United States Government Accountability Office

Report to Congressional Requesters

October 2016

FEDERAL RESERVE

Observations on Regulation D and the Use of Reserve Requirements

GAO-17-117

GAO

Highlights

Highlights of GAO-17-117, a report to congressional requesters

Why GAO Did This Study

Section 19 of the Federal Reserve Act requires depository institutions to maintain reserves against a portion of their transaction accounts solely for the implementation of monetary policy. Regulation D implements section 19, and it also requires institutions to limit certain kinds of transfers and withdrawals from savings deposits to not more than six per month or statement cycle if they wish to avoid having to maintain reserves against these accounts. The transaction limit allows the Federal Reserve to distinguish between transaction accounts and savings deposits for reserves purposes.

GAO was asked to review certain effects of Regulation D. This report's objectives include examining depository institutions' implementation of Regulation D's requirements, the effect of the transaction limit on their customers, and central banks' varying dependence on reserve requirements and the monetary policy implications.

To examine these issues, GAO conducted a generalizable survey of 892 depository institutions (with a response rate of 71 percent); analyzed consumer complaint data from federal financial regulators; reviewed federal statutes and regulations, Federal Reserve System publications, and academic literature; and interviewed regulatory agency officials, representatives from banking and credit union associations, and depository institutions selected based on institution type and size.

The Federal Reserve and other federal banking regulators provided technical comments on a draft of this report, which we incorporated as appropriate.

View GAO-17-117. For more information, contact Lawrance L. Evans, Jr. at (202) 512-8678 or evansl@gao.gov.

October 2016

FEDERAL RESERVE

Observations on Regulation D and the Use of Reserve Requirements

What GAO Found

The methods by which depository institutions can implement Regulation D (Reserve Requirements of Depository Institutions) include maintaining reserves against transaction accounts and enforcing a numeric transfer and withdrawal (transaction) limit for savings deposits if they wish to avoid classifying those accounts as reservable transaction accounts. GAO estimates that 70–78 percent of depository institutions limit savings deposit transactions. Other methods include automatically transferring balances from transaction (e.g., checking) accounts to savings deposits in order to reduce reserve requirements. Institutions may choose to maintain transaction account reserves against savings deposits to eliminate the need to enforce the transaction limit. But some institutions GAO surveyed indicated that they had operational burdens associated with monitoring and enforcing the transaction limit (for example, 63–73 percent cited challenges, such as creating forms and converting and closing accounts). Available data indicate that few customers exceeded or expressed concerns about the limit.

Monetary policy—actions taken to influence the availability and cost of money and credit (i.e., interest rates)—can be conducted with varying dependence on reserve requirements. While many central banks around the world use reserve requirements, some have reduced their reliance on them due, in part, to the associated cost and administrative burdens. GAO reviewed how different central banks rely on reserve requirements and found a wide range of frameworks, including those with: (1) different mandatory reserve requirements (as compared to the United States), (2) voluntary reserve requirements, and (3) no reserve requirements at all. For example, countries with different mandatory reserves frameworks require maintaining reserves against all deposits, which eliminate the need to impose limits on transfers and withdrawals from specific accounts. While the Board of Governors of the Federal Reserve System (Federal Reserve) has used reserve requirements to help achieve the interest rate targets it sets in the market for reserves (federal funds market), central banks of other developed countries such as Canada, Australia, Sweden, and Denmark, among others, do not rely on reserve requirements. Instead, they use interest rates under their direct control to restrict interest rates from moving outside of a targeted range (corridor operating approach).

The authority for the Federal Reserve to pay interest on reserves has reduced some of the costs associated with reserve requirements in the United States. One of the alternatives to the current reserve requirement framework that GAO examined would require legislative change to further reduce some of these costs and burdens. Other approaches, while proven feasible for some foreign central banks, have implications for the conduct of monetary policy (e.g., require the pursuit of a corridor operating approach). Given the differences in financial systems across the globe, it is unclear whether the practices used by other nations would translate to the United States. Moreover, lowering or eliminating reserve requirements would raise a number of operational and technical issues for monetary policy implementation. For example, lowering or eliminating reserve requirements could introduce the need to manage potential volatility in short-term interest rates. Therefore, minimizing the burdens associated with reserve requirements would have to be weighed against the costs and monetary policy implications of any alternative framework when considering changes.

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Abbreviations

ATM	automated teller machine
Board of Governors	Board of Governors of the Federal Reserve System
call report	Reports of Condition and Income
CFPB	Consumer Financial Protection Bureau
DI	depository institution
FDIC	Federal Deposit Insurance Corporation
Federal Reserve	Federal Reserve System
FFIEC	Federal Financial Institutions Examination Council
FOMC	Federal Open Market Committee
FSRRA	Financial Services and Regulatory Relief Act of 2006
Garn-St Germain Act	Garn-St Germain Depository Institutions Act of 1982
GSE	government-sponsored enterprise
IMF	International Monetary Fund
MMDA	money market deposit account
Monetary Control Act	Depository Institutions Deregulation and Monetary Control Act of 1980
NCUA	National Credit Union Administration
OCC	Office of the Comptroller of the Currency
SDI	Statistics on Depository Institutions

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U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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October 6, 2016

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

The Honorable Robert Pittenger
House of Representatives

Millions of households and businesses collectively have more than $7 trillion in savings and money market deposit accounts (savings deposits) at over ten thousand depository institutions—commercial banks, savings banks, and credit unions—across the United States. By federal regulation, depository institutions must limit the number of certain types of transfers and withdrawals per month or statement cycle from such savings deposits (transaction limit). This transaction limit is part of the reserve requirement framework in the United States, which requires depository institutions to hold a portion of customers' deposits as reserves solely for the implementation of monetary policy.

Specifically, section 19 of the Federal Reserve Act, as amended, requires the Board of Governors of the Federal Reserve System (Board of Governors) to impose reserve requirements on balances in transaction accounts, such as checking accounts, as well as on nonpersonal time deposits and Eurocurrency liabilities, but does not authorize imposing reserve requirements on balances in other types of accounts, such as savings deposits.[1] Pursuant to section 19 of the Federal Reserve Act, the Board of Governors established Regulation D, Reserve Requirements of Depository Institutions, to implement the statutory reserve requirements and to aid in the implementation of monetary policy.[2] Implementing and adhering to the regulation can present administrative burdens to depository institutions in their operations and inconvenience to consumers in managing their accounts. Industry associations and depository institutions have questioned the reasonableness of the regulatory limit on certain transfers and withdrawals from savings deposits in today's banking environment in which many customers rely on

[1]See 12 U.S.C. § 461(b).

[2]12 C.F.R. pt. 204.

Internet banking for most transactions, including online transfers and payments from savings deposits.

You asked us to review depository institutions' implementation of Regulation D's requirements, the effect of the regulation on institutions' customers, and alternatives to the maintenance of transaction account reserves the Federal Reserve System (Federal Reserve) may have to affect monetary policy. Specifically, this report examines: (1) the purpose of reserve requirements and Regulation D; (2) how depository institutions implement Regulation D's requirements and the effect of the regulation on operations; (3) the effect on customers of the Regulation D transaction limit on certain transfers and withdrawals from savings deposits; and (4) foreign central banks' varying dependence on reserve requirements and the monetary policy implications. We did not include in our scope an assessment of depository institutions' compliance with Regulation D. For the purposes of this report, we define depository institutions as commercial and savings banks (banks) and credit unions that offer at least one type of deposit product—savings deposits, including savings or money market deposit (money market) accounts, or checking transaction accounts.

To examine the purpose of reserve requirements and Regulation D, we reviewed relevant statutes, Regulation D, and agency publications and interviewed Board of Governors officials. To describe how depository institutions implement Regulation D and the regulation's effect on their operations, we surveyed a generalizable sample of depository institutions in the United States. We identified a population of 12,135 institutions, as of second quarter 2015, and stratified the population (into subpopulations) by institution type (bank and credit union) and the reserve requirement ratios (0 percent, 3 percent, and 10 percent) specified in Regulation D. We also included a subpopulation for depository institutions that are subject to Regulation D's requirements but are required to neither submit reports on deposit balances (deposit reports) to the Board of Governors nor maintain reserves due to their low amounts of total deposits (nonreporters).[3] We then randomly sampled each subpopulation (e.g., institution type and reserve requirement ratio) for a total sample size of 892 depository institutions that we surveyed. We obtained a response rate of 71 percent. To develop our survey questionnaire, we interviewed

[3]For the purposes of this report, "subject to Regulation D's requirements" refers to the specific provisions on satisfying reserve requirements and the limit on transfers and withdrawals for savings deposits.

representatives from 10 depository institutions for information on their experiences implementing Regulation D's requirements. We selected these depository institutions to achieve variation in type of institution (bank and credit union) and asset size (small, medium, and large). Finally, we interviewed: agency officials from the bank and credit union regulators—the Board of Governors, Federal Deposit Insurance Corporation (FDIC), Office of the Comptroller of the Currency (OCC), and National Credit Union Administration (NCUA)—and representatives from bank and credit union associations to obtain their perspectives on depository institutions' implementation of Regulation D's requirements.

To determine any effect on customers of the Regulation D limit on certain transfers and withdrawals from savings deposits, we reviewed consumer complaint data from the federal financial regulators, including the bank and credit union regulators and the Bureau of Consumer Financial Protection (commonly known as the Consumer Financial Protection Bureau or CFPB) from January 2010 to June 2015. We supplemented and corroborated this information with data from our survey of depository institutions and interviews with representatives of depository institutions, industry associations, and a consumer group.[4] In addition, we reviewed our reports on financial literacy and consumer protection.[5]

To examine foreign central banks' varying dependence on reserve requirements and the monetary policy implications, we reviewed academic literature and Federal Reserve publications and documents on the role of reserve requirements and other monetary policy tools as well as on alternative approaches to monetary policy implementation, including operating frameworks used by foreign central banks. We reviewed several options for the conduct of monetary policy with varying dependence on reserve requirements and Regulation D. The purpose of this review is to illustrate various alternative options to the current system of reserve requirements in the United States and is not meant to offer

[4]We did not survey customers of depository institutions, but in our survey of depository institutions, we asked banks and credit unions about the effect on their customers of enforcing the limit on certain transfers and withdrawals.

[5]See GAO, *Financial Literacy: Overview of federal Activities, Programs and Challenges*, GAO-14-556T (Washington, D.C.: Apr. 30, 2014); *Financial Literacy: The Role of the Workplace*, GAO-15-639SP (Washington, D.C.: July 7, 2015) and *U.S. Savings Bonds: Future of Offering Paper Savings Bonds at Tax Time Is Uncertain, and Lower-Income Households Continue to Face Savings Challenges*, GAO-15-563 (Washington, D.C.: July 16, 2015).

concrete suggestions or opine on monetary policy matters. We also interviewed Federal Reserve officials and other experts on monetary policy. See appendix I for additional details about our scope and methodology.

We conducted this performance audit from February 2015 to October 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

Federal Reserve and Monetary Policy

The Federal Reserve Act established the Federal Reserve as the central bank of the United States.[6] The Federal Reserve comprises the Board of Governors—an agency of the federal government in Washington, D.C., the 12 Reserve Banks, and the Federal Open Market Committee (FOMC).[7] FOMC comprises all members of the Board of Governors and five Reserve Bank presidents who serve on a rotating basis.[8] The Federal Reserve Act gives the Federal Reserve responsibility for setting and implementing monetary policy—actions taken to influence the availability and cost of money and credit—to promote full employment

[6]Pub. L. No. 63-43, ch. 6, 38 Stat. 251 (1913). Central banks—government authorities responsible for the conduct of monetary policy—play an important role in overseeing monetary systems across the world, generally issuing currency, influencing money and credit conditions, and acting as a lender of last resort, among other critical functions.

[7]Each of the 12 Reserve Banks (in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco) is assigned responsibility by the Federal Reserve Act for a particular geographic area or district of the United States. Besides carrying out functions for the Federal Reserve System as a whole, such as administering nationwide banking and credit policies, each Reserve Bank acts as a depository for the banks in its own district, among other responsibilities.

[8]The five Reserve Bank presidents are the president of the Federal Reserve Bank of New York, and presidents of four other Federal Reserve Banks, who serve on a rotating basis. FOMC holds eight regularly scheduled meetings during the year, and other meetings as needed.

and ensure stable prices.[9] To this end, section 19 of the Federal Reserve Act requires the Board of Governors to impose reserve requirements within certain ratios on specified liabilities—transaction accounts, nonpersonal time deposits, and Eurocurrency liabilities—of all depository institutions, solely for the purpose of implementing monetary policy.[10] The definition of "transaction account" was added to section 19 in 1980 and defines "transaction account" to mean an account that permits the account holder to make withdrawals by negotiable or transferable instruments (such as checks), payment orders of withdrawal, telephone transfers, and other similar items for the purpose of making payments to third parties or others.[11] The Board of Governors promulgated Regulation D pursuant to section 19's authorization "to prescribe such regulations as it may deem necessary to effectuate the purposes of this section and to prevent evasions thereof."[12] The Federal Reserve Act also assigns other responsibilities to the Board of Governors and to the Reserve Banks in addition to monetary policy responsibilities, including supervising and regulating certain financial institutions and activities, providing banking services to depository institutions and the federal government, and ensuring consumer protection in the banking system.

[9]See Federal Reserve Reform Act of 1977, Pub. L. No. 95-188, 91 Stat. 1387 (codified at 12 U.S.C. § 225a).

[10]The liabilities of depository institutions include customer deposits. The term "transaction account" includes "demand deposits, negotiable order of withdrawal accounts, savings deposits subject to automatic transfers, and share draft accounts." 12 U.S.C. § 461(b)(1)(C). Nonpersonal time deposits include a time deposit, including an MMDA [money market deposit account] or any other savings deposits, representing funds in which any beneficial interest is held by a depositor that is not a natural person or that represents funds deposited to the credit of a depositor that is not a natural person, other than a deposit to the credit of a trustee or other fiduciary if the entire beneficial interest in the deposit is held by one or more natural persons; a transferable time deposit; or a time deposit represented by a promissory note, an acknowledgment of advance, or similar obligation. 12 C.F.R. § 204.2(f)(1). Eurocurrency liabilities include the net balances of depository institutions organized in the United States but with non-U.S. offices and international banking facilities. 12 C.F.R. § 204.2(h). As discussed later, reserve requirements for nonpersonal time deposits and Eurocurrency liabilities have been set at zero percent since December 27, 1990, for depository institutions that are required to submit weekly reports on deposit balances to the Board of Governors and since January 17, 1991, for institutions that report quarterly. See table 2 for further details. Reserve Requirements of Depository Institutions, Reserve Requirement Ratios, 55 Fed. Reg. 50540 (Dec. 7, 1990); see also http://www.federalreserve.gov/monetarypolicy/reservereq.htm.

[11]12 U.S.C. § 461(b)(1)(C).

[12]12 U.S.C. § 461(a).

The Federal Reserve Act requires the Board of Governors and FOMC to take measures aimed at promoting the goals of maximum employment, stable prices, and moderate long-term interest rates.[13] Accordingly, before the financial crisis of 2007–2009, the Board of Governors and FOMC set monetary policy to promote national economic goals by targeting the cost of overnight loans between depository institutions (interbank loans), which influence other interest rates, and then adjusting the supply of reserve balances in the banking system to achieve that target. The relevant cost of interbank loans in this approach is the federal funds rate—the interest rate at which depository institutions lend reserve balances to other depository institutions overnight. According to the Federal Reserve, FOMC has targeted the federal funds rate since roughly 1984. Before the financial crisis, the Federal Reserve's toolkit for implementing monetary policy primarily comprised three tools:

- **Reserve requirements:** The minimum amount of funds that depository institutions must hold against transaction account balances (determined by applying a specified reserve requirement ratio).[14] Currently, only transaction accounts are subject to a reserve requirement ratio greater than zero. As noted previously, the Federal Reserve Act authorizes the Board of Governors to impose reserve requirements only on certain deposit liabilities that do not include savings deposits. Depository institutions may satisfy reserve requirements by holding vault cash or reserve balances at Reserve Banks.[15] The Board of Governors is responsible for establishing reserve requirements, and can adjust reserve requirements by changing reserve requirement ratios within limits established by the Federal Reserve Act.
- **Open market operations:** The purchase and sale of federal government and federal agency securities in the open market by the

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[13]12 U.S.C. § 225a.

[14]12 U.S.C. § 461(b)(2)(A). Before1980, only institutions that were members of the Federal Reserve System were subject to reserve requirements. However, the Depository Institutions Deregulation and Monetary Control Act of 1980 required the Board of Governors to impose reserve requirements on specified liabilities for all depository institutions, regardless of their membership status. Pub. L. No. 96-221, tit. I, § 103, 94 Stat. 132, 133 (amending 12 U.S.C. § 461(b)).

[15]See 12 U.S.C. § 461(c); 12 C.F.R. § 204.5(a)(1). Balances at Reserve Banks have two components: balances maintained to satisfy reserve requirements and excess balances. There are many sources of demand for reserves, and one such source is reserve requirements.

Reserve Banks at the direction of FOMC.[16] The Federal Reserve can use open market operations to adjust the supply of reserve balances in the banking system overall in order to control the federal funds rate within the target range set by FOMC. Open market operations directly affect the total supply of reserves: purchases of securities (such as Treasury securities) by the Federal Reserve increase reserve balances; the sale of securities has the opposite effect on reserve balances. Adjusting the supply of reserve balances in the banking system through open market operations helps the Federal Reserve control the federal funds rate. To lower the federal funds rate, the Federal Reserve increases the supply of reserve balances; decreasing the supply of reserve balances has the opposite effect on the federal funds rate. Lower interest rates lower the cost of borrowing, generally leading to increases in consumption and business investment.

- **Discount rate:** The interest rate that Reserve Banks charge on loans to depository institutions. The Reserve Bank lending function is often generically referred to as "the discount window." The discount window allows the Federal Reserve Banks to extend credit to depository institutions under certain conditions. This complements open market operations in achieving the target federal funds rate by making balances available to depository institutions when the supply of balances falls short of demand, and by serving as a backup source of liquidity for individual depository institutions. If a depository institution needs to borrow funds to meet reserve requirements or for other operational needs, it typically will try to borrow at (or near) the federal

[16]Section 14 of the Federal Reserve Act authorizes Reserve Banks, at the direction of FOMC, to purchase and sell in the open market obligations that are issued by the United States or by an agency of the United States, as well as obligations that are fully guaranteed as to principal and interest by the United States or by an agency of the United States. 12 U.S.C. § 355. Generally, the Federal Reserve conducts open market operations with a set of securities broker-dealers known as primary dealers. The Federal Reserve increases the supply of reserves (balances at Reserve Banks) when it purchases government and agency securities from primary dealers by crediting the Reserve Bank account of the selling primary dealer's depository institution for the amount of the transaction. This increases the total amount of reserves because there is no corresponding offset in another institution's Reserve Bank account. Conversely, selling securities decreases the quantity of Federal Reserve balances because the Federal Reserve extinguishes balances when it debits the account of the purchaser's depository institution at a Federal Reserve bank; there is no corresponding increase in another institution's account. In contrast, when financial institutions, business firms, or individuals buy or sell securities among themselves, the credit to the account of the seller's depository institution is offset by the debit to the account of the purchaser's depository institution, so existing balances held at Federal Reserve banks are redistributed from one depository institution to another without changing the total amount of reserves.

funds rate from another depository institution in the federal funds market. If it has established borrowing privileges at the discount window, a depository institution may borrow directly from its Reserve Bank at the discount rate, which is set above the target federal funds rate. There are three discount window programs: primary credit, secondary credit, and seasonal credit, each with its own interest rate.[17] A generic reference to "the discount rate" usually refers to the primary credit rate. The rate for each lending program is established by each Reserve Bank's board of directors, subject to the review and determination of the Board of Governors.

Pre-crisis, FOMC would set a target for the federal funds rate consistent with its monetary policy objectives of maximum employment and price stability and then direct the use of open market operations to achieve a federal funds rate at or very close to the target rate. The Federal Reserve conducted open market operations to maintain the federal funds rate within the target range. Specifically, the Federal Reserve implemented monetary policy by affecting the demand for and supply of reserves (reserve balances held at Reserve Banks).[18] In the federal funds market, depository institutions and other eligible entities, including the government-sponsored enterprises (GSE), trade reserves (federal funds) with each other. By conducting open market operations, imposing reserve requirements, and extending credit through the discount window, the Federal Reserve exercised considerable control over the demand for and supply of reserves and in turn the federal funds rate. Since changes in the federal funds rate are transmitted to other short-term interest rates, which affect longer-term interest rates and overall financial conditions, the Federal Reserve used its three main policy tools to influence inflation and overall economic activity and to achieve its monetary policy goals.

According to Board of Governors officials, in response to the 2007–2009 financial crisis, the Federal Reserve expanded its monetary policy toolkit. First, in 2008, the Federal Reserve began to use its authority to pay

[17]The rate charged for primary credit is typically set above the target federal funds rate. The discount rate on secondary credit is above the rate on primary credit. The discount rate for seasonal credit is an average of selected market rates.

[18]In the context of implementation of U.S. monetary policy, the term "reserves" is used in different contexts to refer to different concepts. For example, reserves can refer to the vault cash and funds in a Reserve Bank account that a depository institution uses to satisfy its transaction account reserve requirements. Reserves also can refer to the total balances maintained by depository institutions in accounts at Reserve Banks—both balances maintained to satisfy reserve requirements as well as excess balances.

interest on reserves, enabling the Board of Governors to break the strong link between the quantity of reserves and the level of the federal funds rate allowing for control over short-term interest rates with a large amount of reserves in the system. The Federal Reserve also added two other major tools to its toolkit: large-scale asset purchases and increasingly explicit forward guidance. Both of these tools were used to provide further monetary policy accommodation after short-term interest rates fell close to zero. The Federal Reserve used its open market operations purchase authority to purchase longer-term government securities and agency securities to put downward pressure on longer-term interest rates, ease broader financial market conditions, and support economic activity. During the crisis, the Federal Reserve also established emergency lending programs to lend directly to banks and other financial institutions in disrupted markets to improve the flow of credit to U.S. households and businesses. Currently, the Federal Reserve's monetary policy approach involves FOMC setting a target range for the federal funds rate consistent with achieving the monetary policy goals of maximum employment and stable prices and directing the use of the Federal Reserve's monetary policy toolkit to meet this target.

