practicable, related to (1) integrated plans for recovery and orderly wind-down, and (2) compliance with anti-money laundering requirements into the Board's imputed private sector cost

[1] The Board and Reserve Bank have differing roles as part of the Federal Reserve System. The Reserve Banks offer payment services to depository institutions and the federal government. The Board oversees the operations of the Reserve Banks and serves as a regulator of certain aspects of payment services in the United States. The Board also supervises bank holding companies, savings and loan holding companies, and state member banks, and the Reserve Banks carry out supervisory activities under delegated authority of the Board.

methodology.[2] The particular complexities of incorporating such imputed costs into the Board's methodology warrant careful review and assessment. An important factor to consider will be the effect of imputing such costs on the Board's goal of creating a replicable, transparent cost methodology. The report notes that many private-sector payment service providers are not publicly traded and do not provide publicly available financial information that could be used to calculate costs related to integrated plans for recovery and orderly wind-down or compliance with anti- money laundering requirements. For example, as noted in the report, we have been informed by some correspondent banks that providing public financial information on the proportion and materiality of anti-money laundering compliance costs attributable to specific services would be difficult, as they do not allocate compliance costs directly in such a manner.

Additionally, it is also worth noting that, although some differences in cost structures, including those noted above, may facilitate the Reserve Banks' provision of competitively priced services, other differences may provide competitive advantages to the private sector. For example, the Monetary Control Act requires that fees for Reserve Bank priced services be published and transparent to competitors and customers alike, while competitors generally have the flexibility to individually negotiate with their customers and do not make their fees public. Also, the report notes that the Fedwire Funds Service is subject to unique requirements that do not apply to competitors, and therefore the Reserve Banks have incurred (and continue to incur) substantial expenses in recent years to develop, implement, and test manual procedures for settling systemically important transactions in the unlikely event that the service's automated systems are not available. But, despite such requirements that convey cost advantages to private sector competitors, the Board, asymmetrically, still mandates that the pricing of Reserve Bank provided services reflect certain costs borne only by private sector competitors. For example, the Fedwire Funds Service does not pose the same risk of winding down in a disorderly manner as private-sector designated financial market utilities.

[2] The Financial Stability Oversight Council ("FSOC") designated The Clearing House Payments Company L.L.C. as a systemically important financial market utility on the basis of its role as the operator of CHIPS. Consideration of costs related to integrated planning of recovery and wind-down will therefore be focused on the Reserve Banks Fedwire Funds Service, and not the Reserve Banks' FedACH Service.

Nonetheless, to foster competition with the private sector, the Board requires the Fedwire Funds Service

Page 3

to impute equity held as unencumbered liquid financial assets equal to six months of estimated current operating expenses, similar to the requirements relating to recovery and orderly wind-down set out for designated financial market utilities in Regulation HH.[3]

With respect to the GAO's second recommendation, we will procure an independent review of the methods currently employed for capturing actual and imputed costs related to Reserve Bank priced services.

We appreciate the GAO's review of the Federal Reserve's role in payment systems, the careful and professional approach with which the associated work was conducted, and the opportunity to comment.

Sincerely,

Matthew Eichner

Data Tables

Data Table for Figure 4: U.S. Noncash Payments by Transaction Type, 2000–2012

(billions)	2000	2003	2006	2009	2012
Debit	8.3	15.6	25	37.5	47
ACH	6.1	8.8	14.6	19.1	21.7
Checks	41.9	37.3	30.5	24.5	18.3
Credit cards total	15.6	19	21.7	21	26.2
Prepaid total	0	0	2.2	4	6.7

[3] 12 C.F.R. § 234.3. The Board states in the adopting release of Regulation HH from November 5, 2014 (79 FR 65543), "The Board will also monitor the implementation of [Regulation HH] and [the Federal Reserve Policy on Payment System Risk] for issues of consistency and competitive equity between private-sector systems and the Fedwire Funds Service." The same year, the Board reiterated its position in a similar statement in its final revisions to the Federal Reserve Policy on Payment System Risk on November 13, 2014 (79 FR 67326).

Data Table for Figure 5: Rolling 10-year Average Cost Recovery Rates for Federal Reserve Payment Services, 1996-2015 (percentage)

1996-2005	1997-2006	1998-2007	1999-2008	2000-2009	2001-2010	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015
98.4	99	99.1	98.7	97.8	97.9	98.6	99.5	102	102.9	102.6

Data Table for Figure 6: Federal Reserve Revenues by Payment Service, 2005–2014 (2015 Dollars in Millions)

	2015 Inflation-Adjusted Dollars in Millions									
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Check	888.4	866.0	797.8	671.0	527.9	384.1	276.0	230.0	204.3	176.6
ACH	95.2	93.6	99.9	96.0	101.8	119.4	118.9	120.0	122.1	125.7
Fedwire	73.2	73.9	72.9	66.4	70.6	85.9	89.4	94.6	99.4	111.3

Data Table for Figure 7: Market Shares (Based on Dollar Volume) of Federal Reserve and Private-Sector Providers in Check, Automated Clearing House (ACH), and Wire Transfer Payments, 2001–2013

	Share	Mar/Apr 2001	Mar/Apr 2004	Mar/Apr 2007	Mar/Apr 2010	Mar 2013
Check	Reserve bank share	57%	53%	43%	48%	48%
	Private sector share	43%	47%	57%	52%	52%

	Share	2000	2003	2006	2009	2012
ACH Origination	FedACH share	86%	73%	58%	50%	49%
	Private sector share	14%	27%	42%	50%	51%

	Share	2000	2003	2006	2009	2012
ACH Receipt	FedACH share	87%	78%	65%	65%	63%
	Private sector share	13%	22%	35%	35%	37%

	Share	2000	2003	2006	2009	2012
Wire*	Fedwire share	64%	66%	63%	60%	58%
	CHIPS share	36%	34%	37%	40%	42%

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