Regulation D Is Designed to Facilitate the Implementation of Reserve Requirements for the Implementation of Monetary Policy

Regulation D, pursuant to section 19 of the Federal Reserve Act, imposes reserve requirements on transaction accounts solely for the purpose of implementing monetary policy. For example, according to officials from the Board of Governors, before 2008, reserve requirements were useful for implementing monetary policy because they provided the Federal Reserve with a predictable demand for reserves against which the supply of reserves could be adjusted to control interest rates (i.e., move or maintain the federal funds rate to or at the target set by FOMC). Given the Federal Reserve's mandate of promoting maximum employment and stable prices, a predictable demand for reserves allowed the Federal Reserve to have a predictable effect on interest rates through its targeting of the federal funds rate and conducting open market operations to adjust the supply of reserves, according to officials. As noted previously, the Federal Reserve Act requires the Board of Governors to impose reserve requirements on specified deposit liabilities of depository institutions, but provides in most cases for a range of reserve requirement ratios that the Board of Governors may apply to such liabilities.

Regulation D Specifies Reserve Requirement Ratios, Which Have Not Changed since 1992

Reserve requirements on transaction accounts are based on ratios that the Board of Governors has specified in Regulation D within ranges established in the Federal Reserve Act, and these ratios have not changed since 1992. The reserve requirement ratios are graduated—zero percent, 3 percent, and 10 percent—depending on the aggregate level of a depository institution's net transaction accounts (see table 1).[19] The dollar amount of a depository institution's reserve requirement is determined by applying the applicable reserve requirement ratios to the balances held in its net transaction accounts. The reserve requirement ratios correspond to three ranges for net transaction account balances: "exemption amount" (amount of net transaction accounts subject to a zero percent reserve requirement),[20] "low reserve tranche" (amount of net transaction accounts subject to a 3 percent reserve requirement ratio), and "over low reserve tranche" (amount of net transaction accounts subject to a 10 percent reserve requirement).

Table 1: Regulation D Reserve Ratios for Calculating Reserve Requirements, as of January 21, 2016

Net transaction accounts[a]	Reserve requirement ratios applied to net transaction accounts (percentage)	Effective date
$0 to $15.2 million ("exemption amount")[b]	0	January 21, 2016
More than $15.2 million to $110.2 million ("low reserve tranche")[c]	3	January 21, 2016
More than $110.2 million ("over low-reserve tranche")[d]	10	January 21, 2016

Source: Board of Governors of the Federal Reserve System. | GAO-17-117

Notes: Reserve requirements must be satisfied by holding vault cash and, if vault cash is insufficient, also in the form of a deposit maintained with a Federal Reserve Bank. 12 C.F.R. § 204.5(a)(1). An institution may hold that deposit directly with a Reserve Bank or with another institution in a pass-through relationship. Reserve requirements are imposed on "depository institutions" defined as

[19]Net transaction accounts are total transaction accounts (which include demand deposits, automatic transfer service accounts, negotiable order of withdrawal accounts, share draft accounts, telephone or preauthorized transfer accounts, and obligations issued by affiliates maturing in 7 days or less) less amounts due from other depository institutions and less cash items in the process of collection. See 12 C.F.R. § 204.2(j). Regulation D reserve requirements also apply to nonpersonal time deposits and Eurocurrency liabilities, but these levels are currently at zero percent. 12 C.F.R. § 204.4(f).

[20]The passage of the Garn-St Germain Depository Institutions Act of 1982 (Garn-St Germain Act) established the "exemption amount" for transaction account reserve requirements. See Pub. L. No. 97-320, § 411, 96 Stat. 1469, 1520-21 (amending 12 U.S.C. § 461(b)).

commercial banks, savings banks, savings and loan associations, credit unions, U.S. branches and agencies of foreign banks, Edge corporations, and agreement corporations.

[a]Net transaction accounts are total transaction accounts less amounts due from other depository institutions and less cash items in the process of collection. Total transaction accounts include demand deposits, automated transfer service accounts, negotiable order of withdrawal accounts, share draft accounts, telephone or preauthorized transfer accounts, and obligations issued by affiliates maturing in 7 days or less.

[b]By statute, the amount of net transaction accounts subject to a reserve requirement ratio of zero percent (the "exemption amount") is adjusted each year. 12 U.S.C. § 461(b)(11)(B). The exemption amount is adjusted upward by 80 percent of the previous year's (June 30 to June 30) rate of increase in total reservable liabilities at all depository institutions. No adjustment is made in the event of a decrease in such liabilities.

[c]The amount of net transaction accounts subject to a reserve requirement ratio of 3 percent is the low reserve tranche. By statute, the upper limit of the low reserve tranche is adjusted each year by 80 percent of the previous year's (June 30 to June 30) rate of increase or decrease in net transaction accounts held by all depository institutions. 12 U.S.C. § 461(b)(2)(C).

[d]The reserve requirement for "over low reserve tranche" net transaction accounts is $2,850,000 plus 10 percent of the amount of net transaction accounts over $110.2 million. 12 C.F.R. § 204.4(f).

The Depository Institutions Deregulation and Monetary Control Act of 1980 (Monetary Control Act) requires that the Board of Governors apply transaction account reserve requirements uniformly to all transaction accounts at all depository institutions.[21] As shown in table 2, transaction account reserve requirement ratios have not changed since 1992, when the Board of Governors reduced the reserve requirement ratio on transaction accounts over the low reserve tranche amount from 12 percent to 10 percent. In 1990, the Board of Governors reduced the reserve requirement ratio on short-term nonpersonal time deposits and Eurocurrency liabilities from 3 percent to 0 percent.[22]

[21]The Monetary Control Act also requires that nonpersonal time deposit reserve requirements be applied uniformly to all nonpersonal time deposits at all depository institutions, except that nonpersonal time deposit reserve requirements may vary based on the deposit's maturity. Pub. L. No. 96-221, tit. I, § 103, 94 Stat. 132, 134 (codified at 12 U.S.C. § 461(b)(2)(D)).

[22]The Monetary Control Act authorized the Board of Governors to impose reserve requirements on nonpersonal time deposits at a ratio between zero and 9 percent, assigning an initial reserve requirement ratio of 3 percent to these deposits. The Monetary Control Act did not specify a ratio range for reserve requirements on Eurocurrency liabilities, but from 1980 to 1990, the Federal Reserve made certain nonpersonal time deposits and Eurocurrency liabilities subject to a reserve requirement ratio of 3 percent. According to the Federal Reserve, reserve requirements on nonpersonal time deposits and Eurocurrency liabilities were reduced because the Federal Reserve determined that reserve requirements on those liabilities were not necessary for the conduct of monetary policy.

Table 2: Reserve Requirements since Passage of the Monetary Control Act of 1980, 1980–2016

Effective date	Reserve requirement ratios on net transaction accounts above the low reserve tranche (percentage)	Reserve requirement ratios on deposits and Eurocurrency liabilities (percentage)
1980–November 13	12	3
1990–December 27[a]	12	0
1992–April 2	10	0

Source: Board of Governors of the Federal Reserve System. | GAO-17-117

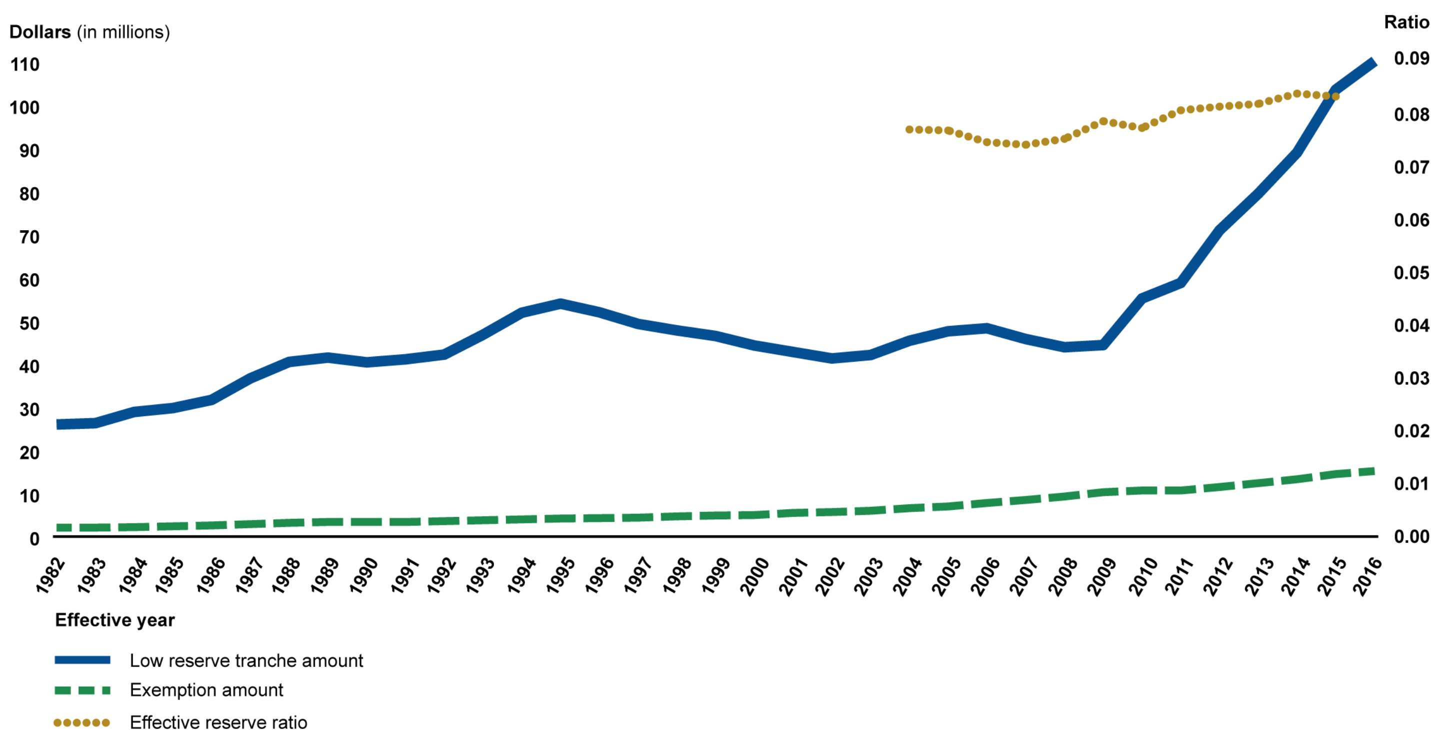
[a]The ratio was lowered to zero percent on nonpersonal time deposits and Eurocurrency liabilities on December 27, 1990, for depository institutions that are required to submit weekly reports on deposit balances to the Board of Governors of the Federal Reserve System and January 17, 1991, for depository institutions that are required to submit quarterly reports on deposit balances. Reserve Requirements of Depository Institutions, Reserve Requirement Ratios, 55 Fed. Reg. 50540 (Dec. 7, 1990).

The Board of Governors is required to adjust the maximum amount of transaction account balances subject to the 3 percent ratio (the low reserve tranche) and exemption amounts annually, according to formulas specified in the Monetary Control Act and the Garn-St Germain Act, respectively. The Board of Governors is not required by law to adjust reserve requirement ratios annually or on any other schedule.

The adjustments to the annual tranche and exemption amounts affect the amount of net transaction accounts subject to the low reserve tranche and exemption amounts. An increase in the low reserve tranche or exemption amount reduces a depository institution's overall reserve requirement, all else being equal, by reducing or eliminating reserve requirements on additional deposit dollars. The low reserve tranche amount may increase or decrease depending on the change in deposit levels specified in the statutory formula. The exemption amount, however, may only increase or remain unchanged. An increase depends on an increase in deposit levels specified in the statutory formula. In the event of a decrease in those deposit levels, however, the exemption amount remains unchanged. Thus, as total deposits increase, the tranche and exemption adjustments have the effect of keeping the overall effective reserve ratio (the percentage of all depository institutions' total transaction deposit balances held as reserves) approximately constant, as reflected in figure 1. In particular, figure 1 shows that the exemption amount has remained fairly steady since 1982 while the tranche amount increased significantly between 2008 and 2016. The figure also shows that the trend

for the overall effective reserve ratio of all depository institutions has remained relatively constant from 2004–2016.

Figure 1: Low Reserve Tranche and Exemption Amounts, 1982–2016, and Effective Reserve Ratio of Depository Institutions, 2004–2015



Source: GAO analysis of data from the Board of Governors of the Federal Reserve System and Reports of Condition and Income. | GAO-17-117

Note: Data needed to calculate the effective reserve ratio were not available for all depository institutions before 2004.

Annual tranche adjustments moderately affect the effective reserve ratio of the banking sector, and therefore can influence, in theory, the money

supply.[23] Over the last 10 years, the effective reserve ratio has been around 8 percent, suggesting that the formulas in the Monetary Control Act and the Garn-St Germain Act keep the adjustments relatively neutral in their effect on the money supply. According to Board of Governors officials, before 2008 when the Federal Reserve adjusted the supply of bank reserves to target the federal funds rate, a stable demand for reserves allowed the Federal Reserve to have greater control over the federal funds rate in the conduct of monetary policy.

Transaction Limit Originated from Statutory and Regulatory Factors and Provides a Distinction Between Transaction Accounts and Savings Deposits

The Regulation D six-transaction limit (on certain types of transfers and withdrawals) for savings deposit accounts helps implement reserve requirements. According to the Board of Governors, the transaction limit is critical for implementing reserve requirements because it allows the Board of Governors to distinguish between transaction (e.g., checking) accounts, which are subject to reserve requirements, and savings deposits, which are not subject to reserve requirements.

[23]The system-wide effective reserve ratio is the most meaningful metric relating the reserve ratio to M1 to consider the effect of the tranche adjustments on the money supply. The money supply is the total supply of currency and other liquid assets (cash, coins, and balances in deposit accounts) in the economy. There are three basic measures of the money supply: M1, M2, and the monetary base. M1 is the sum of currency held by the public plus transaction deposits of depository institutions. M2 is the sum of M1 plus savings deposits, small-denomination time deposits (time deposits of less than $100,000), and retail money market fund shares. The monetary base is the sum of currency in circulation plus the reserve balances of depository institutions. There is also a category known as M3, which is the broadest measure of the money supply and includes M2 plus large time deposits, institutional money market funds, short-term repurchase agreements, and other larger liquid assets. M3 includes assets that are “less liquid” than other components of the money supply and are more closely related to the finances of larger financial institutions and corporations than to those of businesses and individuals. These types of assets are referred to as “near, near money.” The Federal Reserve publishes data on three measures of the money supply known as the monetary aggregates: M1, M2, and M3.

Reaffirmation of Transaction Limit

In 2009, the Board of Governors of the Federal Reserve System (Board of Governors) amended Regulation D's transaction limit rule for savings deposits. The Board of Governors eliminated a "sublimit" on check and debit card transfers or withdrawals (previously, only three out of six transfers and withdrawals per month or statement cycle could be made by check, debit card or similar order). By eliminating the sublimit, the Board of Governors included such transfers and withdrawals within the overall limit of six convenient transfers or withdrawals (preauthorized, automatic, or telephonic transactions that provide ease in making payments to third parties) from savings deposits per month or statement cycle. The Board of Governors thus clarified that any convenient transfer or withdrawal from a savings deposit must be limited to not more than six per month or statement cycle. In response to public comments requesting an increase of the overall limit, the Board of Governors affirmed that section 19 of the Federal Reserve Act requires imposition of reserve requirements on transaction accounts and not on other types of account. Accordingly, the Board of Governors must maintain the capacity to distinguish between transaction accounts and savings deposits. The distinction is based on convenience: the greater the number of convenient transfers and withdrawals permitted per month from a "savings deposit," the greater the difficulty in distinguishing such an account from a transaction account. Thus, the Board of Governors determined it would neither increase the number of convenient transfers and withdrawals permitted from savings deposits per month nor eliminate numeric limits entirely (on online transfers in particular or all convenient transfers and withdrawals from savings deposits in general).

Source: Reserve Requirements of Depository Institutions; Issue and Cancellation of Federal Reserve Bank Capital Stock, 74 Fed. Reg. 25629, 25631 (May 29, 2009). | GAO-17-117

The Board of Governors has specified in Regulation D the manner of distinguishing between transaction accounts and savings deposits.[24] Regulation D currently requires that for an account to be classified as a "savings deposit," it must permit the depositor to make no more than six convenient transfers or withdrawals per month (or statement cycle of at least 4 weeks) from the account.[25]

According to the Board of Governors, the six-transaction limit originated from a mix of statutory and regulatory factors. Title II of the Monetary Control Act, the Depository Institutions Deregulation Act of 1980, created the Depository Institution Deregulation Committee to oversee the phase-out of limitations on interest rates previously applicable to various types of deposit accounts. In 1982, Congress passed the Garn-St Germain Act, which required the committee to authorize a new deposit account—the money market account. Specifically, the Garn-St Germain Act directed the committee to issue a regulation authorizing the money market account, which was intended to be a deposit account that was directly equivalent to and competitive with money market mutual fund accounts.[26] The Garn-St Germain Act provided that money market accounts were not to be considered transaction accounts, even if such accounts permitted "up to three preauthorized or automatic transfers and three transfers to third parties" monthly. The committee interpreted this provision as permitting up to six preauthorized or automatic transfers to third parties per month or statement cycle from the money market account, not more than three of which could be made by check. This was sometimes

[24]As previously noted, some types of deposits, such as nonpersonal time deposits and Eurocurrency liabilities, are subject to a zero percent reserve requirement. Other types of deposits, such as savings deposits, are not subject to reserve requirements at all.

[25]12 C.F.R. § 204.2(d)(2). Regulation D does not include the term "convenient." However, according to the Board of Governors, transfers and withdrawals that are considered "convenient" for purposes of the six-transaction limit include preauthorized, automatic, or telephonic transfers (including fax, online banking, or e-mail-initiated transfers or withdrawals) and transfers by check, draft, debit card, or similar order made by the depositor and payable to third parties. Reserve Requirements of Depository Institutions; Issue and Cancellation of Federal Reserve Bank Capital Stock, 74 Fed. Reg. 25629, 25631 (May 29, 2009). The numeric limits apply to transfers to another account of the same depositor at the same institution or to any third-party transfer (including to an account of the same depositor at a different depository institution). Regulation D does not limit less convenient transfers and withdrawals from savings deposits. For example, depositors may make transfers or withdrawals by automatic teller machine or in person from savings deposits without numerical limit.

[26]Pub. L. No. 97-320, § 327, 96 Stat. 1469, 1501.

referred to as the “six-three limit” on payments and transfers from such accounts, according to the Board of Governors.

Based on the committee’s interpretation, in Regulation D, the Board of Governors determined that a money market account would not be subject to transaction account reserve requirements if the account did not permit more than six convenient (i.e., preauthorized, automatic, or telephonic) transfers and withdrawals per month, where not more than three of such transfers or withdrawals could be made by check or draft drawn by the depositor. Before 1982, there was no monthly numeric limit on transfers and withdrawals for savings deposits though such accounts were included in the definition of “transaction accounts,” which were subject to reserve requirements. The committee ceased to exist after 1986; however, the Board of Governors subsequently retained the “six-three” transaction limit by incorporating it into the definition of “savings deposits” in Regulation D, in part, because the limit was a feature of an account type authorized by Congress that was still in use by depository institutions. In 2009, the Board of Governors amended Regulation D to eliminate the “three” component from the “six-three limit” to make all convenient payments and transfers from savings deposits, including those made by check, debit card, or similar order, subject to the monthly limit of six. [27] According to the Board of Governors, Regulation D currently distinguishes between types of transfers and withdrawals from savings deposits for purposes of the six-transaction limit (see table 3). The types of transfers and withdrawals that are subject to the six-transaction limit are those that are convenient, such as preauthorized, automatic or telephonic transfers or withdrawals (including by fax, email, or through an Internet banking service) by check or debit card. Other types of transfers and withdrawals that are less convenient, such as those made in person or at an ATM, may be made in an unlimited number, according to the Board of Governors.

[27]Reserve Requirements of Depository Institutions; Issue and Cancellation of Federal Reserve Bank Capital Stock, 74 Fed. Reg. 25629, 25631 (May 29, 2009).

Table 3: Convenient Transfers and Withdrawals from Savings Deposits Subject to Regulation D's Six-Transaction Limit, as of May 2, 2016

Convenient transfers and withdrawals subject to Regulation D's six-transaction limit	Transfers and withdrawals not subject to Regulation D's six-transaction limit
Transfers or withdrawals made to another account of the same depositor at the same depository institution, if made through: • preauthorized transfer • automatic transfer • telephone, including fax, internet, online banking, or e-mail	Transfers for the purpose of repaying loans and associated expenses of the same depositor at the same depository institution.
Transfers or withdrawals to a third party (or to an account of the depositor at another bank), if made through: • preauthorized transfer • automatic transfer • telephone, including fax, internet online banking or e-mail	Transfers from one account of the depositor to another account of the same depositor or to a third party, if made by: • mail • messenger • automated teller machine (ATM), or • in person
Transfers to a third party (including to an account of the depositor at another bank), if made by: • check • draft • debit card, or • similar order made by the depositor and payable to third parties	Withdrawals from the account (considered payments made directly to the depositor), if made by: • mail • messenger • ATM, or • in person
	Withdrawals made by telephone via check mailed to the depositor.
	Transfers into the account

Source: GAO analysis of 12 C.F.R. § 204.2(d). | GAO-17-117

Acknowledging Technological Change: Debit Cards and Internet Banking

The Federal Reserve has accounted for technological advancement to help ensure consistent application of the six-transaction limit. For instance, debit cards were included within the types of transfers that could be made from a "transaction account" when Regulation D was amended to define "transaction account" as part of the implementation of the Monetary Control Act of 1980. The concept of electronic banking was considered in a 1986 revision of Regulation D. Specifically, the Board of Governors amended the definitions of transaction account and savings deposits (including the money market deposit account) to clarify that transfers made by remote or home computer or telecommunications access device, other than an ATM, should be counted toward the monthly limitations "because there is no practical difference between the customer using data signals from a site remote from the premises of the depository institution to order transfers and using oral commands over the telephone to order transfers." Since the early 2000s, depository institutions began developing Internet banking capabilities, with many of the largest banks in the United States adopting the delivery of banking services over the Internet as a major component of their business models.

Source: GAO analysis and Definition of Deposit and Technical Amendments, 51 Fed. Reg. 9629 (Mar. 20, 1986). | GAO-17-117

The Board of Governors notes that the rationale for limiting the number of convenient transactions from savings deposits is to ensure that such accounts are not used as transaction accounts without their balances being subject to the reserve requirements for transaction accounts. The Board of Governor's criteria for distinguishing between transaction accounts and savings deposits under Regulation D are based on the ease with which the depositor may make transfers (payments to third parties) or withdrawals (payments directly to the depositor) from the account. The critical element of the rationale is the nature of the instruction for the transaction (that is, the instruction directing the third party payment or transfer to be made), according to Board of Governors officials. They noted that the more convenient the manner of instructing withdrawals or transfers to be made from an account is—such as preauthorized or automatic transfers—the more likely it is that the account will be used for making payments or transfers to third parties rather than for holding savings. Therefore, Regulation D limits the number of certain convenient types of transfers or withdrawals that an account holder may make in a single month or statement cycle from an account if that account is to be classified as a savings deposit and exempt from reserve requirements.

A retail banking industry association and representatives from depository institutions have noted that there may be a disconnect between this rationale and its application—because automated teller machine (ATM) transactions may be viewed as convenient, but they are unlimited.[28] According to the Board of Governors, Regulation D does not limit ATM transactions partly because ATMs formerly were considered to be "branches" of a depository institution. Therefore, appearing at an ATM was substantially similar to appearing in person at a brick and mortar branch of the depository institution. In addition, a withdrawal from an ATM is generally considered to be a payment or transfer directly to the depositor, rather than a payment to a third party as contemplated under the statutory definition of transaction account. Furthermore, an ATM withdrawal requires the account holder to appear physically at the ATM location. Therefore, the Board of Governors does not deem an ATM transaction to be a convenient method for making third-party payments,

[28]The Consumer Bankers Association, letter to GAO (June 2015); and Federal Financial Institutions Examination Council, *Economic Growth and Regulatory Paperwork Reduction Act*, outreach meeting (Chicago, Ill.: Oct. 19, 2015), accessed on April 28, 2016, http://egrpra.ffiec.gov/outreach/outreach-index.html.

and transfers and withdrawals initiated at an ATM have not been subject to the numeric limits on transfers and withdrawals from savings deposits.

Implementing Reserve Requirements Primarily Involves Depository Institutions and the Federal Reserve and Can Affect Customers

Implementing and enforcing transaction account reserve requirements (and therefore the distinction between reservable transaction accounts and nonreservable savings deposits through the "savings deposit" definition in Regulation D) imposes administrative responsibilities for depository institutions, the Board of Governors, and Reserve Banks and can affect the customers of depository institutions. As previously noted, not all deposit balances are subject to reserve requirements; therefore, not all depository institutions are required by Regulation D to maintain reserves. For example, depository institutions with less than the exemption amount in net transaction deposits (which do exist in the U.S. banking system) are subject to a reserve requirement ratio of zero percent on those accounts.[29] However, all depository institutions are required to enforce the six-transaction limit on convenient transfers and withdrawals for all accounts that they classify as savings deposits and not transaction accounts.[30] Figure 2 outlines how depository institutions may

[29]The current exemption amount is $15.2 million, as of January 2016. 12 C.F.R. § 204.4(f).

[30]We analyzed Reports of Condition and Income (call report) data for second quarter 2015 from the Federal Financial Institutions Examination Council, FDIC's Statistics on Depository Institutions, and NCUA. Given that Regulation D applies to all depository institutions but imposes reserve requirements only on transaction accounts at such institutions, we limited our evaluation to those depository institutions that offer transaction accounts or savings deposits, or both, to the general public (retail depository institutions). Accordingly we removed from the entire list of institutions that submitted call reports to either FDIC or NCUA approximately 500 of the following types of institutions: credit card only banks, trust only banks, banker's banks (banks that provide services only to other banks), and any other institution that did not report any transaction, savings, or money market accounts. We also removed from our sample all but one representative institution for each parent bank holding company. We retained the institution that reported the largest total dollars in the sum of their checking, savings, and money market accounts for each bank holding company. These exclusions resulted in 12,135 depository institutions subject to Regulation D's requirements identified. See appendix I.

implement the Regulation D six-transaction limit.[31] To comply with Regulation D's definition of "savings deposit":

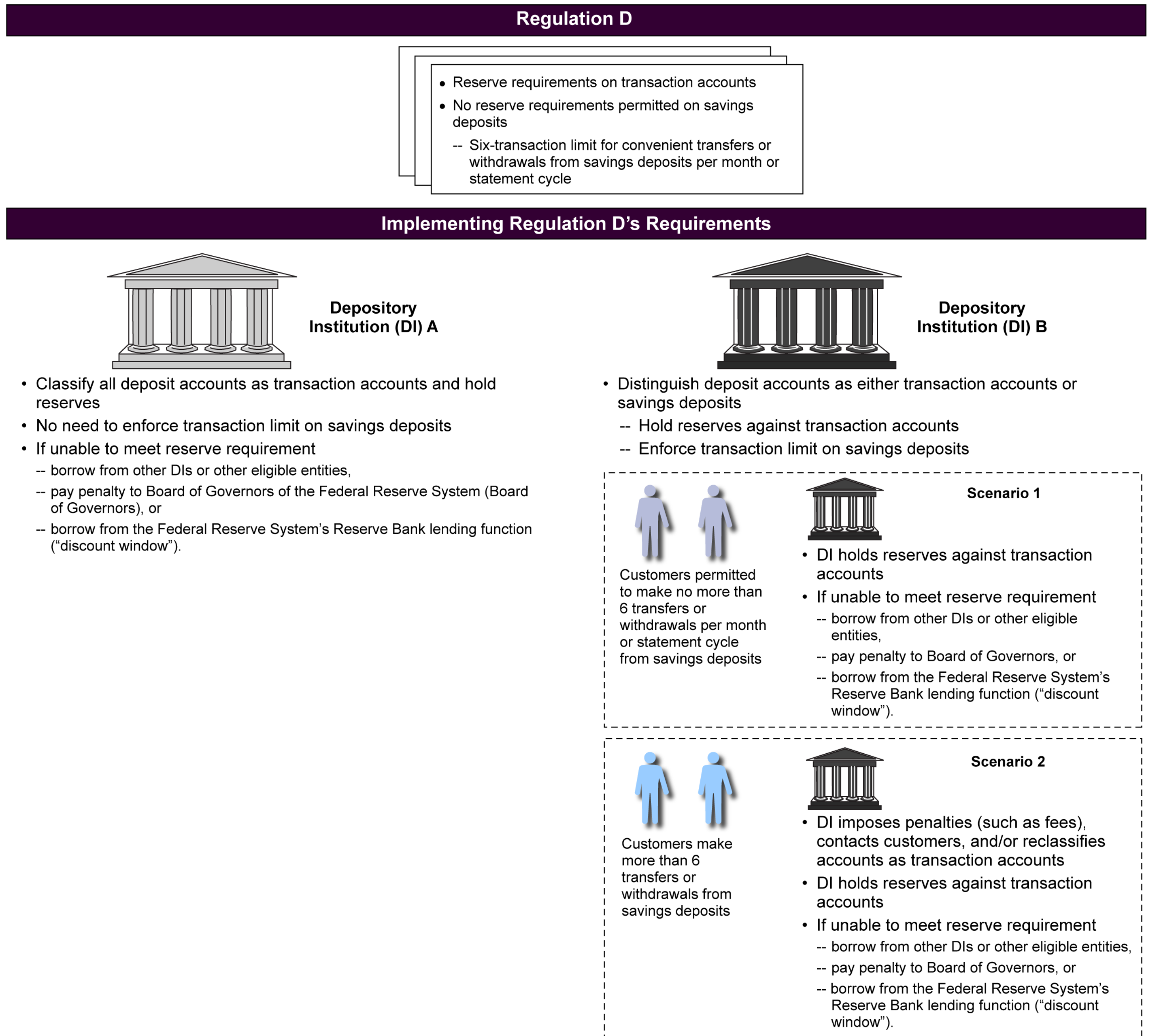
- Depository institutions must ensure that no more than six convenient transfers and withdrawals are made each month or statement cycle from accounts classified as savings deposits. Institutions must either prevent transfers that are in excess of the limit or monitor the accounts for compliance with the limit and contact customers who violate the limit on a more than occasional basis.[32]
- Depository institutions must close the savings account and place the funds in another account that the deposit customer is eligible to maintain or take away the transfer and draft capabilities of the account, if customers continue to make more than six transfers and withdrawals per month or statement cycle from the account after they have been contacted by the depository institution.[33] However, Regulation D neither requires depository institutions to charge customers a fee for violating the transaction limit nor prohibits institutions from charging a fee for such violations.

[31]Transaction accounts are often referred to as checking accounts at banks or share draft accounts at credit unions. Transaction account includes negotiable order of withdrawal accounts, which are less common today. All transaction accounts are now permitted by law to be interest bearing. See Pub. L. No. 111-203, § 627, 124 Stat. 1376, 1640 (2010) (amending section 19(i) of Federal Reserve Act (12 U.S.C. § 371a) repeal of prohibition on payment of interest on demand deposits); Prohibition Against Payments of Interest on Demand Deposits; 76 Fed. Reg. 42015 (July 18, 2011) (repealing Regulation Q).

[32]12 C.F.R. § 204.2(d)(2), n. 4. If the depositor, during the period, makes more than six transfers or withdrawals, the depository institution may, depending upon the facts and circumstances, be required by Regulation D (12 C.F.R. § 204.2(d)(2), n. 4) to reclassify or close the account. 12 C.F.R. § 204.133(b). From interviews with depository institutions, we learned that institutions defined "occasional basis" as 3 months during a 12-month period.

[33]From interviews with depository institutions and our survey results, we learned that some institutions reclassify savings deposits by converting them to transaction accounts if customers continue to make more than six transfers and withdrawals per month or statement cycle after they have been contacted by the depository institution, as later discussed.

Figure 2: Depository Institutions' Responsibilities for Implementing Regulation D's Requirements, as of 2016



Source: GAO analysis of Regulation D (12 C.F.R. pt. 204) and information collected from the Board of Governors of the Federal Reserve System and depository institutions. | GAO-17-117

The Federal Reserve needs accurate information on deposit balances to calculate reserve requirements, and it requires many depository institutions to submit deposit reports. (Currently, reserve requirements are calculated as a ratio of reservable liabilities).[34] Generally, the Federal Reserve Act authorizes the Board of Governors to require reports of liabilities and assets, and the Federal Reserve requires institutions to submit a Report of Transaction Accounts, Other Deposits and Vault Cash (Form FR 2900) to gather data for the calculation of reserve requirements and to construct the monetary aggregates (e.g., M1 M2 and M3). However, the Board of Governors has reduced the reporting burden on depository institutions based on size, such that depository institutions may be required to report deposit balances annually, quarterly, weekly, or not at all.[35] Depository institutions that have total deposits less than or equal to the exemption amount ($15.2 million in 2016) are not required to submit deposit reports (referred to as “nonreporters”). Each year, the Federal Reserve determines depository institutions’ reporting categories and the Reserve Banks inform institutions of their appropriate reporting categories.[36]

In addition to the Board of Governors, other regulators enforce depository institutions’ compliance with Regulation D’s requirements for those institutions subject to their regulatory jurisdiction. OCC, FDIC, and NCUA are responsible for supervising depository institutions’ compliance with federal laws and regulations, including Regulation D. However, officials from these regulators told us that because they employ a risk-based approach to oversight, they do not regularly conduct Regulation D-specific examinations. For example, OCC officials told us that they examine Regulation D compliance when changes in the regulation or bank policy occurs, when emerging risks in the industry have been identified, or when customer complaints about the regulation have increased. Furthermore, CFPB does not examine compliance with Regulation D specifically, but consumers may bring related complaints to CFPB’s attention through its consumer complaint database. For example,

[34]Reservable liabilities consist of net transaction accounts, nonpersonal time deposits, and Eurocurrency liabilities. See 12 U.S.C. § 461(b). Although nonpersonal time deposits and Eurocurrency liabilities are reservable liabilities, the reserve ratio applied to them is presently zero percent. 12 C.F.R. § 204.4(f).

[35]Depository institutions required to submit quarterly or weekly reports on deposit balances submit a Form FR 2900. Those subject to annual reports submit a Form FR 2910a.

[36]The determinations are made each July and become effective in September.

a consumer might submit a complaint to CFPB about a bounced check resulting from a transfer from a savings deposit that was denied due to the Regulation D six-transaction limit for convenient transfers or withdrawals.

Depository Institutions Subject to Regulation D's Requirements

Based on 2015 call report data, we identified 12,135 depository institutions that were subject to Regulation D's requirements because they offered transaction or savings deposits or both, to the general public.[37] Overall,

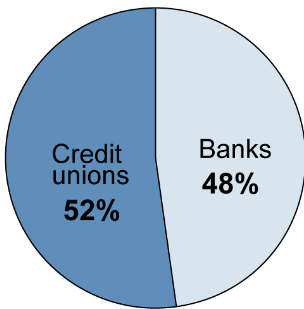
- Fifty-three percent of the 12,135 depository institutions (banks and credit unions) were required to satisfy reserve requirements because their level of net transaction account balances exceeded the then-applicable exemption amount of $14.5 million or more in 2015.[38]
- Forty-one percent of the depository institutions had transaction accounts reservable at the 3 percent reserves ratio because their level of net transaction accounts ranged from $14.5 million to $103.6 million (the low reserve tranche in 2015). These institutions did not have to satisfy reserve requirements on amounts up to $14.5 million because those amounts were subject to a zero percent reserve requirement.
- Twelve percent of the depository institutions had transaction accounts reservable at the 10 percent ratio because their level of net transaction accounts was greater than $103.6 million in 2015. These institutions did not have to satisfy reserve requirements on amounts up to $14.5 million because those amount were subject to a zero percent reserve requirement ratio, and they were subject to a 3 percent reserve requirement ratio on amounts greater than $14.5 million up to $103.6 million.

[37]The reserve requirement exemption amount for 2015 was $14.5 million as of December 17, 2014. See 12 C.F.R. § 204.4(f)(2015); Reserve Requirements of Depository Institutions, 79 Fed. Reg. 68349 (Nov. 17, 2014). (The reserve requirement exemption amount has since been raised to $15.2 million. See Reserve Requirements of Depository Institutions, 80 Fed. Reg. 71681 (Nov. 17, 2015).) These institutions were subject to Regulation D's requirements because they offered to the public accounts that are subject to reserve requirements (i.e., transaction accounts) or accounts that must comply with the Regulation D definition of "savings deposit" in order to avoid being classified as "transaction accounts" (i.e., savings deposits). However, not all of them met requirements to hold reserves based on the level of transaction balances held at the institutions.

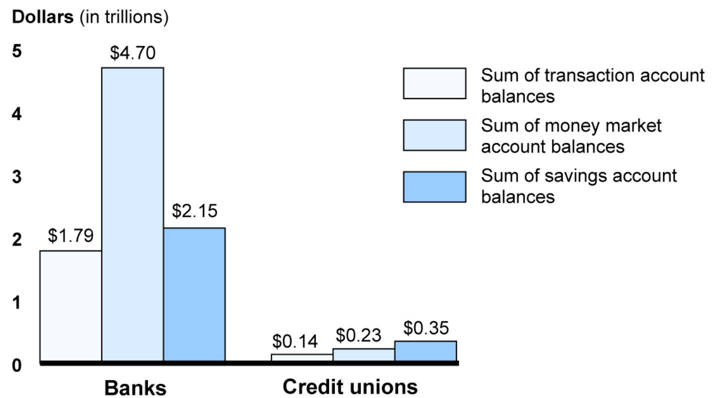
[38]As noted earlier, we analyzed call report data for 2015 when the exemption amount was $14.5 million.

Figure 3: Characteristics of Depository Institutions Subject to Regulation D's Reserve Requirements and Total Savings, Money Market, and Transaction Account Balances, as of Second Quarter 2015

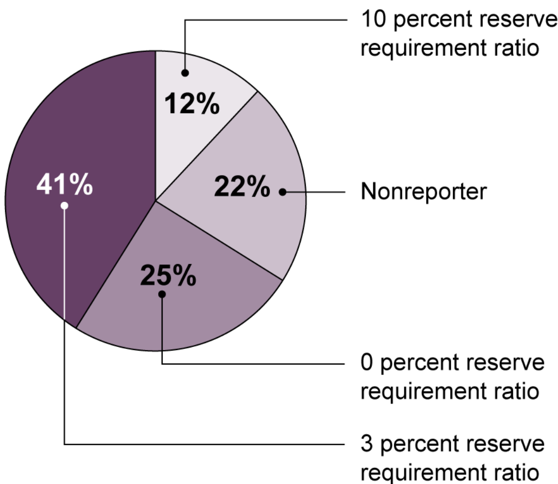
Depository institutions subject to Regulation D's requirements as of second quarter 2015



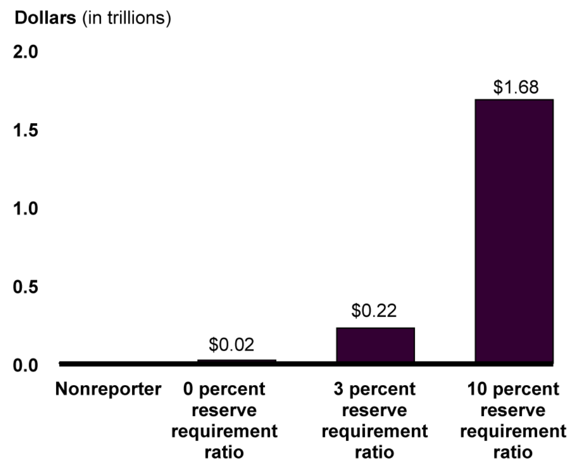
Total savings, money market, and transaction account balances of all depository institutions subject to Regulation D's requirements by institution type as of second quarter 2015



Percentages of depository institutions subject to Regulation D's requirements by nonreporter and reserve requirement ratio as of second quarter 2015



Total transaction account balances of all depository institutions subject to Regulation D's requirements by nonreporter and reserve requirement ratio as of second quarter 2015



Legend

Nonreporter – Depository institutions that have total deposits less than or equal to the exemption amount and are not required to submit reports on deposit balances to the Board of Governors of the Federal Reserve System.

Reserve requirement ratio – Percent at which a depository institution is required to hold reserves on specified deposit liabilities.

Source: GAO analysis of Reports of Condition and Income (call report) data. | GAO-17-117

Reserve requirements, and therefore obligations under Regulation D, affect a larger percentage of banks than credit unions in 2015.[39] Eighty-six percent of banks were required to satisfy reserve requirements in contrast to 23 percent of credit unions. Thus, more than three-quarters of credit unions were exempt from reserve requirements because their net transaction accounts were less than the exemption amount. Furthermore, the majority of transaction, savings, and money market account balances were concentrated among banks. Most banks (65 percent) had net transaction account balances reservable at the 3 percent ratio (which applied to amounts greater than $14.5 million and up to $103.6 million in 2015). A smaller proportion of banks (20 percent) held the majority of total transaction account balances ($1.68 trillion), which were reservable at the 10 percent ratio (which applied to amounts greater than $103.6 million in 2015).[40] Of the 23 percent of credit unions that were required to satisfy reserve requirements, the majority (79 percent) had net transaction deposits reservable at the 3 percent ratio.

Depository Institutions Implement Regulation D's Requirements in Various Ways

Depository institutions may implement Regulation D requirements using one or more of the following approaches:

- **Satisfy reserve requirements on transaction accounts only and enforce the transaction limit on savings deposits (by requiring customers to adhere to the limit).** Depository institutions offer both transaction accounts (which are subject to reserve requirements) and accounts that they classify as savings deposits (which are not subject to reserve requirements). For accounts classified as savings deposits, they ensure that customers adhere to the monthly six-transaction limit on convenient transfers and withdrawals. Depository institutions inform customers of the limit and, as previously discussed, they must prevent convenient transfers and withdrawals in excess of the limit from savings deposits or must monitor such transfers on an ex post

[39]Depository institutions, such as banks and credit unions, serve as intermediaries between savers who have extra money and borrowers who need the extra funds. While these institutions all provide similar services—accept deposits, make loans, and offer other financial services—they are organized differently. Banks are owned by shareholders, an ownership group separate from the customers, and are organized as profit-making entities. Credit unions are not-for-profit, member-owned, cooperatives organized for promoting saving by, and providing credit to, their members. They serve a collective field of membership consisting of a single occupation or association, multiple groups of occupations or associations, or a community.

[40]Less than 10 percent of this amount was reservable at 3 percent.

(i.e., after the fact) basis and contact those customers who exceed the limit on a more than occasional basis.[41]

- **Reduce transaction account balances subject to reserve requirements and enforce the transaction limit on savings deposits (by requiring customers to adhere to the limit).** Depository institutions can offer both transaction accounts and savings deposits and employ methods—such as transferring balances from transaction accounts (subject to reserve requirements) to savings deposits (not subject to reserve requirements)—to reduce balances subject to reserve requirements.[42] They also can offer only savings deposits on which they would not be required to satisfy transaction account reserve requirements. Under this approach, depository institutions would have to enforce the transaction limit for savings deposits, ensuring that customers adhere to the monthly six-transaction limit on convenient transfers and withdrawals.
- **Satisfy reserve requirements on balances in both transaction accounts and savings deposits that are classified as transaction accounts and avoid enforcing the transaction limit for savings deposits.** Depository institutions can offer both transaction accounts and accounts called "savings deposits" to customers but classify balances in both types of accounts as transaction accounts. Transaction accounts are not subject to the transaction limit on convenient transfers and withdrawals. Therefore, institutions would not need to enforce the transaction limit on balances in accounts marketed to customers as savings deposits but are classified as transaction deposits in their deposit reports. For deposits classified as transaction accounts, depository institutions must meet applicable transaction account reserve requirements.

[41]12 C.F.R. § 204.2(d)(2), n. 4. For those customers who continue to violate the limits after having been contacted by the depository institution, the depository institution must either close the savings deposit and place the funds in another account that the depositor is eligible to maintain or must take away the transfer and draft capabilities of the account.

[42]One of these methods is a retail sweeps program, which we describe in more detail later. A depository institution distributes its customers' transaction account balances between a transaction subaccount and a savings deposit subaccount, and determines the timing of transfers, not to exceed six times per month, from the savings deposit subaccount as necessary to fund a customer's transaction account activity. For example, representatives from one institution told us that each week they transfer transaction deposit balances to savings deposits at the close of business on Friday and reverse the transfer at the open of business on Monday to reduce transaction account balances subject to reserve requirements.

Although the consideration and determination of deposit product offerings are complex and more driven by factors other than Regulation D's requirements, depository institutions must balance the administrative and opportunity costs of maintaining reserves against their transaction accounts with the operational costs (and benefit) of enforcing the six-transaction limit on convenient transfers and withdrawals for savings deposits.[43] The administrative costs of the deposit reporting that supports the implementation of reserve requirements and the publication of measures of the money supply (monetary aggregates) include preparing and submitting reports on deposit balances weekly, quarterly, or annually to the Board of Governors, and these reporting categories can change annually for institutions.[44] The opportunity cost of satisfying reserve requirements varies based on the profitability of the alternative uses of the funds, and is essentially an implicit tax on depository institutions—often referred to as a "reserves tax." The tax is equal to the difference between the interest paid on balances maintained at Reserve Banks and the interest those institutions could have earned on alternative investments (such as making loans to customers and collecting interest)

[43]Depository institutions need to maintain liquidity (coin and currency in their vaults as well as cash balances in Reserve Bank accounts) to comply with reserve requirements, to satisfy customer demand for cash, and to meet other regulatory requirements, such as maintaining enough cash to manage short-term liquidity disruptions. Since 2015, depository institutions in the United States have been subject to maintaining an amount of high-quality liquid assets that is no less than 80 percent (with 100 percent required by 2017) of their total net cash outflows over a prospective 30 calendar-day period in accordance with Basel III capital requirements. Liquidity Coverage Ratio: Liquidity Risk Measurement Standards, 79 Fed. Reg. 61440 (Oct. 10, 2014). For additional information see GAO, *Bank Capital Reforms: Initial Effects of Basel III on Capital, Credit, and International Competitiveness*, GAO-15-67 (Washington, D.C.: Nov. 20, 2014).

[44]Depository institutions' reporting categories determine the frequency at which they report their deposit data. The reported deposit data are used to calculate each institution's reserve requirement during a reserve computation period. Each institution must then satisfy its calculated reserve requirement in a subsequent reserve maintenance period. During each reserve maintenance period, an institution must satisfy its reserve requirement in the form of vault cash or, if vault cash is insufficient to satisfy the requirement, in the form of a balance maintained with a Federal Reserve Bank. The reserve maintenance period is 14 consecutive days (with the maintenance period beginning 17 days after the end of the computation period), but the computation period varies for each reporting category. For example, the maintenance and computation period for an institution subject to weekly reporting is 14 days. For an institution subject to quarterly reporting, however, the computation period is 7 days beginning on the third Tuesday of the report month and ending on the following Monday (and the maintenance period is an interval of six or seven consecutive 14-day maintenance periods for each 7-day computation period).

in the absence of reserve requirements.[45] Board of Governors officials noted that reducing this opportunity cost was one of the reasons that the Federal Reserve sought explicit authority from Congress to pay interest on reserves. This authority was granted in 2006 and made effective in 2008.[46] According to representatives from selected depository institutions we interviewed, the operational costs associated with enforcing the transaction limit for savings deposits include acquiring and maintaining monitoring and tracking systems, training staff, and educating customers about the limit. According to Board of Governors officials, Regulation D was amended in 2012 with the goal of reducing administrative and operational costs for depository institutions and the Federal Reserve Banks.[47] Finally, enforcing the transaction limit has the benefit of reducing the amount of liabilities subject to transaction account reserve requirements and, therefore, reducing an institution's reserve requirement.

[45]In 2006, Federal Reserve staff estimated the reserves tax in the United States to be an approximated $380 million on roughly $40 billion in required reserves, although determining who borne the burden of this tax—whether depository institutions or customers—is difficult. See Federal Open Market Committee Secretariat, *Interest on Reserves: A Preliminary Analysis of Basic Options*, April 2008, authorized for public release May 2015, and see app. IV. However, according to the Board of Governors, due to the payment of interest on reserves, the relative reserves tax today is likely to be much smaller.

[46]The Financial Services Regulatory Relief Act of 2006 originally authorized the Federal Reserve to begin paying interest on balances held by or on behalf of depository institutions at Reserve Banks beginning October 1, 2011. See Pub. L. No. 109-351, §§ 201 and 203, 120 Stat. 1966, 1968-69. The Emergency Economic Stabilization Act of 2008 accelerated the effective date to October 1, 2008. See Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796. According to the Board of Governors, another reason for seeking the authority to pay interest on reserves was to permit the Federal Reserve to maintain the federal funds rate close to the target range set by FOMC while expanding its balance sheet to provide the liquidity necessary to support financial stability.

[47]Reserve Requirements of Depository Institutions: Reserves Simplification, 77 Fed. Reg. 21846 (Apr.12, 2012).

Most Depository Institutions Implemented Regulation D's Requirements by Enforcing the Transaction Limit on Savings Deposits

Most depository institutions used the approach of enforcing the six-transaction limit to implement Regulation D's requirements, and enforcement methods varied among institutions. Based on our 2015 survey, we estimate that 74 percent of depository institutions we identified as subject to Regulation D's requirements implemented the regulation's requirements by enforcing the six-transaction limit on convenient transfers and withdrawals from all savings deposits that they offered (one of the three approaches previously discussed).[48] Depository institutions required to neither submit deposit reports nor satisfy reserve requirements (nonreporters) were the least likely to implement Regulation D's requirements by enforcing the transaction limit while those subject to the 10 percent reserve requirement ratio on transaction accounts were the most likely to enforce the limit.[49] Finally, banks were more likely than credit unions to enforce the transaction limit to implement Regulation D's requirements, with an estimate of 89 percent versus an estimate of 59 percent.[50] See table 4 for responses to selected survey questions (which are also discussed later), and see appendix II for results for all of our closed-ended survey questions.

[48]The 95 percent confidence interval for this estimate is (70, 78). If these institutions had transaction accounts, they were required to hold reserves against their net transaction account balances that were equal to or above the exemption amount. Our survey asked depository institutions whether they enforce the transaction limit in order to query only those that enforce the limit about their experiences. The remaining institutions would have employed the approach of holding reserves on savings deposits classified as transaction accounts (which are subject to reserve requirements but not the transaction limit), may not offer savings deposits to customers, or may be nonreporter institutions that choose to not enforce the transaction limit on savings deposits because they are exempt from holding reserves and submitting reports on deposit balances (for reserves calculation purposes). According to Board of Governors officials, even if a depository institution is not required to submit the FR 2900 report and has a reserve requirement of zero percent, it is required to observe the six-transaction limit of Regulation D if it classifies those accounts as savings deposits (although there may be no practical effects of non-compliance in those cases). Regulation D reserve requirements also apply to nonpersonal time deposits and Eurocurrency liabilities, but these levels have been at zero percent since 1990. Therefore, we excluded them from our survey.

[49]The estimate for nonreporter depository institutions is 37 percent, and the estimate for depository institutions subject to the 10 percent reserve requirement ratio is 92 percent. The 95 percent confidence intervals for these estimates are (27, 48) and (87, 96).

[50]The 95 percent confidence intervals for these estimates are (84, 93) and (54, 65) respectively.

Table 4: Summary of Selected Survey Responses for Depository Institutions, 2015

Responses	Estimated percentage of all depository institutions	Estimated percentage of all banks	Estimated percentage of all credit unions
Enforce the six-transaction limit on all the savings deposits offered	74	89	59
Provide a hard copy or online Regulation D disclosures before the account is opened (for accounts opened in person or online)	94	96	92
Mail Regulation D disclosures after account is opened (for accounts opened in person or online)	19	13	25
[Monitor transactions through a] fully automated method using a software program	55	41	72
Use automated method for some reporting and manual method for reviewing accounts/transactions	37	53	14
Charge a fee after the sixth transaction for savings accounts	60	63	55
Charge a fee after the sixth transaction for money market accounts	83	90	63
Charge a fee after the seventh transaction for savings accounts	7	8	4
Charge a fee after the seventh transaction for money market accounts	2	2	3
Prohibit the seventh transaction in savings accounts	28	6	54
Prohibit the seventh transaction in money market accounts	23	4	55
Monitoring costs stayed the same over the last 2 years	74	75	73
Monitoring costs increased over the last 2 years	20	22	18

Sources: GAO analysis of survey data. | GAO-17-117

Note: All estimates provided in this table have sampling error. Please refer to appendix II for the associated confidence intervals. Because of the skip patterns embedded in the survey, not all depository institutions answered all questions. Therefore, the number of respondents varies for each question and each answer option.

For accounts classified as savings deposits, Regulation D requires depository institutions either to prevent convenient withdrawals and transfers that exceed the six-transaction limit or to adopt procedures to monitor transactions ex post (i.e., after the fact) and contact customers whose accounts exceed the transaction limit on a more than occasional basis. Under the CFPB's Regulation DD, Truth in Savings, depository institutions are required to inform customers of the transaction limit.[51] To examine the administrative and cost burdens associated with implementing these requirements, we surveyed depository institutions. Almost all depository institutions reported on our survey that they inform customers of the transaction limit by providing a hard copy or online disclosure about the Regulation D transaction limit before a savings deposit account is opened in person or online.[52] For accounts opened in person or online, an estimated 19 percent of depository institutions mail Regulation D disclosures to customers.[53,54]

Depository institutions used different methods to monitor the transaction limit. We estimate that slightly more than half of all depository institutions monitored transactions through fully automated methods using a software program.[55] Banks and credit unions differed in how they monitored

[51]See 12 C.F.R. § 1030.4(b)(5). Regulation DD provides that depository institutions can inform customers of the transaction limit by providing hard copy disclosures to customers before an account is opened in person, providing electronic disclosures on their websites or via e-mail before an account is opened online, or mailing disclosure notices within 10 days after an account is opened. See 12 C.F.R. § 1030.4, supp. I to pt. 1030.

[52]The estimate is 94 percent and the associated 95 percent confidence interval is (91, 96). The estimate for banks is 96 percent and the associated 95 percent confidence interval is (92, 98). The estimate for credit unions is 59 percent and the associated 95 percent confidence interval is (86, 95). For the purposes of describing depository institutions' methods of compliance, we asked in our survey about how depository institutions inform customers of the transaction limit. Additional methods reported were e-mailing Regulation D disclosures and making courtesy phone calls to disclose verbally the transaction limit. Depository institutions also indicated in narrative responses that they advise customers of the transaction limit in person after an account is opened.

[53]The 95 percent confidence interval for this estimate is (14, 25). The estimate for banks is 13 percent and the associated 95 percent confidence interval is (7, 22). The estimate for credit unions is 25 percent and the associated 95 percent confidence interval is (18, 34).

[54]In our survey pretest interviews with selected depository institutions, representatives from some of the institutions told us that for accounts opened online they inform customers about the transaction limit during the account opening process by providing a link to the disclosure. Other institutions noted that they do not open accounts online and therefore inform customers only by providing hard copy disclosures.

[55]The estimate is 55 percent. The associated 95 percent confidence interval is (50, 60).

accounts to enforce the transaction limit. We estimate that 41 percent of banks monitored accounts through a fully automated method using a software program while 53 percent used an automated method for some reporting and a manual method for reviewing accounts/transactions.[56] Conversely, we estimate that 72 percent of credit unions monitored accounts through a fully automated method using a software program and 14 percent used an automated method for some reporting and a manual method for reviewing accounts/transactions.[57]

Depository institutions that implement Regulation D's requirements by monitoring transactions must take one of two actions if customers make more than six transfers or withdrawals per month or statement cycle on a more than occasional basis: (1) close the savings deposit account and place the funds in another account or (2) take away the transfer and draft capabilities from the savings deposit account. Institutions may also reclassify a savings deposit account as a transaction account (the effective equivalent of closing the savings deposit account and placing the funds in a transaction account). Regulation D requires depository institutions that use ex post monitoring rather than preventing excess transfers and withdrawals to adopt procedures to enforce the transaction limit.

Institutions also told us that, in practice, they may

- close the account and send the customer a check for the funds remaining in the account (another form of account closure), or
- maintain the same account but indefinitely reclassify the account as a transaction account without a change in account number (account conversion).

Regulation D does not prohibit employing other mechanisms to discourage transactions in excess of the transaction limit. For example, some survey respondents that used the approach of enforcing the transaction limit indicated that they charged fees as a mechanism to

[56]The 95 percent confidence intervals for these estimates are (34, 48) and (46, 60). Another monitoring method reported on our survey was a manual method only. The estimate for this is 8 percent and the associated 95 percent confidence interval is (6, 11) for all depository institutions. Two depository institutions responded "other" to the question on monitoring methods, but noted having "core" systems that automatically monitor transactions.

[57]The 95 percent confidence intervals for these estimates are (66, 79) and (9, 19).

discourage additional transfers. That is, if a customer makes six transfers or withdrawals in savings deposits in a month or statement cycle, they allow additional transfers and withdrawals but charge a fee(s) and may temporarily reclassify the savings deposit account as a transaction account (and realize a commensurate temporary increase in their reserve requirement) in order to allow more than six transactions in a month or statement cycle (see fig. 2).

According to our survey results, the majority of depository institutions charged fees when customers exceeded six or more transactions in savings deposits (savings accounts or money market accounts).[58] Specifically, for savings accounts, we estimate that 60 percent of institutions charged fees after the sixth transaction and 7 percent charged fees after the seventh transaction.[59] For money market accounts, an estimate of 83 percent of institutions charged fees after the sixth transaction and an estimate of 2 percent charged fees after the seventh transaction.[60] In addition, broken out by institution type, we estimate that 63 percent of banks charged fees after the sixth transaction in savings accounts compared with an estimate of 55 percent of credit unions.[61] We estimate that 8 percent of banks charged fees after the seventh transaction in savings accounts compared with an estimate of 4 percent of credit unions.[62] For money market accounts, we estimate that 90 percent of banks charged fees after sixth transaction compared with an estimate of 63 percent of credit unions.[63] However, nearly equal percentages of banks and credit unions charged fees after the seventh transaction for money market accounts.[64]

[58]Although the technically correct term to refer to transactions in this context is “transfers and withdrawals” as specified in Regulation D, we used the term “transaction(s)” on our survey, and therefore report our survey results accordingly.

[59]The 95 percent confidence intervals for these estimates are (53, 68) and (4, 11).

[60]The 95 percent confidence interval for these estimates are (76, 88) and (1, 6).

[61]The 95 percent confidence intervals for these estimates are (54, 72) and (43, 66).

[62]The 95 percent confidence intervals for these estimates are (4, 14) and (0.5, 13).

[63]The 95 percent confidence intervals for these estimates are (83, 95) and (50, 75).

[64]The estimate for banks is 2.4 percent and the associated 95 percent confidence interval is (0.4, 7). The estimate for credit unions is 2.5 and the associated 95 percent confidence interval is (0.1, 11)

Based on our survey results, the estimated median fee amounts reported by all depository institutions were about $3 for savings accounts and $5 for money market accounts.[65] Banks tended to report lower fees for savings accounts, with an estimated median of about $2 for banks and an estimated median of about $4 for credit unions.[66] The median fee for money market accounts was about $5 for both banks and credit unions.[67] In addition, we estimate that about a quarter of all depository institutions prohibited the seventh transaction when the transaction limit was reached in a month or statement cycle.[68] However, more credit unions than banks (an estimated 54 percent versus an estimated 6 percent for savings accounts and an estimated 55 percent versus an estimated 4 percent for money market accounts) prohibited the seventh transaction when the six-transaction limit was reached.[69]

[65]The 95 percent confidence intervals for the estimated median fees by type of account are ($1.90, $3.94) and ($4.65, $9.99).

[66]The 95 percent confidence intervals for these estimated median savings account fees are ($1.71, $2.82) and ($2.91, $4.49).

[67]The 95 percent confidence intervals for these estimated average money market account fees are ($4.53, $9.99) and ($4.58, $8.27).

[68]The estimate for savings accounts is 28 percent and the associated 95 percent confidence interval is (24, 33). The estimate for money market accounts is 23 percent and the associated 95 percent confidence interval is (19, 27).

[69]The 95 percent confidence intervals for savings account estimates are (47, 62) and (3, 11). The 95 percent confidence interval for the money market estimates are (47, 63) and (1, 9).

Depository institutions also reported on the change in costs associated with monitoring accounts to enforce the Regulation D transaction limit, such as establishing and maintaining information technology and creating disclosure form letters (to comply with the CFPB's Regulation DD requirements). According to our survey results, most depository institutions reported that costs associated with monitoring accounts for compliance with the transaction limit stayed the same over the last two years.[70] However, we estimate that 20 percent of depository institutions had their costs increase over the same time period.[71] For those depository institutions that indicated that their costs increased, reasons commonly cited included institutional growth, information technology and software costs, mailing costs (related to complying with the CFPB's Regulation DD requirements), and staff time to review automated compliance reports.

Depository institutions reported that steps taken to enforce the transaction limit contribute to operational burden or challenges. (Institutions have noted publicly that operational burden is created by the need to monitor accounts as required by Regulation D, create and mail disclosure forms required by the CFPB's Regulation DD, and inform customers of the transaction limit as required by the CFPB's Regulation DD.[72]) For those depository institutions we surveyed that indicated there were challenges associated with monitoring and enforcing the transaction limit, the challenges most cited were getting customers to read their Regulation D notices (82 percent), operational challenges such as creating forms and converting and closing accounts (68 percent), and addressing customer complaints related to the six-transaction limit (64 percent).[73] About equal

[70]The estimate for all depository institutions is 74 percent and the associated 95 percent confidence interval is (69, 78).The estimate for banks is 75 percent and the associated 95 percent confidence interval is (68, 81). The estimate for credit unions is 73 percent and the associated 95 percent confidence interval is (67, 79). The survey question asked about costs over the last 2 years, which would generally cover 2014 and 2015 given that we administered the survey from December 2015 through February 2016.

[71]The 95 percent confidence interval for this estimate is (16, 25). The estimate for banks is 22 percent and the associated 95 percent confidence interval is (16, 29). The estimate for credit unions is 18 percent and the associated 95 percent confidence interval is (13, 24).

[72]Federal Financial Institutions Examination Council, Economic Growth and Regulatory Paperwork Reduction Act, outreach meeting (Dallas, Tex.: Feb. 4, 2015, and Boston, Mass.: May 4, 2015).

[73]The 95 percent confidence intervals for these estimates are (78, 86), (63, 73), and (59, 69).

percentages (and numbers) of credit unions and banks (84 percent versus 80 percent) cited getting customers to read Regulation D notices as a challenge.[74] However, more banks than credit unions (78 percent versus 55 percent) reported operational challenges related to creating forms and converting and closing accounts, and more credit unions than banks (76 percent versus 55 percent) cited addressing customer complaints as a challenge.[75]

[74]The 95 percent confidence intervals for these estimates are (77, 89) and (74, 86) respectively.

[75]The 95 percent confidence intervals for these estimates are (72, 84) and (47, 62); and (70, 82) and (47, 62).

Some Depository Institutions Reduced Transaction Account Balances Subject to Reserve Requirements

Retail Sweeps to Reduce Transaction Accounts Subject to Reserve Requirements or to Allow Unlimited Access to Savings Deposits

A retail sweeps (also known as deposit reclassification) program is an arrangement in which a depository institution divides a customer's transaction account into two legally distinct subaccounts—a transaction account subaccount and a savings deposit subaccount—for deposit reporting and reserve requirements purposes. The program does not affect the customer's use of the account. The depository institution automatically transfers funds between a customer's transaction (i.e., checking) subaccount and savings deposit subaccount so that there are not more than six transfers per month from the savings deposit subaccount to the transaction account subaccount. This is typically done to reduce transaction account reserve requirements, or in some cases to exempt customers from the six-transaction limit and allow unlimited access to savings deposits.

Source: GAO. | GAO-17-117

Based on our survey of depository institutions, we estimate that 9 percent of depository institutions reduced transaction account reserve requirements by using a retail sweeps program to automatically transfer balances from transaction accounts to savings deposits (one of the approaches described previously).[76] See the sidebar for further details on retail sweeps programs. As discussed previously, depository institutions' deposit liabilities maintained as vault cash or in accounts at Reserve Banks to satisfy reserve requirements cannot be used for other purposes, such as loans or securities holdings, to generate higher returns than those obtained through the Federal Reserve's payment of interest on reserve balances. Before 2008, reserve requirements led institutions to expend resources and efforts to reduce transaction account balances subject to reserve requirements. According to some estimates, the cumulative amounts swept within retail sweeps programs grew from $5 billion in 1994 to $800 billion in 2008.[77] In October 2008, the Federal Reserve Act amendment authorizing the payment of interest on reserve balances became effective.[78] Currently, the Federal Reserve's payment of interest on reserve balances has significantly reduced the reserves tax associated with reserve requirements and, therefore, the incentives of

[76]The 95 percent confidence interval for this estimate is (7, 13).

[77]In the United States, depository institutions have for decades engaged in sweeping transaction account balances into nonreservable types of liabilities, such as savings deposits or non-deposit liabilities. These activities were effective in reducing institutions' reserve requirements. See D. Dutkowsky and D. VanHoose, Interest on Bank Reserves and Optimal Sweeping, Journal of Banking and Finance, 35 (2011): 2491-2497.

[78]The Financial Services Regulatory Relief Act of 2006 authorized the Federal Reserve to pay interest on reserves starting on October 1, 2011. See Pub. L. No. 109-351, §§ 201 and 203, 120 Stat. 1966, 1968-69. However, the Emergency Economic Stabilization Act of 2008 moved the effective date of the authority forward to October 1, 2008. See Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796. On October 6, 2008, the Board of Governors announced an amendment to Regulation D authorizing the payment of interest on reserves. Reserve Requirements of Depository Institutions, 73 Fed. Reg. 59482 (Oct. 9, 2008).

depository institutions to engage in activities to minimize reserve requirements.[79]

Broken out by type of institution, we estimate that 15 percent of banks and 2 percent of credit unions employed the approach of reducing transaction account reserves.[80] Of the institutions that used a retail sweeps program to reduce transaction account reserve requirements, about a fourth (27 percent) had transaction account balances subject to the 10 percent reserve requirement ratio.[81] Reasons cited by individual respondents for employing this strategy (at the time of implementation) included a high interest rate environment and the amount of transaction account balances (for instance, balances grew into a higher reserve tranche). Prior to the payment of interest on reserves and the expansion of the total supply of reserves, depository institutions preferred to closely manage their reserve balances to their reserve requirement; therefore, having fewer deposit balances subject to reserve requirements reduced their reserve requirement and made more funds available for alternative investments, such as loan provision to customers. Because they shifted funds from transaction accounts to savings deposits to reduce balances in transaction accounts subject to reserve requirements, these institutions had to enforce the transfer and withdrawal limit for savings deposits (ensuring that the automatic transfers from savings deposits did not exceed six times per month). However, as described in the sidebar, the customer is not able to initiate transfers directly from savings deposits in retail sweeps programs. Therefore, for institutions that used a retail sweeps program, no ex post monitoring to enforce customers' adherence to the six-transaction limit was required.

[79]As later discussed, most central banks in other developed countries also pay interest on reserves and some have done so for many years. They include the Bank of England, the European Central Bank, Norges Bank (Norway), Bank of Canada, and the Bank of Japan.

[80]The 95 percent confidence interval for these estimates is (10, 20) and (1, 5).

[81]The 95 percent confidence interval for this estimate is (20, 35).

Few Depository Institutions Satisfied Reserve Requirements on Both Transaction Accounts and Savings Deposits

A few depository institutions said that they satisfied reserve requirements for balances in transaction accounts and savings deposits to implement Regulation D requirements and avoid enforcing the transaction limit for savings deposits (one of the aforementioned approaches).[82] As previously discussed, institutions can choose to market accounts as savings deposits to customers but classify them as transaction accounts for deposit reporting and reserve requirements purposes. Because transaction accounts are subject to reserve requirements, in effect, this approach results in institutions satisfying reserve requirements on both transaction accounts and savings deposits. This also means that institutions would not have to enforce the transaction limit otherwise necessary to classify an account as a "savings deposit" and can permit customers to make more than six convenient transfers and withdrawals from their savings deposits.

A slight variation to the approach that allows customers unlimited access to their savings deposits is the use of a retail sweeps program whereby institutions would satisfy reserve requirements for balances in savings deposits only when customers exceed the transaction limit. To use a retail sweeps program to eliminate the need to enforce the transaction limit, an institution transfers some or all of its customers' balances from savings deposits (no reserves required) to transaction accounts (reserves required) once six transfers or withdrawals are made from the savings deposits.[83] The reasons depository institutions cited for maintaining reserves on savings deposits (i.e., classifying both transaction accounts and savings deposits as transaction accounts) to eliminate the need to enforce the transaction limit included: (1) net transaction account balances were low enough that holding additional reserves did not increase the institution's required reserve ratio, (2) customer feedback (questions or concerns about the transaction limit), and (3) the Federal Reserve's payment of interest on reserves.

Even with the payment of interest on reserve balances, administrative burdens associated with reserve requirements remain for depository institutions. As mentioned previously, depository institutions face

[82]The estimate is 16 percent and the 95 percent confidence interval is (8, 27).

[83]While this approach eliminates the need to enforce the transaction limit, it does require a depository institution to monitor accounts to know when six transactions have occurred (in order to transfer the funds to a transaction account). Because very few institutions indicated employing this approach, our survey estimates are not reliable to describe the monitoring methods such institutions used.

administrative burdens associated with classifying deposit liabilities subject to reserve requirements, calculating and reporting deposit levels, and ensuring they maintain enough vault cash or balances at Federal Reserve Banks to meet their reserve requirements.[84] In addition, because reserve requirements only apply to depository institutions and do not apply to nondepository financial institutions, a potential competitive disadvantage for depository institutions exists.[85] This can distort the credit allocation process by pushing financial resources away from the banking system.

Relatively Few Customers Exceeded or Expressed Concerns about the Regulation D Transaction Limit

Based on our survey results, we estimate that relatively few customers exceeded the Regulation D six-transaction limit.[86] Additionally, relatively few customers had questions or concerns about the limit, consistent with the findings from our review of regulatory data. This low occurrence of customers' savings deposits exceeding the transaction limit may be due, in part, to depository institutions' efforts to inform customers about the transaction limit. In addition, the questions and concerns depository institutions received from customers were generally about lack of understanding that a transaction limit applied to their accounts.

[84]According to the Board of Governors, without reserve requirements, some of these burdens, such as reporting deposit levels, would likely still exist for a subset of depository institutions as the reports are needed to construct and publish the monetary aggregates (M1, M2, and M3), and almost all of these reporting burdens would still exist even if institutions did not offer savings deposits.

[85]See 12 C.F.R. § 204.1(c).

[86]The question on the survey asked for information covering the "last 12 months." See question 9 in appendix II. Because the survey was conducted from December 2015 through February 2016, the "last 12 months" generally refers to the time period covering December 2014 through February 2016.

Most Depository Institutions That Enforced the Transaction Limit Reported Few Customers' Accounts Exceeded the Transaction Limit

Based on our survey results, relatively few customers appeared to have exceeded the six-transaction limit in their savings deposits.[87] Based on responses to our survey, we estimate the following:

- For the majority of depository institutions (59 percent) that enforced the transaction limit, less than 1 percent of their customers' savings deposits—combined savings and money market accounts—exceeded the transaction limit in a month or statement cycle (between December 2014 to March 2016).[88] For two-thirds (66 percent) of banks, few customers' savings deposits exceeded the limit while about half of credit unions noted this.[89]
- Twenty-one percent of depository institutions said that 1–5 percent of customers' savings deposits exceeded the transaction limit, which was consistent with percentages for banks and credit unions.[90] For 24 percent of banks and 18 percent of credit unions, 1-5 percent of customers' savings deposits exceeded the transaction limit.[91]
- Few (1 percent) depository institutions indicated that more than 10 percent of their customers' savings deposits exceeded the transaction limit in a month or during a statement cycle.[92]

Based on our survey results and interviews, some depository institutions took additional steps on their own, beyond those required by Regulation D, to help customers stay informed and avoid exceeding the transaction limit. For example, we estimate that 7 percent of depository institutions' staff made customer service calls after an account is opened to advise

[87]Because we did not survey customers themselves, we are not able to make definitive conclusions about customer behavior. For example, we cannot describe the extent of the impact of the transaction limit on customer behavior. During pretesting of our survey, representatives from depository institutions said that they could not readily provide a specific number of accounts in which customers had exceeded the transaction limit; instead, they could give a percentage relative to their total amount of savings deposits (savings and money market). Based on this information, we developed survey answer options that were ranges of percentages of total savings deposits at depository institutions.

[88]The 95 percent confidence interval for this estimate is (54, 64).

[89]The 95 percent confidence intervals for these estimates are (59, 73) and (43, 56).

[90]The 95 percent confidence interval for this estimate is (17, 25)

[91]The 95 percent confidence interval for these estimates are (17, 30) and (13, 23).

[92]The 95 percent confidence interval for this estimate is (0.4, 2.6)

customers of the limit and answer questions.[93] Ten percent of institutions notified customers of the number of transactions made before their accounts reached the transaction limit.[94] Methods that individual institutions reported using to notify customers before they reached the limit included mailing notification letters, texting alerts, calling customers, and providing ATM alerts. In addition, representatives from depository institutions we interviewed said that they notified customers by labeling applicable transactions as a Regulation D transaction online (viewable as customers' account activity). Representatives from one depository institution we interviewed also told us that they temporarily classified savings deposits as transaction accounts (for reserves purposes) to permit customers to make unlimited transfers and withdrawals from such accounts for a limited time during tax season.[95]

Most Depository Institutions and Others Report That Few Customers Had Concerns about Regulation D

Based on our survey, we estimate that most depository institutions received few customer questions or concerns related to the Regulation D transaction limit.[96] Specifically, the Regulation D-related questions or concerns represented approximately less than 1 percent of all questions or concerns about deposit accounts received from customers.[97] This low rate of customer questions or concerns was more common among banks than credit unions, with estimates of 72 percent versus 55 percent, respectively.[98] For the depository institutions that indicated less than 1 percent of customer questions or concerns were related to Regulation D, the complaints were generally about lack of understanding about the types of transactions subject to the limit (26 percent), lack of understanding that a transaction limit applied to their accounts (26

[93]The confidence interval for this estimate is (4, 12).

[94]The 95 percent confidence interval for this estimate is (7, 13).

[95]This depository institution was among the banks and credit unions that were included in our sample and responded to our survey. We interviewed this depository institution before selecting our sample. See appendix I for further details on our methodology.

[96]The estimate is 65 percent and the associated 95 percent confidence interval is (60, 70).

[97]During pretesting of our survey, representatives of depository institutions said that they could not readily provide a specific number of Regulation D-related questions or concerns from customers, but could give a percentage relative to the total amount of customers' questions or concerns about deposit accounts they received. Based on this information, we developed answer options that were ranges of percentages of total customer questions or concerns about deposit accounts that were related to Regulation D.

[98]The 95 percent confidence intervals for these estimates are (66, 79) and (48, 62).

percent), and fees charged (12 percent).[99] In addition, we estimate that for a relatively sizeable minority of depository institutions (22 percent), 1–10 percent of questions or concerns they received were related to Regulation D.[100] For these institutions, the Regulation D-related questions or concerns were generally about customers' lack of understanding that a transaction limit applied to their accounts (36 percent) and the types of transactions subject to the limit (28 percent).[101] Generally, depository institutions perceived the burden that Regulation D's requirements placed on customers to be minimal based on the feedback they received from customers.[102]

As previously discussed, depository institutions must close or convert savings deposits (to transaction accounts) or remove transfer or withdrawal capabilities from savings deposits for customers who continue to violate the six-transaction limit after having been contacted by the depository institution for exceeding the transaction limit on a more than occasional basis. Based on our survey results, we estimate that, from December 2014 to February 2016, around 35 percent of depository institutions received customer questions or concerns about account closures (closing accounts and transferring the funds into a new transaction account or sending a check to the customer) or denied transactions.[103] Account closures could result in new account numbers (which can interrupt how customers manage their accounts), and denied transactions may cause inconvenience for customers—both of which could lead to customers expressing questions or concerns related to the Regulation D transaction limit. We estimate that the depository institutions that received customer questions or concerns about account closures or

[99]The 95 confidence intervals for these estimates are (20, 32), (20, 32,), and (8, 17).

[100]The 95 percent confidence interval for these estimates is (17, 26). Twelve percent of depository institutions reported that they were not sure about the total customer questions or concerns received related to Regulation D. The 95 percent confidence interval for this estimate is (9, 15).

[101]The 95 confidence intervals for these estimates are (25, 46) and (19, 40).

[102]The estimate for small burden is 46 percent with the 95 percent confidence interval for this estimate being (41, 51). The estimate for no burden is 14 percent with the 95 percent confidence interval for this estimate being (11, 18).

[103]The 95 percent confidence interval for this estimate is (31, 39). The question on the survey asked for information covering the "past 12 months." See question 18 in appendix II. Because the survey was conducted from December 2015 through February 2016, the "last 12 months" generally refers to the time period covering December 2014 through February 2016.

denied transactions generally did not convert customers' savings deposits when they more than occasionally exceeded the transaction limit.[104] The institutions that did not receive customer questions or concerns about account closures or denied transactions may have converted accounts. Overall, we estimate that about 30 percent of depository institutions converted savings accounts, and 47 percent converted money market accounts when a customer more than occasionally exceeded the transaction limit.[105] Those institutions that converted accounts may have matched customer needs with appropriate deposit account products and thus may have removed a basis for questions or concerns.[106]

Findings from other sources about the effect of Regulation D's transaction limit on customers were consistent with our survey results. We reviewed complaint data collected by the Board of Governors, CFPB, FDIC, NCUA, and OCC. The regulators' data indicated that less than 0.5 percent of all deposit product complaints pertained to Regulation D. In the case of NCUA, we did not find any complaints collected that pertained to

[104] Around two-thirds of all depository institutions that received customer questions or concerns about account closures or denied transactions did not convert savings accounts, with an associated 95 percent confidence interval of (60, 75), and 55 percent did not convert money market accounts, with an associated 95 percent confidence interval of (47, 64).

[105] The 95 percent confidence intervals for these estimates are (24, 34) and (41, 52). Overall, 69 percent of depository institutions do not convert savings accounts and the associated 95 percent confidence interval is (64, 74). Fifty-three percent of depository institutions do not convert money market accounts and the associated 95 percent confidence interval is (47, 59).

[106] Because depository institutions now are permitted to pay interest on transaction accounts, converting an account from a savings deposit to a transaction account is unlikely to concern consumers.

Regulation D.[107] Complaint data from some of the regulators also indicated that the Regulation D-related complaints generally were about fees charged or a lack of understanding about the transaction limit.

In one instance, representatives from a depository institution we interviewed also told us that a change in policy (from classifying savings deposits as transaction accounts and maintaining reserves against them to avoid enforcing the transaction limit to classifying those accounts as savings deposits and enforcing the transaction limit) caused confusion among their customers and prompted complaints. In addition, representatives from three trade associations for banks and credit unions told us that the feedback they have received from their members about Regulation D was generally about customers' confusion and lack of understanding of the regulation's requirements. Specifically, they said that customers of banks and credit unions do not understand why there is a limit on the number and types of transactions that can be made from their savings deposits.[108]

[107]To analyze the effect of Regulation D's requirements on deposit account holders (consumers), we reviewed consumer complaints that customers of depository institutions submitted to the Federal Reserve, FDIC, OCC, NCUA, and CFPB for the period from January 1, 2010, through June 30, 2015. The approach to collecting and analyzing the data varied for each regulator, depending primarily on whether the agency had codes for Regulation D and whether we were able to obtain data extracts of all deposit complaints. The Federal Reserve codes for Regulation D, and we obtained a data extract of all complaints coded to Regulation D. FDIC does not code for Regulation D, so we obtained a data extract containing all deposit product complaints for the time period of interest from their complaint system. We then conducted 19 keyword searches on the complaint narratives to determine which complaints pertained to Regulation D. OCC codes for Regulation D complaints and we obtained Regulation D complaint data for the same time period. However, because of issues concerning data storage and security, OCC did not provide us with a full extract of these complaints. Instead, we visited OCC's offices to review the management of the complaint data system. NCUA does not code for Regulation D, and we visited NCUA headquarters to review the data firsthand. Finally, CFPB does not code complaints by any regulation, including Regulation D; therefore, we conducted keyword searches in CFPB's publically available complaint database.

[108]Understanding deposit products and bank regulations is necessary as Americans today confront an array of challenges in their efforts to achieve and maintain financial security. Financial literacy—the ability to use knowledge and skills to manage financial resources effectively—has thus become increasingly important. We have reported that the federal government plays a broad role in promoting financial literacy. See GAO-14-556T, GAO-15-639SP, and GAO-15-563.

Options to Reduce or Eliminate Reserve Requirements Have Monetary Policy Implications

Internationally, many central banks have taken steps to reduce their reliance on reserve requirements, including eliminating them completely in some cases.[109] Many of the approaches that facilitate monetary policy implementation in an environment of low or no reserve requirements have been employed by central banks in other countries for a number of years. While the ability to extend these experiences to the United States context is unclear, they provide examples of monetary policy implementation frameworks that do not involve mandatory reserve requirements. However, in reducing reserve requirements to zero, a number of potential operational and technical issues emerge that can complicate that conduct of monetary policy. The Federal Reserve has acknowledged the costs and burden associated with reserve requirements and has evaluated, and continues to evaluate various monetary policy implementation frameworks. Using this work and the experiences of foreign central banks, we outline various reserve requirement frameworks for illustrative purposes, including those where reserve requirements are nonexistent. GAO's presentation and discussion of the various frameworks should not be interpreted as a judgement or policy position on monetary policy implementation or related decisions in the United States, where, like many other countries, reserve requirements remain an important monetary policy tool.

A Number of Central Banks Have Reduced Their Reliance on Reserve Requirements

Due, in part, to concerns about the cost, burdens and market distortions associated with their use, there has been a decline in the level and use of reserve requirements globally. For example, while internationally most central banks still impose reserve requirements, the requirements have been reduced over the last several decades in some high- and moderate-income countries. As a result, several central banks now operate monetary policy in an environment in which reserve requirements are zero or so low that they do not constrain the behavior (lending or investment activity) of depository institutions.[110] A 2010 International Monetary Fund (IMF) survey found that 9 of 121 central banks did not impose reserve requirements on financial institutions. Other developed and emerging countries have operated with a reserve requirement

[109]Section 19 of the Federal Reserve Act authorizes the Board of Governors to impose reserve requirements solely for the purpose of implementing monetary policy. See 12 U.S.C. § 461(b)(2)(A). As a result, this section of the report discusses reserve requirements purely as a tool for the implementation of monetary policy.

[110]As we discuss later, currently in the United States, reserves in the system are so substantial that reserve requirements do not constrain the behavior of depository institutions either.

imposed on all deposits, which eliminates the need for measures like transaction limits on certain kinds of transfers and withdrawals from certain deposit liabilities to distinguish between reservable and nonreservable deposits. As mentioned previously, the Federal Reserve Act authorizes the Board of Governors to impose reserve requirements on a narrow base of deposit liabilities and does not authorize imposing reserve requirements on savings deposits.

Among central banks that operate with a range of reserve requirements like the Federal Reserve, some have requirements that appear relatively small. For example, as table 5 illustrates, reserve requirement ratios in Japan range from .05 percent to 1.3 percent depending on the type of bank liability (deposit account). However, because the reservable base (types of accounts covered) differs across central banks, reserve requirement levels across central banks are not strictly comparable without accounting for these differences, which can be large.

Table 5: Reserve Requirements for Selected Central Banks, 2015Q3

No reserve requirement	One reserve requirement between 1-5 percent	Range of reserve requirements between .05-14 percent
Australia	Czech Republic (2)	Japan (.05-1.3)
Canada	European Central Bank (1)	Iceland (0-2)
Denmark	Hungary (2)	Israel (0-6)
Hong Kong*	Malaysia (4)	Thailand (0.2-6)
Mexico	Singapore (3)	Indonesia (1-7.5)
New Zealand	Switzerland (2.5)	South Korea (0-7)
Norway	Russia (5)	United Arab Emirates (1-14)
Sweden	South Africa (2.5)	United States (0-10)
United Kingdom		

Sources: GAO analysis of World Bank data and Central Bank websites. | GAO-17-117

*Information for Hong Kong is as of 2011.

Although reserve requirement ratios in the United States have not changed since 1992, the Board of Governors has acknowledged the costs associated with the mandatory reserves framework, including the required differential treatment of transaction and other types of accounts. In fact, the Federal Reserve had advocated for legislation authorizing it to pay interest on reserves to eliminate some of the costs on depository

institutions well before the passage of the Financial Services and Regulatory Relief Act of 2006 (FSRRA).[111] As discussed earlier, FSRRA permitted the payment of interest on reserve balances and gave the Board of Governors greater flexibility in establishing reserve requirements, including the ability to reduce transaction account reserve requirement ratios to zero. Like the Federal Reserve, central banks in some other countries also remunerate reserve balances, including the Bank of England, the European Central Bank, Norges Bank (Norway), Bank of Canada, and Bank of Japan, and some have done so for many years.

Importance of Reserve Requirements Varies in Relation to the Operating Procedures Used to Implement Monetary Policy

While central banks generally view reserve requirements as an important monetary policy tool, changes to reserve requirement ratios are seldom used in the day-to-day operations employed by a central bank to achieve monetary policy objectives. This is largely because direct manipulation of reserve requirements is a less efficient way for a central bank to influence economic activity relative to the other tools at its disposal, such as open market operations. Additionally, changes to reserve requirement ratios can significantly affect a depository institution's operations. However, reserve requirements have played an important role in the implementation of monetary policy, principally facilitating various operating procedures and supporting open market operations by creating a predictable demand for reserves. Operating procedures refer to the day-to-day policy actions, or tactics, a central bank employs to achieve its long-run monetary policy objectives, including technical measures and administrative activities.[112] The key component of an operating procedure is the central bank's operating target, which can be a price (short-term interest rate) or a quantity (reserves) target. For example, when a central bank uses

[111]See Donald H. Dutkowsky and David D. VanHoose, "Interest on Reserves and Optimal Sweeping," *Journal of Banking and Finance*, vol. 35, no. 9 (September 2011); and David D. VanHoose, "Interest on Reserves: Implications for Banking and Policymaking," Policy Brief, Indiana State University Networks Financial Institute No. 2008-PB-05 (May 2008).

[112]In the United States, the Federal Reserve is required by section 2A of the Federal Reserve Act to conduct monetary policy in such a way as to promote the long-run objectives of price stability and full employment. See 12 U.S.C. § 225a. Because price stability and full employment involve several factors outside of the direct control of the central bank, it may attempt to influence them through intermediate targets. These intermediate targets, which can include medium and long-term interest rates, exchange rates, and money supply measures, are considered to be closely related to prices and employment but are themselves difficult to control in the short run. As a result, central banks establish operating procedures to provide the day-to-day control of variables they can more directly control through the various monetary policy tools at their disposal.

monetary policy tools to target interest rates, it is said to be employing an interest rate operating procedure.

The importance of reserve requirements varies in relation to the operating procedure used to implement monetary policy objectives. For example, a reserve operating procedure—which most central banks moved away from decades ago—depends on having control over the supply of money. Reserve requirements played a role in controlling such growth when these procedures were in place (see table 6). When a reserves-based operating procedure is in place, control over the money supply suffers when reserve requirements are lowered.[113] Most central banks in developed countries abandoned these approaches by the early 1980s for interest rate-based operating procedures—a common approach to monetary policy that involves targeting the level of a short-term interest rate to achieve policy objectives. For example, the Federal Reserve transitioned to targeting an interest rate (federal funds rate) roughly by 1984.[114] The movement away from reserves operating procedures and the adoption of interest rate targeting approaches has allowed some central banks to reduce their reliance on reserve requirements and eliminate them in some instances.

[113]According to a FOMC Secretariat memo the reserve requirement framework in the U.S. (before the payment of interest on reserves) was partly a legacy of the reserves-based operating procedure in place during the 1979-1982 period.

[114]The exact date of the transition is unclear as FOMC switched to a funds rate targeting procedure but never formally announced the change. One review of the verbatim transcripts suggested that FOMC effectively switched to a funds rate targeting procedure in 1982. See D. Thornton, "When Did the FOMC Begin Targeting the Federal Funds Rate? What the Verbatim Transcripts Tell Us," Working Paper 2004-015B, Federal Reserve Bank of St. Louis (May 2005).

Table 6: Illustrative Analysis of the Importance of Reserve Requirements across Monetary Policy Operating Procedures

	Reserves operating procedure[a]	Interest rate operating procedures	
		Single target approach	Corridor approach
Targets and tools used	Reserves target achieved through open market operations; monetary policy goals achieved by exploiting the direct link between reserves and the money supply. Most central banks no longer adopt approaches that involve targeting reserves.	Interest rate target achieved through the announcement of the target rate and open market operations; central bank varies supply of reserves to meet demand at a targeted rate of interest.	Interest rate target bounded by central bank lending facilities at the upper bound and deposit facilities (payment of interest on reserves) at the lower bound; approach is referred to as a "corridor" or "channel" operating procedure.[b]
Role of reserve requirements in the implementation of monetary policy	Places an upper limit on the changes in the money supply and, therefore, is critical for establishing control over the money supply.	Important for establishing a stable and predictable demand for reserves for open market operations (adjustments of the supply of reserves to achieve a given interest rate target).[c]	Can be useful for the conduct of monetary policy but other tools can be used in the absence of reserve requirements.
Implications of a low or zero reserve requirement on monetary policy	The lower reserve requirements are, the more monetary control is reduced; monetary policy is less predictable and forecast errors are magnified.	The demand for reserves may not be reasonably stable or predictable, making it difficult for the central bank to maintain an interest rate target by varying the supply of reserves.	Increased interest rate volatility and difficulty in achieving the interest rate target. Monetary authority can take additional actions in some cases, including conducting open market operations and measures to influence the demand for central bank balances to achieve control of short term interest rates.

Sources: GAO analysis of Board of Governors of the Federal Reserve System documents and academic literature. | GAO-17-117

[a]Assumes the intermediate target is some measure of the money supply (that is, cash and checking deposits, or broader measures that include other deposits such as savings deposits or money market mutual funds).

[b]Refers to a corridor operating framework, which is a variant of an interest rate operating procedure. In this framework, the targeted interest rate is bounded at the top by a rate of interest on central bank lending and at the bottom by a rate of interest on deposits at the central bank (interest on reserves).

[c]A stable and predictable demand for reserves informs precise adjustments of the supply of reserves.

As shown in table 6, interest rate-based operating procedures provide central bankers with more flexibility in the use of reserve requirements. In the interest rate-based operating procedure employed in the United States during 1984–2008 (single target approach), the Federal Reserve forecasted the demand for reserves, and then supplied the quantity of reserves necessary to clear the federal funds market at the interest rate target set by FOMC. For this type of operating procedure to be effective, the demand for central bank balances must be reasonably stable and

predictable.[115] Reserve requirements, by helping to establish a stable and predictable demand for such balances, ensure that changes in short-term interest rates are primarily the result of the central bank's actions to achieve a policy rate within the interest rate target range.[116] While the amount of central bank balances needed for payment and settlement purposes is determined by financial institutions' needs and can vary significantly from day to day, reserve requirements that are substantial enough—relative to other factors influencing demand—ensure that a stable and predictable level of demand for central bank balances. Therefore, reserve requirements facilitate interest-rate operating procedures and remain an important tool for establishing control over short-term interest rates.

Other central banks use alternative interest-rate operating strategies to achieve monetary policy objectives, using frameworks that place less reliance on reserve requirements or render them nonessential (see table 6, corridor approach). Central banks generally have several tools—outside of reserve requirements—that they can use to influence conditions in interbank markets. Approaches that use these tools to establish upper and lower limits on a short-term interest rate (policy rate) are referred to as "channel" or "corridor" operating frameworks. In general, fluctuations in the targeted interest rate are bounded within a "corridor" by a rate of interest on central bank lending and a rate of interest on balances held at the central bank.[117] Open market operations can also be conducted as necessary to keep the market interest rate near the target. When properly constructed and calibrated to the institutional features and financial market structures of a given economy, this "corridor" operating procedure can allow a central bank to achieve an operating target rate without the cost and administrative burdens associated with reserve requirements. Hence, the corridor operating framework can be viewed as an alternative to the required maintenance of reserves. Currently, several central banks without reserve

[115]Assuming the central bank also closely controls the supply of reserves it can anticipate and offset unwanted movements in the target rate.

[116]Balances at the Federal Reserve Banks consist of balances maintained to satisfy reserve requirements and excess balances. Some excess balances may be maintained for settlement and payment purposes. Banks may also hold balances as part of their general pool of liquid assets.

[117]In theory, no depository institution would pay any more to borrow interbank funds than the rate at which it could borrow from the central bank, and would not lend funds for less than it could get from depositing those funds at the central bank risk free.

requirements use corridor operating frameworks, including the central banks of the United Kingdom, New Zealand, Canada, Sweden and Australia and were able to achieve sufficient control over short term interest rates.[118] (See app. IV for additional details on select corridor operating frameworks used globally.) It is important to note that reserve requirements can be useful even in a corridor system as they can smooth daily shocks and be leveraged to limit volatility within the corridor without relying on daily open market operations.[119] The European Central Bank operates a corridor operating framework with reserve requirements.

Key aspects of the Federal Reserve's current monetary policy approach—which leverages its ability to pay interest on reserves—are similar to the approaches used by many central banks that operate without reserve requirements.[120] In 2008, because of the increase in the size of its balance sheet, the Federal Reserve had difficulty influencing the federal funds rate through the typical shifts in the supply of reserves, resulting in a revision in its operational framework for implementing monetary policy. The Federal Reserve's response to the financial crisis resulted in a significant expansion of its balance sheet and hundreds of billions in excess balances in the banking system. For example, at the end of 2008, balances maintained to satisfy reserve requirements amounted to $53.6 billion, while excess balances totaled $767.3 billion and by March 2016 excess balances increased to $2.4 trillion.[121] This limited the Federal Reserve's ability to achieve the target set by FOMC solely by varying the supply of reserves. Given its expanded authority

[118]See U. Bindell, "Evaluating Monetary Policy Operating Frameworks," Proceeds from Designing Resilient Monetary Policy Frameworks for the Future, Jackson Hole Economic Policy Symposium, Federal Reserve Bank of Kansas City (August 2016).

[119]Specifically reserve requirements can be imposed in such a way that incentivizes depository institutions to vary their daily holdings of central bank balances, relative to their average requirement, in a way that helps to keep the overnight interest rate on target. The process is known as reserve averaging.

[120]While some have described the Federal Reserve's current approach as a variant of a corridor system, Federal Reserve staff noted that the operating procedure in place includes a number of policy tools such as traditional open market operations, large-scale asset purchases, overnight reverse repurchase agreements, and forward guidance. Forward guidance refers to central bank communications to the public about the state of the economy, economic outlook, and likely future course of monetary policy.

[121]As a result of the size of the Federal Reserve's balance sheet, reserve requirements are currently nonbinding—meaning most depository institutions hold reserves in excess of their reserve requirement. In contrast, in 2007, required reserves averaged $43 billion while excess reserves averaged just 1.9 billion.

granted in 2008, the Federal Reserve was able to use the rate of interest on reserves, with support from other monetary policy tools, to help establish a lower bound on the federal funds rate to keep it closer to FOMC's target.[122] This approach allowed the Federal Reserve to expand its balance sheet to promote financial stability while maintaining control over the federal funds rate. While the Federal Reserve's revised operational approach leverages the tools used by central banks operating without reserve requirements, it was designed specifically to enhance its control over the federal funds rate within a framework using reserve requirements. (See app. IV for more information on the current operational framework in the United States.)

Conduct of Monetary Policy in an Environment of Low or Zero Reserve Requirements Raises a Number of Issues

Implementing monetary policy without reserve requirements raises a number of structural, operational, and technical issues, in cases in which the operational approach (corridor operating approach) theoretically allows for such an implementation, as the following examples illustrate.

- Because of the unique features of the U.S. financial system, it is unclear that the practices used by other countries would translate to the United States. Specifically, the unique structure and size of U.S. financial markets—characterized by a large number of depository institutions and by important nondepository institutions that account for a large share of credit intermediation—would influence the structure of a corridor operating approach in the United States. For example, while operating without reserve requirements would likely require the payment of interest on reserves to influence market behavior, some important nondepository participants in the federal funds market are not eligible to receive interest on reserves. Therefore, as discussed below, a corridor operating approach in the United States could be more challenging to achieve and would need to be structured to account for nondepository institution activity in the short-term funding markets.[123]

[122] In effect, paying interest on reserves places a floor on the federal funds rate since depository institutions have little incentive to lend in the federal funds market at rates below the interest rate on reserves. As a result, observers have characterized the Federal Reserve's operating approach as a "floor system" or a "floor variant of the corridor system." See, for example, Stephen D. Williamson, "Interest on Reserves, Interbank Lending, and Monetary Policy," Working Paper 2015-24A, Federal Reserve Bank of St. Louis (September 2015).

[123] The federal funds market plays a crucial role in monetary policy implementation because it is where the Federal Reserve intervenes to pursue its policy objectives. This section assumes this would be the case going forward.

- Moreover, eliminating reserve requirements and the infrastructure for their implementation would result in less flexibility for changing operating approaches (such as approaches that rely on scarce reserves and calibrated open market operations) should a central bank find such approach desirable. Also, the federal funds market could be significantly affected and could experience illiquidity in some economic environments, which could complicate monetary policy approaches reliant on federal funds rate targeting.
- Eliminating reserve requirements could require more joint decision making between FOMC and the Board of Governors. FOMC determines the direction of monetary policy, but by statute, the Board of Governors has the authority to set the rate for interest on reserves, which is critical to the corridor operating approach. Federal Reserve staff noted that FOMC and the Board of Governors cooperate closely in all aspects of the conduct of monetary policy, which effectively eliminates any coordination concerns.
- A number of operational and technical issues would emerge in a zero reserve requirement environment, particularly if balances in the banking system were scarce or if excess balances consisted largely of payment and clearance balances (funds used to make payments to other banks). When reserve requirements are set at zero or so low that they are nonbinding on the behavior of depository institutions, central bank balances will be maintained to make payments, settle and clear transactions, and meet liquidity needs.[124] While central banks can still influence short-term interest rates in such an environment, balances held for these purposes are behaviorally different than balances maintained to satisfy reserve requirements and can be less stable and predictable and potentially less sensitive to interest rates. All else equal, in the absence of the payment of interest on reserves, these factors would result in greater volatility of short-term interest rates, underscoring the importance of the payment of interest on reserves in any framework with low or zero reserve requirements. Also, the experiences of foreign countries relying on settlement balances to implement monetary policy suggest the

[124]Reserve requirements are binding if an institution is forced to hold more reserve balances than it would hold exclusively for payment and settlement purposes.

structure of the payment system can become more important in the conduct of monetary policy.[125]

The implementation of monetary policy in an environment of low or zero reserve requirements raises particular concerns about potential short-term interest rate volatility.[126] A key objective in an interest rate targeting procedure—which includes corridor operating approaches—is to limit the volatility of the interest rate around the targeted level because of the cost associated with the signals it sends to market participants about the ability of the central bank to achieve its target. A relatively stable overnight interest rate (e.g., federal funds rate) enhances monetary policy transmission and transparency and maximizes a central bank's influence on market expectations. If the experiences of other central banks are a guide, the absence of reserve requirements would likely involve implementing or retaining one or more of the following actions or structures to limit interest volatility and better ensure the effectiveness of a corridor operating framework:[127]

- **Large central bank balances even in normal times.** One way to limit interest rate volatility is to set the interest paid on reserves near or equal to the target rate and supply sufficient reserves to match demand at a level consistent with monetary policy objectives. This variant of the corridor operating framework is referred to as a "floor system"[128] (or asymmetric corridor) and is used by the Reserve Bank of New Zealand and several others. Nevertheless, this may require a

[125]See Gordon H. Sellon and Stuart E. Weiner, "Monetary Policy without Reserve Requirements: Analytical Issues," Economic Review, quarter IV (Federal Reserve Bank of Kansas City: 1996); and Gordon H. Sellon and Stuart E. Weiner, "Monetary Policy Without Reserve Requirements: Case Studies and Options for the United States," *Economic Review*, quarter II (Federal Reserve Bank of Kansas City: 1997).

[126]However, according to recent research presented at the economic symposium in Jackson Hole, Wyoming, several countries have operated corridors with no reserve requirements and daily open market operations and "were able to achieve similar or even better control of short-term interest rates." See U. Bindseil (2016).

[127]See Federal Open Market Committee Secretariat, *Interest on Reserves: A Preliminary Analysis of Basic Options* (Washington, D.C.: 2008), authorized for public release May 2015; George A. Kahn, "Monetary Policy Under a Corridor Operating Framework," *Economic Review*, quarter IV (Federal Reserve Bank of Kansas City: 2010); Gordon H. Sellon and Stuart E. Weiner (1996); and Gordon H. Sellon and Stuart E. Weiner (1997).

[128]This approach is referred to as a "floor system" because the Central Bank supplies sufficient reserves to drive the market interest rate down to the floor of the corridor, typically the interest rate on reserves held at the central bank.

larger Federal Reserve balance sheet than might otherwise exist with the current mandatory reserve requirements framework.

- **Standing facilities serving depository and nondepository institutions.** Having Federal Reserve facilities that are available to a broad array of financial institutions would be important for avoiding cases in which the federal funds rate can fluctuate outside of the established corridor. FSRRA (which amended the Federal Reserve Act) did not authorize the payment of interest on reserves to nondepository participants, such as the government-sponsored enterprises (GSEs), in the federal funds market.[129] Because GSEs do not receive interest on their reserves held at Federal Reserve Banks, they are willing to lend their balances at rates below the interest rate paid on reserves. As a result, transactions by entities such as GSEs may have contributed to the federal funds rates falling below the interest rate on reserves, which in a corridor approach is designed to contain the federal funds rate from below. To help control the federal funds rate and keep it in the target range set by FOMC, the Federal Reserve established a supplementary tool—the overnight reverse repurchase agreement facility. The facility is available to an expanded list of counterparties, which limits the incentives for GSEs and other qualified institutions to lend funds at rates less than the Federal Reserve's overnight reverse repurchase agreement rate. Therefore, the interest rate offered in reverse repurchase agreements is set lower than the interest on reserves and helps establish a floor for the federal funds rate.
- **More frequent market intervention.** Depending on the type of the corridor operating system in place and the tolerance for interest rate volatility, open market operations may be needed at higher frequencies and in larger magnitudes to steer the market interest rate to the targeted rate.
- **Policies to reduce any perceived stigma associated with borrowing from the discount window.** Because of the perceived stigma associated with using the discount window, the federal funds rate might not be effectively bounded from above by the discount rate in a corridor system. The reluctance by institutions to use the discount window is driven by institutions' fears that such borrowing would

[129]Given the participation of nonbanks in the federal funds market, it is not a pure interbank market.

signal financial weakness to financial markets.[130] As a result, banks might be willing to borrow elsewhere at rates outside of the targeted range, contributing to interest rate volatility.

Alternative Operating Frameworks Involving Reduced or Zero Reserve Requirements

International experiences with a wide range of reserve requirement frameworks and the challenges associated with them illustrate that consensus has not emerged on what constitutes the optimal role of reserve requirements in monetary policy implementation. The corridor operating frameworks employed in other countries theoretically would allow for the simplification or elimination of reserve requirements and therefore some of the cost associated with them, including a central bank's administrative overhead.[131] However, determining the ideal reserve requirement framework in the United States is ultimately a monetary policy decision and we take no position on the suitability of the frameworks presented for the United States.[132]

For illustrative purposes only, we differentiated a few reserve requirement frameworks, focusing narrowly on the main cost and administrative burdens associated with each and the implications for monetary policy (see table 7). The examples are informed by the experiences of several foreign central banks and the analysis conducted by the Federal Reserve prior to the adoption of the payment of interest on reserve balances. In response to the authorities granted by FSRRA to pay interest on reserves and reduce transaction account reserve requirements to zero in 2008, the Federal Reserve began studying a broader range of options to achieve monetary policy objectives.[133] FOMC meeting minutes of July 2015 indicated that the Federal Reserve would be evaluating potential long-run.

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[130]The Dodd-Frank Wall Street Reform and Consumer Protection Act requires the disclosure of details of loans made under traditional discount window programs, but it is unclear how this transparency will affect any stigma associated with the use of the discount facility. See Pub. L. No. 111-203, § 1103, 124 Stat. 1376, 2118-20 (2010).

[131]The Federal Reserve also incurs a cost in administering reserve requirements and monitoring depository institutions' compliance with reserve requirements and reporting requirements, including the appropriate reporting of deposits classified as either transaction accounts or savings deposits.

[132]As a result, these are important monetary policy decisions that go beyond the scope of this report and GAO's mandate and authority.

[133]See Board of Governors of the Federal Reserve System, *Interest on Reserves: A Preliminary Analysis of Basic Options* (Washington, D.C.: April 2008), authorized for public release on May 6, 2015.

implementation frameworks for monetary policy and would be considering a wider range of issues than those considered in 2008.[134]

Table 7: Reserve Requirements Frameworks

	Options	Mechanisms to distinguish accounts (e.g. six-transaction limit)?	Implicit Tax on Institutions?	Administrative Burdens on Institutions?	Administrative Burdens on Central Bank?	Monetary Policy Implications
A	Reserve requirements on transaction accounts only	Required	Yes	Yes	Yes	Flexibility to use various interest rate and reserve operating procedures
B	Reserve requirements on transaction accounts only; interest paid on reserves	Required	Can be reduced or eliminated	Yes	Yes	Flexibility to use various interest rate and reserve operating procedures
C	Reserve requirements (low) on all accounts; interest paid on reserves	Not required	Can be reduced or eliminated	Yes, but partially reduced	Yes	Flexibility to use various interest rate and reserve operating procedures.
D	Zero requirements: voluntary reserve obligations; interest paid on reserves	Not required	Can be reduced or eliminated	Reduced	Potentially reduced	Flexibility to use various interest rate and reserve operating procedures but complications could arise if banks in aggregate set low balance targets
E	Reserve requirements set to zero reserve requirement or no reserve requirements	Not required	Eliminated	Reduced	Reduced	Would restrict monetary policy to an interest rate operating procedure, specifically corridor operating frameworks; requires the payment of interest on reserves and a higher tolerance for interest rate volatility or additional actions required to address complications

Sources: GAO analysis of the Board of Governors of the Federal Reserve System and academic literature. | GAO-17-117

[134]In August 2016 the Federal Reserve Bank of Kansas City hosted its annual economic policy symposium in Jackson Hole, Wyoming, which brings together central bankers, policymakers, economist and others to discuss issues pertinent to central banking. The 2016 theme was "Designing Resilient Monetary Policy Frameworks for the Future."

Note: Options involving the payment of interest on reserves assume reserves are remunerated at rates which, at least partly, reduce the opportunity cost of holding reserves. In the case of the United States, Option C is currently not permitted by the Federal Reserve Act.

Key features of the alternative frameworks (B through E in table 7) are the remuneration of reserves (payment of interest on reserves) or the elimination of reserve requirements. While the ability to lower or eliminate reserve requirements ultimately depends on the monetary policy strategy pursued by the central bank, the alternatives include:

- **Reserve requirements on transaction accounts only, with payment of interest on reserves.** Because reserves are required on transaction accounts only, this approach includes a reliance on distinguishing between accounts (e.g., with the six-transaction limit for savings deposits in the United States). This approach retains some of the costs and burdens associated with reserve requirements, but it reduces or eliminates the implicit reserves tax (through the payment of interest on balances held at Reserve Banks).
- **Lower reserve requirements on all accounts, with interest on reserves.** This approach introduces administrative simplicity by eliminating the need to distinguish between transaction accounts and savings deposits and reduces the implicit reserves tax (through the payment of interest on reserves) and the associated burdens on depository institutions and the central bank.[135] The European Central Bank has used this framework with a corridor operating procedure for monetary policy implementation.[136] In the United States, this option would require legislative change as the Federal Reserve Act authorizes the Board of Governors to impose reserve requirements on transaction accounts, nonpersonal time deposits and Eurocurrency liabilities only.
- **Zero reserve requirements, with voluntary reserves obligations.** While reserves are not required, depository institutions would be allowed to set their own reserve targets—receiving a higher rate of interest on balances held to meet that target—and penalized for failing to meet them. This framework would be less burdensome on depository institutions than one requiring reserves such as in the

[135]The Federal Reserve would still need to collect deposit data, calculate reserve requirements, and monitor the balances maintained to satisfy reserve requirements.

[136]A key distinction is that a broader set of financial institutions—referred to as credit institutions—are subject to minimum reserve requirements in the European Union.

United States since it would eliminate the need for some administrative reports and the monitoring of deposits for compliance with the six-transaction limit. The central bank's administrative overhead could decline as well, although it would still need to monitor reserve targets and balances, and maintain corresponding systems. This option approximates the approach that has been employed by the Bank of England (with a corridor operating procedure for monetary policy implementation).

- **Zero reserve requirements.** Regulation D's definitions that define reserveable liabilities for reserve requirements purposes in the United States would not be needed and all costs and administrative burdens associated with reserve requirements would be eliminated. Some provisions of Regulation D relating to deposit reporting, however, would likely still be necessary, together with any deposit definitions necessary to support the reporting of different kinds of deposits, to continue to permit construction of the monetary aggregates. In cases we reviewed in which central banks implemented monetary policy without reserve requirements, corridor operating frameworks were used to achieve monetary policy objectives. To the extent that reserve requirements place significant burdens on banks and central banks, eliminating reserve requirements and employing a corridor operating approach appear to be feasible alternatives in these select cases. However, the feasibility of this approach in the United States is an open question. (See discussion above on operational and technical issues that could emerge in such an environment.)

As a benchmark comparison, table 7 also includes the reserve requirement framework in place in the United States before October 2008 (framework A) in which the six-transaction limit is necessary and interest is not paid on reserves. It is the most administratively burdensome of the reserve requirement regimes illustrated. In contrast, options C, D, and E, result in cost and burden reductions for both depository institutions and the central bank.[137]

However, the approaches described have important implications for the implementation of monetary policy—which is the only authorized rationale for reserve requirements in the United States under the Federal Reserve Act. As a result, the ability to minimize the cost and administrative

[137] In the United States, some costs associated would invariably remain—such as those related to deposit reporting. These data are necessary for constructing the monetary aggregates (i.e., M1 and M2) monitored by the Federal Reserve for the conduct of monetary policy.

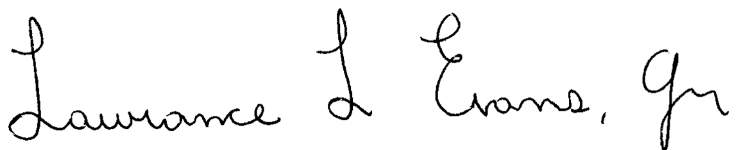
burdens associated with reserve requirements is ultimately constrained by the monetary policy consequences of these changes.

Agency Comments and Our Evaluation

We provided a draft of this report for review and comment to the Board of Governors of the Federal Reserve System (Board of Governors), the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), and the Consumer Financial Protection Bureau. The Board of Governors, OCC and FDIC provided technical comments, which we incorporated into the report as appropriate. We received formal comments from NCUA that are reprinted in app. V. NCUA recognized the complexities to changing the current reserve requirement framework and the potential impact on implementing monetary policy. CFPB did not provide comments on a draft of this report.

As agreed with your offices, 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 Board of Governors, OCC, FDIC, NCUA and interested congressional committees and members. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.This report is also available at no charge on our 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. Key contributors to this report are listed in appendix VI.



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Appendix I: Objectives, Scope, and Methodology

The objectives of this report were to examine: (1) the purpose of reserve requirements and Regulation D;[1] (2) how depository institutions implement Regulation D's requirements and the effect of the regulation on operations; (3) the effect on customers of the Regulation D transaction limit on certain transfers and withdrawals from savings deposits; and (4) foreign central banks' varying dependence on reserve requirements and the monetary policy implications. We did not include within our scope an assessment of depository institutions' compliance with Regulation D. For the purposes of this report, we define depository institutions as commercial and savings banks (banks) and credit unions that offer at least one type of deposit product (savings deposits, including savings accounts and money market deposit accounts, or checking transaction accounts).

To address our first objective, we reviewed relevant statutes, Regulation D, and agency publications as well as interviewed officials from the Board of Governors of the Federal Reserve System (Federal Reserve). To address our second objective, we surveyed a generalizable sample of depository institutions in the United States. We identified a population of 12,135 depository institutions that we defined as subject to Regulation D's requirements in 2015; that is, those that offered transaction accounts, savings deposits, or both. (See app. II for aggregate results of responses to the closed-ended questions on our survey.) To address our third objective, we reviewed consumer complaint data from the federal financial regulators: the banking regulators—Federal Reserve, Office of the Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation (FDIC), and National Credit Union Administration (NCUA)—and the Bureau of Consumer Financial Protection, also known as the Consumer Financial Protection Bureau (CFPB), for 2010 to 2015 and interviewed agency officials. We supplemented and corroborated these data with responses to our survey of depository institutions.[2] In addition, we reviewed our reports on financial literacy and consumer protection.[3]

[1]See 12 C.F.R. pt. 204.

[2]We did not survey depository institutions' customers themselves, but in our survey of depository institutions, we asked banks and credit unions about the effect of enforcing the transaction limit on their customers.

[3]See GAO, *Financial Literacy: Overview of federal Activities, Programs and Challenges*, GAO-14-556T (Washington, D.C.: Apr. 30, 2014); *Financial Literacy: The Role of the Workplace*, GAO-15-639SP (Washington, D.C.: July 7, 2015); and *U.S. Savings Bonds: Future of Offering Paper Savings bonds at Tax Time Is Uncertain, and Lower-Income Households Continue to Face Savings challenges*, GAO-15-563 (Washington, D.C.: July 16, 2015).

For our second and third objectives, we also interviewed agency officials and selected representatives from 10 depository institutions that included banks and credit unions of different sizes, industry associations (the National Association of Federal Credit Unions, Credit Union National Association, American Bankers Association, Consumer Bankers Association, and Independent Community Bankers of America), a consumer advocacy group (U.S. Public Interest Research Group), and a financial services technology firm (CetoLogic). We selected banks and credit unions to obtain variation in size and institution type, and we interviewed industry associations that were nationally representative of depository institutions or consumers or had a national focus. Finally, to examine foreign central banks' varying dependence on reserve requirements and the monetary policy implications, we reviewed academic literature and Federal Reserve publications on the role of reserve requirements and other tools in conducting monetary policy, recent innovations in the conduct of monetary policy that may change that role, and other developed countries' approaches to implementing monetary policy. We also interviewed Federal Reserve officials and other experts on monetary policy.

We determined that the total deposit account balances and the consumer complaint data used in our analysis were sufficiently reliable for the purposes of our reporting objectives. All dollar values for account balances are nominal (unadjusted for inflation). Our data reliability assessment included reviewing relevant documentation, conducting interviews with knowledgeable officials at the Federal Reserve, FDIC, OCC, NCUA, and CFPB, and conducting electronic testing of the data to identify obvious errors or outliers.

Methodology for Survey of Depository Institutions

Interviews with Selected Depository Institutions

To inform our methodology approach and our survey development, we conducted interviews with representatives from five selected depository institutions. From these interviews, we gathered information on depository institutions' experiences implementing Regulation D's requirements, including methods used to implement Regulation D's requirements and how the methods affect their operations and customers, if at all. We

selected institutions to obtain variation in asset size (small and large) and type of institution (bank, credit union, and online depository institution). We interviewed representatives from a small credit union, a large credit union, a small bank, a large bank, and an online bank.

National Survey of Depository Institutions

Overview

To obtain information on how depository institutions implement Regulation D's requirements and the effect on their operations and customers, we administered a web-based survey to a nationally representative sample of banks and credit unions. In the survey, we asked banks and credit unions about their approach to implementing reserve requirements, their Regulation D monitoring and enforcement methods, and the effect of monitoring and enforcement methods on their operations and customers. Due to insufficient sample sizes, we were not able to report results by all subpopulations. We administered the survey from December 2015 to February 2016. Aggregate responses for all close-ended questions from the survey are included in appendix II. The practical difficulties of conducting any survey may introduce errors, commonly referred to as nonsampling errors. For example, difficulties in interpreting a particular question or sources of information available to respondents can introduce unwanted variability into the survey results. We took steps in developing the questionnaire, collecting the data, and analyzing the results to minimize such nonsampling error (see below).

Sample Frame and Selection of Banks and Credit Unions

We identified the population of depository institutions that we defined as subject to Regulation D's requirements using Reports of Condition and Income (call report) data for second quarter 2015 from the Federal Financial Institutions Examination Council (FFIEC), FDIC's Statistics on Depository Institutions (SDI), and NCUA. FFIEC was our primary source for bank and thrift call report data because it includes all call report fields, such as information on the fraction of deposits in accounts intended primarily for individuals or households. FFIEC data are also released more quickly than SDI data and therefore had the most current data at the time of our sample selection (second quarter 2015). We did, however, use bank demographic data from SDI (as of first quarter 2015) since this information was not available in the FFIEC data. NCUA was our sole source of data on credit unions.

FFIEC compiles call report data for FDIC-insured institutions that includes all of the call report fields. The FFIEC data do not have information about the institutions' charter classification and their regulator. SDI reports data on a subset of call report fields and includes demographic data on institutions. These data include information on the bank holding company, primary regulator, and bank charter classification. There is also data on the primary specialization of the institution and whether it has trust powers, is organized as a Subchapter S corporation, or is a Mutual Association.

We used the call report data from FFIEC and merged onto it the demographic data provided by SDI, in order to create the initial sample frame of FDIC-insured institutions. When building the dataset, FFIEC's most recent quarter was second quarter 2015 (2015Q2), but SDI's was first quarter 2015 (2015Q1). Therefore, we used the 2015Q2 data for FFIEC and we pulled forward the demographic data from SDI. The most recent NCUA data on credit unions were from 2015Q1. We added the NCUA data to the rest of the call report data as completely as was feasible. Finally, we added to the data on depository institutions the Federal Reserve's tranche cut-offs.

Our initial population list contained a total of 12,135 depository institutions that we defined as subject to Regulation D's requirements. We stratified the population using two design variables—one for the type of depository institution and the other for the level of required reserves ratio. The depository institution variable had two levels (bank and credit union) while the required reserves ratio variable had four levels (nonreporter, 0 percent required reserves ratio, 3 percent required reserves ratio, and 10 percent required reserves ratio). This resulted in 8 sampling strata. Our initial sample size allocation was designed to achieve a margin of error no greater than plus or minus 10 percentage points for an attribute level at the 95 percent level of confidence. Before and during the administration of our survey, we identified a total of 52 depository institutions that were either no longer in business or that had been bought and acquired by another depository institution. We treated these sample cases as out-of-scope; this adjusted our final sample size to 892. We obtained an unweighted survey response rate of 71 percent.

Because we followed a probability procedure based on random selections, our sample is only one of a large number of samples that we might have drawn. Since each sample could have provided different estimates, we express our confidence in the precision of our particular sample's results as a 95 percent confidence interval (e.g., plus or minus 7

percentage points). This is the interval that would contain the actual population value for 95 percent of the samples we could have drawn. Confidence intervals are provided along with each sample estimate in the report. All survey results presented in the body of this report are generalizable to the estimated population of 11,953 in-scope depository institutions, except where otherwise noted.

Survey Development and Administration

To inform the development of our survey instrument, we met with individual banks and credit unions. We conducted 11 pretests with 8 banks and credit unions to ensure that survey questions were clear, to obtain any suggestions for clarification, and to determine whether representatives would be able to provide responses to questions with minimal burden. We also interviewed the federal banking regulators—the Federal Reserve, FDIC, OCC, and NCUA—as well as bank and credit union associations to obtain their perspectives on depository institutions' experience with Regulation D.

To encourage survey participation, we conducted pre-administration notification and followed up with depository institutions. Before administering the survey, we obtained contact information (phone numbers and e-mail addresses) for the sample of depository institutions from their primary regulators. We then sent notification e-mails to these institutions, and for those whose e-mails were undeliverable, we called representatives to correct the e-mail addresses and confirm the points of contact. During survey administration, we called sampled institutions that had not completed the survey (nonrespondents) to update their contact information, answer any questions or concerns they had about taking the survey, and obtain their commitment to take the survey. We also sent e-mails and letters to nonrespondents with instructions for taking the web-based survey.

We conducted this performance audit from February 2015 to October 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: Estimates from GAO Survey of Depository Institutions on Regulation D

From December 2015 through February 2016, we administered a web-based survey to a nationally representative sample of banks and credit unions. The survey included questions on (1) the implementation of reserve requirements; (2) Regulation D monitoring and compliance; (3) actions banks and credit unions take when the transaction limit is reached; and (4) impact on banks' and credit unions' operations and customers. All survey results presented in this appendix are generalizable to the population of depository institutions, except where otherwise noted. We received valid responses from 71 percent of our sample. Because our estimates are from a generalizable sample, we express our confidence in the precision of our particular estimates as 95 percent confidence intervals. The questions we asked in our survey of depository institutions are shown below. Our survey was comprised of closed- and open-ended questions. In this appendix, we include all survey questions and aggregate results of responses to the closed-ended questions; we do not provide information on responses provided to the open-ended questions. For the purposes of the survey, we use nontransaction account(s) to refer to deposits that are not transaction accounts[1] For a more detailed discussion of our survey methodology, see appendix I.

Implementation of Reserve Requirements

Table 8: Does your institution enforce the Regulation D six-transaction limit? (Question 1)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes, we enforce the six-transaction limit on all of the nontransaction accounts that we offer (savings and money market).	73.9	70.3	77.5
Yes, we enforce the six-transaction limit on one type of nontransaction account (savings or money market, but not both).	8.6	6.2	11.6

[1]See the Board of Governors of the Federal Reserve System Division of Banking Supervision and Regulation, Commercial Bank Examination Manual, (Washington, D.C.: Apr 2016). Neither the Federal Reserve Act nor Regulation D uses the term "nontransaction account(s)."

No, we employ strategies in order to exempt customers from the six-transaction limit	4.8	3.2	6.9
No, we are not required to hold reserves and we do not enforce the six-transaction limit.	12.7	10.2	15.2
	All Banks		
Yes, we enforce the six-transaction limit on all of the nontransaction accounts that we offer (savings and money market).	89.3	84.0	93.3
Yes, we enforce the six-transaction limit on one type of nontransaction account (savings or money market, but not both).	8.4	4.7	13.6
No, we employ strategies in order to exempt customers from the six-transaction limit	1.3	0.2	3.9
No, we are not required to hold reserves and we do not enforce the six-transaction limit.	1.1	0.2	3.1
	All Credit Unions		
Yes, we enforce the six-transaction limit on all of the nontransaction accounts that we offer (savings and money market).	59.1	53.5	64.8
Yes, we enforce the six-transaction limit on one type of nontransaction account (savings or money market, but not both).	8.8	5.9	12.6
No, we employ strategies in order to exempt customers from the six-transaction limit	8.3	5.4	12.0
No, we are not required to hold reserves and we do not enforce the six-transaction limit.	23.8	18.9	28.7

Source: GAO | GAO-17-117

Note: Institutions that responded “No, we are not required to hold reserves and we do not enforce the six-transaction limit” to question 1 skipped to the end of the survey and were not asked questions 2 to 23.

Table 9: Do you currently use a retail sweeps/deposit reclassification program to sweep funds from nontransaction accounts to transaction accounts to exempt customers from the six-transaction limit of Regulation D? (Question 2)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	16.0	8.2	27.0
No	84.0	73.0	91.8
		All Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
		All Credit Unions	
Yes	12.9	5.9	23.6
No	87.1	76.4	94.1

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points. This question was only asked to institutions that responded in question 1 that either “Yes, we enforce the six-transaction limit on one type of nontransaction account (savings or money market, but not both)” or “No, we employ strategies in order to exempt customers from the six-transaction limit”.

At the time you implemented the retail sweeps/deposit reclassification program to exempt customers from the Regulation D six-transaction limit, which factors did you consider? (Question 2A)

a. High interest rate environment

b. Low interest rate environment

c. Level of net transaction (checking) account balances (e.g., balances are low enough that holding additional reserves does not move you into the 10% required reserve tranche)

d. Customer feedback about the six-transaction limit

e. Other

All the percentage estimates for this question are not reliable. This question was only asked to institutions that responded “Yes” to question 2.

Do you use a retail sweeps/deposit reclassification program to exempt customers from the Regulation D six-transaction limit for all the nontransaction (savings and money market) accounts that you offer? (Question 2B)

1. Yes (skip to question 24)
2. No

All the percentage estimates for this question are not reliable. This question was only asked to institutions that responded “Yes” to question 2.

Table 10: Do you currently voluntarily hold reserves to exempt customers from the six-transaction limit of Regulation D for the nontransaction accounts that you offer? (Question 3)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes, for savings accounts only	16.5	8.6	27.5
Yes, for money market accounts only	1.9	0.1	9.8
Yes, for both savings and money market accounts	2.8	0.4	8.9
No	78.8	67.4	87.7
			Banks
Yes, for savings accounts only	n/r	n/r	n/r
Yes, for money market accounts only	0.0	0.0	11.7
Yes, for both savings and money market accounts	0.0	0.0	11.7
No	n/r	n/r	n/r
		Credit Unions	
Yes, for savings accounts only	18.3	9.2	31.0
Yes, for money market accounts only	2.9	0.1	14.7
Yes, for both savings and money market accounts	4.4	0.8	12.9
No	74.5	60.7	85.4

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points. This question was only asked to institutions that responded in question 1 that either “Yes, we enforce the six-transaction limit on one type of nontransaction account (savings or money market, but not both)” or “No, we employ strategies in order to exempt customers from the six-transaction limit”.

At the time you implemented the strategy of voluntarily holding reserves against nontransaction (savings and money market) accounts, which of the following factors did you consider in that decision? (Question 3A)

a. High interest rate environment

b. Low interest rate environment

c. Level of net transaction (checking) account balances (e.g., balances are low enough that holding additional reserves does not move you into the 10% required reserve tranche)

d. Customer feedback about the six-transaction limit

e. Federal Reserve decision to pay interest on reserves

f. Other

All the percentage estimates for this question are not reliable. This question was only asked to institutions that responded to any of the "Yes" options in question 3.

Do you voluntarily hold reserves against all of the nontransaction (savings and money market) accounts that you offer to exempt customers from the Regulation D six-transaction limit? (Question 3B)

1. Yes (skip to question 24)
2. No

All the percentage estimates for this question are not reliable. This question was only asked to institutions that responded to any of the "Yes" options in question 3.

Table 11: Do you currently use a retail sweeps/deposit reclassification program to sweep funds from transaction accounts to reduce transaction account reserves? (Question 4)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	9.2	6.6	12.5
No	90.8	87.5	93.4
		Banks	
Yes	14.6	10.1	20.2
No	85.4	79.8	89.9
		Credit Unions	
Yes	2.3	0.8	4.8
No	97.7	95.2	99.2

Source: GAO | GAO-17-117

Table 12-14 presents estimates for question 4A: At the time you implemented the retail sweeps/deposit reclassification program to reduce transaction account reserves, which factors did you consider in that decision?

Note: This question was only asked to institutions that responded “Yes” in question 4.

Table 12: High interest rate environment (question 4A)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	16.6	7.0	31.2
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	

Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points. The "Yes" and "No" estimates for all depository institutions as well as all estimates for banks and all estimates for credit unions are not reliable for this question.

Table 13: Level of transaction (checking) account balances (e.g., balances grow into a higher required reserve tranche) (question 4A)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	90.2	78.2	96.8
No	2.0	0.1	10.4
Unsure	7.8	1.9	19.8
		Banks	
Yes	93.1	80.4	98.7
No	1.7	0.1	13.2
Unsure	5.2	0.7	17.2
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points. All estimates for credit unions are not reliable for this question.

Table 14: Other (question 4A)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Banks	

Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
	Credit Unions		
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points. All estimates for banks and credit unions are not reliable for this question.

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Regulation D Monitoring and Compliance

Tables 15-19 present estimates for question 5: If a customer opens an account in person or online, how do you inform him/her of the Regulation D six-transaction limit?

Table 15: Provide hard-copy or online Regulation D disclosures before the account is opened (question 5a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	94.2	91.2	96.4
No	4.5	2.6	7.3
Unsure	1.3	0.4	2.9
	Banks		
Yes	96.1	92.2	98.4
No	3.5	1.3	7.5
Unsure	0.4	0.0	2.1
	Credit Unions		
Yes	91.6	86.2	95.2
No	6.0	2.9	10.7
Unsure	2.4	0.6	6.3

Source: GAO | GAO-17-117

Table 16: Email Regulation D disclosures after account is opened (question 5b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	11.1	7.6	15.4
No	86.3	81.4	90.2
Unsure	2.7	1.0	5.7
			Banks
Yes	4.1	1.3	9.6
No	92.5	85.9	96.7
Unsure	3.3	0.8	8.9
		Credit Unions	
Yes	18.1	12.0	25.6
No	79.9	72.2	86.3
Unsure	2.0	0.4	5.8

Source: GAO | GAO-17-117

Table 17: Mail Regulation D disclosures after account is opened (question 5c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	18.8	13.9	24.5
No	80.1	74.9	85.3
Unsure	1.1	0.3	3.0
		Banks	
Yes	13.0	6.9	21.6
No	85.7	77.1	92.0
Unsure	1.4	0.2	4.9
		Credit Unions	
Yes	25.0	17.7	33.5
No	74.1	65.6	81.5
Unsure	0.9	0.1	3.7

Source: GAO | GAO-17-117

Table 18: Make a courtesy phone call (question 5d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	7.3	3.9	12.2
No	91.3	86.1	95.0
Unsure	1.4	0.2	4.6
		Banks	
Yes	4.4	1.0	12.2
No	92.8	84.4	97.5
Unsure	2.8	0.4	9.2
		Credit Unions	
Yes	10.1	5.0	17.8
No	89.9	82.2	95.0
Unsure	0.0	0.0	1.8

Source: GAO | GAO-17-117

Table 19: Other (question 5e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	15.7	10.2	22.6
No	77.3	69.8	83.6
Unsure	7.1	3.7	12.0
		Banks	
Yes	16.2	8.4	27.1
No	78.2	66.9	87.1
Unsure	5.6	1.9	12.4
		Credit Unions	
Yes	15.1	8.0	24.9
No	76.2	65.5	84.9
Unsure	87	3.6	17.0

Source: GAO | GAO-17-117

Table 20-25 present estimates for question 6: If a customer opens an account via other means (telephone, email, etc.), how do you inform him/her of the Regulation D six-transaction limit?

Table 20: Not Applicable; we do not open accounts by other means, including over the telephone or by email. (question 6)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Checked	86.6	83.6	89.6
Not Checked	13.4	10.4	16.4
		Banks	
Checked	89.5	84.8	93.1
Not Checked	10.5	6.9	15.2
		Credit Unions	
Checked	83.1	77.9	87.4
Not Checked	16.9	12.6	22.1

Source: GAO | GAO-17-117

Table 21: Email Regulation D disclosures after account is opened (question 6a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	38.2	25.0	52.8
No	57.8	44.4	71.2
Unsure	4.0	1.0	10.6
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	3.2	0.3	11.7

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 22: Mail Regulation D disclosures after account is opened (question 6b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	83.5	73.3	90.9
No	15.4	8.2	25.4
Unsure	1.1	0.0	5.8
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	2.3	0.1	16.7
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	4.5

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 23: Verbal disclosure over the phone (question 6c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	13.3	6.7	23.0
No	83.5	73.1	91.1
Unsure	3.2	0.4	10.7
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	14.8	6.6	27.1

No	85.2	72.9	93.4
Unsure	0.0	0.0	5.4

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 24: Make a courtesy phone call (question 6d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	9.6	2.6	22.8
No	88.9	75.6	96.4
Unsure	1.6	0.0	8.2
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	5.6

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 25: Other (question 6e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	11.2	3.3	25.9
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

	Credit Unions		
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 26: Which of the following methods do you use to monitor accounts for compliance with the Regulation D six-transaction limit? (Question 7)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Fully automated method using software program (in-house or through contractor)	54.8	49.9	59.7
Manual method	8.1	5.6	11.3
Use automated method for some reporting and manual method for reviewing accounts/transactions	35.6	31.0	40.3
We do not monitor accounts for compliance with the Regulation D six-transaction limit.	1.3	0.5	2.6
Other	0.1	0.0	1.0
	Banks		
Fully automated method using software program (in-house or through contractor)	41.2	34.0	48.4
Manual method	5.7	3.0	9.7
Use automated method for some reporting and manual method for reviewing accounts/transactions	52.8	45.5	60.1
We do not monitor accounts for compliance with the Regulation D six-transaction limit.	0.2	0.0	2.0
Other	0.0	0.0	1.1
	Credit Unions		

Fully automated method using software program (in-house or through contractor)	72.2	65.8	78.6
Manual method	11.2	6.9	17.0
Use automated method for some reporting and manual method for reviewing accounts/transactions	13.6	9.1	19.2
We do not monitor accounts for compliance with the Regulation D six-transaction limit.	2.7	1.1	5.5
Other	0.3	0.0	2.0

Source: GAO | GAO-17-117

Table 27: Do you notify customers of the number of transactions made before their account reaches the Regulation D six-transaction limit? (Question 8)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	9.7	7.1	12.9
No	90.3	87.1	92.9
		Banks	
Yes	7.9	4.6	12.3
No	92.1	87.7	95.4
		Credit Unions	
Yes	12.1	8.0	17.3
No	87.9	82.7	92.0

Source: GAO | GAO-17-117

Tables 28-34 present estimates for question 8A: Which of the following methods do you use to notify customers?

Note: This question was only asked to institutions that responded “Yes” in question 8.

Table 28: Mail Letter (Question 8A, a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	80.2	67.6	89.5
No	19.8	10.5	32.4
Unsure	0.0	0.0	5.0
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	11.7
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	8.4

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 29: Transactions count (tracker) provided in online account activity (Question 8A, b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	42.4	24.9	61.4
No	54.3	35.4	72.4
Unsure	3.3	0.3	12.6
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	2.7	0.1	14.2

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 30: Text alerts (question 8A, c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	5.6	0.9	16.9
No	94.4	83.1	99.1
Unsure	0.0	0.0	6.6
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	9.2

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 31: Email alerts (question 8A, d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	6.4
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	8.9

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 32: Over the phone with customer (question 8A, e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	5.7
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	14.6
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	8.9

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 33: ATM alerts (question 8A, f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	4.6	0.6	15.7
No	92.3	79.9	98.2
Unsure	3.1	0.2	13.5
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	5.5	0.5	20.4

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 34: Other (question 8A, g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	12.7	2.5	33.8
No	82.9	62.5	94.9
Unsure	4.4	0.4	16.5
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 35: Within the last 12 months, what is the approximate percentage of your combined savings and money market accounts that exceeded the Regulation D six-transaction limit in a month or during a statement cycle? (Question 9)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Less than 1%	59.2	54.3	64.2
1% to 5%	21.3	17.1	25.6
More than 5% to 10%	2.5	1.2	4.5
More than 10% to 30%	0.4	0.1	1.4
More than 30%	0.8	0.2	2.3
Unsure	15.7	12.3	19.2
		Banks	
Less than 1%	66.4	59.4	73.4
1% to 5%	23.8	17.4	30.2
More than 5% to 10%	1.4	0.3	4.1
More than 10% to 30%	0.4	0.0	2.0

More than 30%	1.2	0.2	4.1
Unsure	6.8	3.6	11.6
	Credit Unions		
Less than 1%	50.0	43.1	56.9
1% to 5%	18.2	13.3	23.9
More than 5% to 10%	3.9	1.7	7.7
More than 10% to 30%	0.4	0.0	2.1
More than 30%	0.2	0.0	2.0
Unsure	27.2	21.1	33.3

Source: GAO | GAO-17-117

Table 36: Has the percentage of savings and money market accounts that exceed the Regulation D six-transaction limit (monthly or in a statement cycle) increased, decreased or stayed about the same over the last two years? (Question 10)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Increased	14.2	10.7	18.4
Decreased	5.2	3.3	7.8
Stayed about the same	66.5	61.7	71.3
Unsure	14.1	10.8	17.8
	Banks		
Increased	15.2	10.1	21.6
Decreased	6.4	3.5	10.5
Stayed about the same	69.6	62.8	76.3
Unsure	8.8	5.2	13.8
	Credit Unions		
Increased	13.0	8.7	18.4
Decreased	3.7	1.6	7.2
Stayed about the same	62.5	55.7	69.2
Unsure	20.8	15.1	26.5

Source: GAO | GAO-17-117

Actions Your Institution Takes When the Transaction Limit is Reached

Table 37: For savings accounts, do you charge a fee when a certain number of transactions is exceeded (per month or statement cycle)? (Question 11)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
All Depository Institutions			
Yes	52.1	47.2	57.1
No	46.5	41.5	51.5
Not applicable, we do not offer savings accounts	1.4	0.6	2.8
Banks			
Yes	64.6	57.6	71.7
No	34.6	27.5	41.6
Not applicable, we do not offer savings accounts	0.8	0.01	2.7
Credit Unions			
Yes	36.3	29.5	43.2
No	61.6	54.7	68.5
Not applicable, we do not offer savings accounts	2.1	0.6	5.3

Source: GAO | GAO-17-117

Note: Institutions that responded “not applicable, we do not offer savings accounts” skipped to question14 and did not answer questions 11A through 13. Although the technically correct term to refer to transactions in this context is “transfers and withdrawals” as specified in Regulation D, we used the term “transaction(s)” on our survey, and therefore report our survey results accordingly.

Table 38: After what number of transactions (per month or statement cycle) do you charge a fee for savings accounts? (Question 11A)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
All Depository Institutions			
1 Transaction	3.2	1.0	7.5
2 Transactions	7.2	3.6	12.6
3 Transactions	17.7	12.2	24.3
4 Transactions	3.5	1.5	6.8
5 Transactions	1.4	0.2	4.4
6 Transactions	60.4	53.2	67.7

7 or More Transactions	6.7	3.5	11.4
	Banks		
1 Transaction	2.7	0.5	8.4
2 Transactions	7.0	2.8	14.0
3 Transactions	17.9	11.2	26.5
4 Transactions	1.4	0.2	4.5
5 Transactions	0.0	0.0	1.7
6 Transactions	63.1	54.1	72.0
7 or More Transactions	8.0	3.8	14.3
	Credit Unions		
1 Transaction	4.1	0.5	13.8
2 Transactions	7.9	2.3	18.6
3 Transactions	17.2	8.8	28.9
4 Transactions	8.2	2.6	18.5
5 Transactions	4.4	0.7	13.8
6 Transactions	54.5	42.6	66.4
7 or More Transactions	3.8	0.5	12.8

Source: GAO | GAO-17-117

Note: Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 39: Which of the following best describes the types of transactions that count towards your savings account transaction limit? (Question 11B)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
We only count towards the limit the transaction types stipulated by Regulation D.	75.7	69.4	82.0
We count towards the limit additional transaction types to those stipulated by Regulation D.	24.3	18.0	30.6
		Banks	

We only count towards the limit the transaction types stipulated by Regulation D.	77.5	68.8	84.6
We count towards the limit additional transaction types to those stipulated by Regulation D.	22.5	15.4	31.2
		Credit Unions	
We only count towards the limit the transaction types stipulated by Regulation D.	71.6	58.5	82.5
We count towards the limit additional transaction types to those stipulated by Regulation D.	28.4	17.5	41.5

Source: GAO | GAO-17-117

Note: This question was only asked to institutions that responded "Yes" in question 11. Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 40: What is the fee amount per transaction over the limit for savings accounts? (Question 11C)

	Estimated median fee	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
All Depository Institutions	2.68	1.90	3.94
Banks	1.91	1.71	2.82
Credit Unions	4.21	2.91	4.49

Source: GAO | GAO-17-117

Note: Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 41: Has the fee amount charged for savings accounts increased, decreased or stayed the same over the last 5 years? (Question 11D)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Increased	9.3	6.0	13.6
Decreased	0.8	0.0	4.5
Stayed the same	87.3	82.0	91.4
Unsure	2.6	0.8	6.3
		Banks	
Increased	6.4	3.3	11.2
Decreased	1.2	0.0	6.3
Stayed the same	88.7	82.4	93.3
Unsure	3.7	1.1	8.9
		Credit Unions	
Increased	16.0	8.0	27.2
Decreased	0.0	0.0	3.5
Stayed the same	84.0	72.8	92.0
Unsure	0.0	0.0	3.5

Source: GAO | GAO-17-117

Note: This question w as only asked to institutions that responded "Yes" in question 11.

Tables 42–50 present estimates for question 12: Which of the following steps, if any, do you take when a customer exceeds the Regulation D six-transaction limit in a month or during a statement cycle in their savings account (other than changing a transaction fee, if you charge a fee)? (Question 12)

Table 42: Prohibit the seventh transaction (question 12a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.4	24.2	32.7
No	70.5	66.2	74.7
Unsure	1.1	0.4	2.5
		Banks	

Yes	5.8	2.6	10.9
No	93.4	88.3	96.8
Unsure	0.8	0.1	3.0
	Credit Unions		
Yes	54.3	46.9	61.7
No	44.3	36.9	51.7
Unsure	1.4	0.2	4.6

Source: GAO | GAO-17-117

Table 43: Charge a fee against the account (in addition to the transaction limit fee (question 12b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	23.8	18.9	28.7
No	74.6	69.6	79.6
Unsure	1.6	0.5	3.6
	Banks		
Yes	25.8	18.7	32.9
No	74.1	67.0	81.2
Unsure	0.0	0.0	2.4
	Credit Unions		
Yes	21.2	15.0	28.6
No	75.2	68.4	82.1
Unsure	3.5	1.2	8.0

Source: GAO | GAO-17-117

Table 44: Waive the transaction limit fee (if charged) if a certain minimum balance requirement is met in the savings account (question 12c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	1.5	0.5	3.3
No	95.1	92.2	97.1
Unsure	3.4	1.7	6.1
	Banks		
Yes	0.2	0.0	2.5

No	99.0	96.6	99.9
Unsure	0.8	0.1	3.1
		Credit Unions	
Yes	3.0	1.0	7.1
No	90.3	84.1	94.6
Unsure	6.7	3.1	12.4

Source: GAO | GAO-17-117

Table 45: Mail Regulation D disclosure to customer (question 12d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.2	23.1	33.3
No	69.7	64.5	74.9
Unsure	2.1	0.9	4.1
		Banks	
Yes	36.6	29.0	44.2
No	61.3	53.7	69.0
Unsure	2.1	0.6	5.1
		Credit Unions	
Yes	16.5	10.9	23.4
No	81.4	74.4	87.2
Unsure	2.1	0.6	5.4

Source: GAO | GAO-17-117

Table 46: Mail Regulation D violation notice (questions 12e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	62.2	57.8	66.5
No	36.1	31.7	40.4
Unsure	1.8	0.7	3.7
		Banks	
Yes	85.7	80.3	90.1
No	14.1	9.7	19.5

Unsure	0.2	0.0	2.2
	Credit Unions		
Yes	28.8	21.9	35.6
No	67.3	60.1	74.5
Unsure	3.9	1.4	8.5

Source: GAO | GAO-17-117

Table 47: Call customer to advise him/her about the Regulation D violation (question 12f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	37.2	31.8	42.6
No	59.9	54.4	65.3
Unsure	2.9	1.3	5.4
	Banks		
Yes	45.4	37.4	53.3
No	51.9	43.9	59.9
Unsure	2.8	0.8	6.8
	Credit Unions		
Yes	27.1	20.1	34.0
No	69.9	62.8	77.0
Unsure	3.0	1.0	6.8

Source: GAO | GAO-17-117

Table 48: Statement message (notice in the statement) (question 12g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	5.3	3.2	8.3
No	90.3	86.6	93.3
Unsure	4.4	2.4	7.2
	Banks		
Yes	3.2	1.3	6.7
No	94.4	90.2	97.2

Unsure	2.3	0.6	5.8
	Credit Unions		
Yes	7.9	4.0	13.6
No	85.2	78.4	90.5
Unsure	6.9	3.4	12.2

Source: GAO | GAO-17-117

Table 49: Email notice that transaction limit has been exceeded (question 12h)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	4.4	2.6	6.9
No	94.2	91.5	96.3
Unsure	1.4	0.5	3.0
	Banks		
Yes	2.3	0.6	5.8
No	96.9	93.5	98.8
Unsure	0.8	0.1	3.1
	Credit Unions		
Yes	6.9	3.7	11.4
No	91.0	86.1	94.7
Unsure	2.1	0.6	5.4

Source: GAO | GAO-17-117

Table 50: Other (question 12i)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	13.6	9.3	18.9
No	78.9	73.7	84.2
Unsure	7.5	4.8	11.1
	Banks		
Yes	13.2	7.3	21.6
No	83.2	75.0	89.6

		Credit Unions	
Yes	14.0	8.5	21.3
No	73.3	64.4	81.0
Unsure	12.7	7.1	20.4

Source: GAO | GAO-17-117

Table 51–61 provide estimates for question 13: Which of the following steps, if any, do you take when a customer has exceeded the Regulation D six-transaction limit three or more times in a 12-month period in their savings account?

Table 51: Call customer to advise him/her about Regulation D violation (question 13a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	44.5	39.1	50.0
No	53.3	47.8	58.7
Unsure	2.2	1.0	4.1
		Banks	
Yes	55.8	48.0	63.7
No	43.7	35.9	51.5
Unsure	0.5	0.0	2.4
		Credit Unions	
Yes	29.7	22.5	36.9
No	65.8	58.4	73.2
Unsure	4.5	1.9	8.8

Source: GAO | GAO-17-117

Table 52: Mail Regulation D disclosure to customer (question 13b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	26.1	21.0	31.2
No	71.3	66.1	76.6
Unsure	2.6	1.2	4.8

		Banks	
Yes	30.2	22.7	37.7
No	68.8	61.3	76.3
Unsure	1.0	0.2	3.4
		Credit Unions	
Yes	20.7	14.4	28.2
No	74.7	67.6	81.7
Unsure	4.7	1.8	9.7

Source: GAO | GAO-17-117

Table 53: Mail Regulation D violation notice to customer (question 13c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	56.4	51.5	61.3
No	42.1	37.2	47.0
Unsure	1.5	0.6	3.3
		Banks	
Yes	79.0	72.2	84.8
No	20.8	15.0	27.6
Unsure	0.2	0.0	2.4
		Credit Unions	
Yes	26.0	19.2	32.8
No	70.8	63.7	77.9
Unsure	3.2	1.1	7.4

Source: GAO | GAO-17-117

Table 54: Mail notice of account closure or conversion to customer (question 13d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	46.8	41.9	51.6
No	52.1	47.3	57.0
Unsure	1.1	0.4	2.6

		Banks	
Yes	75.2	68.5	81.9
No	24.4	17.7	31.1
Unsure	0.4	0.0	2.4
		Credit Unions	
Yes	8.2	4.4	13.7
No	89.8	83.9	94.0
Unsure	2.1	0.5	5.5

Source: GAO | GAO-17-117

Table 55: Charge a fee against the account (in addition to the Regulation D six-transaction limit fee) (question 13e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	12.9	9.2	17.4
No	85.5	80.9	89.4
Unsure	1.6	0.6	3.6
		Banks	
Yes	12.9	7.9	19.6
No	86.3	79.7	91.4
Unsure	0.8	0.1	3.0
		Credit Unions	
Yes	12.8	7.8	19.4
No	84.5	77.5	90.1
Unsure	2.7	0.6	7.3

Source: GAO | GAO-17-117

Table 56: Prohibit Regulation D transactions (online transfers, phone transfers, ACH) (question 13f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	22.9	18.1	27.6

No	74.0	69.0	78.9
Unsure	3.2	1.6	5.6
		Banks	
Yes	15.0	9.4	22.3
No	82.7	75.2	88.7
Unsure	2.3	0.6	5.7
		Credit Unions	
Yes	32.5	25.2	39.8
No	63.3	55.8	70.8
Unsure	4.2	1.7	8.6

Source: GAO | GAO-17-117

Table 57: Convert savings account to a transaction (checking) account (account number does not change) (question 13g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.8	23.8	33.8
No	68.9	63.8	74.0
Unsure	2.3	0.9	4.6
		Banks	
Yes	44.0	36.2	51.8
No	54.5	46.6	62.3
Unsure	1.5	0.3	4.7
		Credit Unions	
Yes	6.7	3.6	11.2
No	90.0	84.3	94.1
Unsure	3.3	1.0	8.0

Source: GAO | GAO-17-117

Table 58: Close account and transfer funds to existing transaction (checking) account (question 13h)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	30.2	25.1	35.3
No	67.9	62.8	73.1
Unsure	1.9	0.7	4.0
		Banks	
Yes	49.8	41.6	58.0
No	48.4	40.3	56.6
Unsure	1.8	0.3	5.2
		Credit Unions	
Yes	4.4	1.6	9.4
No	93.6	88.3	97.0
Unsure	2.0	0.5	5.4

Source: GAO | GAO-17-117

Table 59: Close account and transfer funds to a new transaction (checking) account (account number changes) (question 13i)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.5	23.4	33.5
No	70.6	65.5	75.7
Unsure	1.0	0.3	2.5
		Banks	
Yes	48.6	40.4	56.9
No	51.1	42.9	59.4
Unsure	0.3	0.0	2.5
		Credit Unions	
Yes	1.9	0.3	6.4
No	96.1	91.4	98.7
Unsure	1.9	0.4	5.4

Source: GAO | GAO-17-117

Table 60: Close account and send check to customer (question 13j)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	23.5	18.6	28.4
No	75.5	70.5	80.4
Unsure	1.1	0.3	2.5
		Banks	
Yes	41.0	32.7	49.3
No	58.4	50.1	66.7
Unsure	0.6	0.0	2.7
		Credit Unions	
Yes	1.6	0.2	5.2
No	96.7	92.8	98.8
Unsure	1.7	0.4	4.6

Source: GAO | GAO-17-117

Table 61: Other (question 13k)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	11.5	7.6	16.4
No	81.4	75.9	86.2
Unsure	7.1	4.4	10.8
		Banks	
Yes	7.1	3.0	14.0
No	87.9	80.6	93.2
Unsure	5.0	2.1	9.7
		Credit Unions	
Yes	16.2	10.0	24.3
No	74.3	65.5	81.8
Unsure	9.5	5.0	16.0

Source: GAO | GAO-17-117

Table 62: For money market accounts, do you charge a fee when a certain number of transactions is exceeded (per month or statement cycle)? (Question 14)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	45.3	40.4	50.2
No	35.9	31.1	40.8
Not applicable, we do not offer money market accounts	18.8	15.4	22.1
		Banks	
Yes	59.0	51.8	66.2
No	37.8	30.6	44.9
Not applicable, we do not offer money market accounts	3.3	1.5	6.1
		Credit Unions	
Yes	27.8	21.9	33.7
No	33.6	27.5	39.7
Not applicable, we do not offer money market accounts	38.6	32.0	45.2

Source: GAO | GAO-17-117

Note: Institutions that responded “not applicable, we do not offer money market accounts” skipped to question17 and did not answer questions 14A through 15. Although the technically correct term to refer to transactions in this context is “transfers and withdrawals” as specified in Regulation D, we used the term “transaction(s)” on our survey, and therefore report our survey results accordingly.

Table 63: After what number of transactions (per month or statement cycle) do you charge a fee for money market accounts? (Question 14A)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
1 Transaction	0.5	0.0	2.5
2 Transactions	0.8	0.0	3.9
3 Transactions	12.0	7.5	17.8
4 Transactions	1.7	0.4	4.5
5 Transactions	0.0	0.0	1.2

6 Transactions	82.7	76.3	87.9
7 or More Transactions	2.4	0.7	6.0
		Banks	
1 Transaction	0.4	0.0	3.5
2 Transactions	0.1	0.0	3.5
3 Transactions	6.8	2.6	13.9
4 Transactions	0.3	0.0	3.5
5 Transactions	0.0	0.0	1.9
6 Transactions	90.1	82.7	95.1
7 or More Transactions	2.4	0.4	7.1
		Credit Unions	
1 Transaction	0.9	0.0	6.2
2 Transactions	2.7	0.1	13.7
3 Transactions	25.9	15.4	38.8
4 Transactions	5.3	1.0	15.3
5 Transactions	0.0	0.0	3.3
6 Transactions	62.7	50.4	75.0
7 or More Transactions	2.5	0.1	11.2

Source: GAO | GAO-17-117

Note: Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 64: Which of the following best describes the types of transactions that count towards your money market account transaction limit? (Question 14B)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
We only count towards the limit the transaction types stipulated by Regulation D	79.1	72.1	85.0
We count towards the limit additional transaction types to those stipulated by Regulation D	20.9	15.0	27.9

	Banks		
We only count towards the limit the transaction types stipulated by Regulation D	81.8	73.3	88.6
We count towards the limit additional transaction types to those stipulated by Regulation D	18.2	11.4	26.7
	Credit Unions		
We only count towards the limit the transaction types stipulated by Regulation D	71.9	58.5	83.0
We count towards the limit additional transaction types to those stipulated by Regulation D	28.1	17.0	41.5

Source: GAO | GAO-17-117

Note: This question was only asked to institutions that responded "Yes" in question 14. Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 65: What is the fee amount per transaction over the limit for money market accounts? (Question 14C)

	Estimated median fee amount	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
All Depository Institutions	5.0	4.65	9.99
Banks	5.0	4.53	9.99
Credit Unions	5.1	4.58	8.27

Source: GAO | GAO-17-117

Note: Although the technically correct term to refer to transactions in this context is "transfers and withdrawals" as specified in Regulation D, we used the term "transaction(s)" on our survey, and therefore report our survey results accordingly.

Table 66: Has the fee amount charged for money market accounts increased, decreased or stayed the same over the last 5 years? (Question 14D)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Increased	7.4	4.4	11.4
Decreased	0.9	0.0	5.1
Stayed the same	89.5	84.4	93.4
Unsure	2.1	0.5	5.9
		Banks	
Increased	6.6	3.3	11.7
Decrease	1.3	0.0	7.0
Stayed the same	90.0	83.7	94.4
Unsure	2.1	0.3	6.9
		Credit Unions	
Increased	9.4	3.4	19.9
Decreased	0.0	0.0	3.3
Stayed the same	88.4	77.1	95.4
Unsure	2.2	0.1	11.5

Source: GAO | GAO-17-117

Note: This question w as only asked to institutions that responded “Yes” in question 14.

Question 14E: What factor(s) affected the decision to increase the fee for money market accounts?

Note: We do not present estimates for this question because it is open-ended. We present estimates for closed-ended questions only.

Question 14F: What factor(s) affected the decision to decrease the fee for money market accounts?

Note: We do not present estimates for this question because it is open-ended. We present estimates for closed-ended questions only.

Tables 67–75 provide estimates for question 15: Which of the following steps, if any, do you take when a customer exceeds the Regulation D six-transaction limit in a month or during a statement cycle in their money market account (other than charging a transaction fee, if you charge a fee)?

Table 67: Prohibit the seventh (question 15a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	23.1	19.0	27.3
No	75.6	71.4	79.8
Unsure	1.3	0.4	2.9
		Banks	
Yes	4.1	1.4	9.1
No	95.3	90.4	98.2
Unsure	0.6	0.0	2.9
		Credit Unions	
Yes	55.0	46.6	63.3
No	42.7	34.4	50.9
Unsure	2.4	0.6	6.3

Source: GAO | GAO-17-117

Table 68: Charge a fee against the account (in addition to the transaction limit fee) (question 15b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	21.0	16.0	26.0
No	78.2	73.2	83.3
Unsure	0.8	0.1	2.3
		Banks	
Yes	22.5	16.0	30.2
No	77.4	69.7	83.9
Unsure	0.0	0.0	2.6
		Credit Unions	
Yes	18.1	11.7	26.1
No	79.8	71.6	86.5
Unsure	2.1	0.4	6.4

Source: GAO | GAO-17-117

Table 69: Waive the transaction limit fee (if charged) if a certain minimum balance requirement is met in the money market account (question 15c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	1.0	0.3	2.6
No	98.0	96.1	99.2
Unsure	1.0	0.3	2.6
		Banks	
Yes	0.4	0.0	2.7
No	99.2	96.8	99.9
Unsure	0.3	0.0	2.7
		Credit Unions	
Yes	2.0	0.3	6.3
No	95.9	90.7	98.6
Unsure	2.1	0.4	6.6

Source: GAO | GAO-17-117

Table 70: Mail Regulation D disclosure to customer (question 15d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.7	23.1	34.3
No	70.1	64.4	75.7
Unsure	1.2	0.4	2.9
		Banks	
Yes	35.9	28.0	43.8
No	62.9	55.0	70.8
Unsure	1.2	0.2	3.6
		Credit Unions	
Yes	15.1	9.5	22.3
No	83.5	76.3	89.2
Unsure	1.4	0.3	4.4

Source: GAO | GAO-17-117

Table 71: Mail Regulation D violation notice (question 15e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
			All Depository Institutions
Yes	69.1	64.8	73.4
No	30.5	26.2	34.8
Unsure	0.4	0.0	1.6
		Banks	
Yes	89.8	84.7	93.7
No	10.2	6.3	15.3
Unsure	0.0	0.0	2.3
		Credit Unions	
Yes	26.5	19.0	34.0
No	72.3	64.7	79.8
Unsure	1.2	0.2	4.1

Source: GAO | GAO-17-117

Table 72: Call customer to advise him/her about the Regulation D violation (question 15f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	38.1	32.1	44.0
No	60.5	54.5	66.5
Unsure	1.4	0.4	3.6
		Banks	
Yes	46.8	38.7	55.0
No	51.4	43.2	59.5
Unsure	1.8	0.4	5.2
		Credit Unions	
Yes	21.4	14.4	30.0
No	77.8	69.2	84.9
Unsure	0.8	0.1	3.4

Source: GAO | GAO-17-117

Table 73: Statement message (notice in the statement) (question 15g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	5.0	2.8	8.3
No	92.9	89.5	95.5
Unsure	2.1	0.9	4.1
		Banks	
Yes	3.5	1.2	8.1
No	95.7	91.2	98.2
Unsure	0.8	0.1	3.2
		Credit Unions	
Yes	7.6	3.7	13.7
No	88.0	81.4	92.9
Unsure	4.4	1.8	8.7

Source: GAO | GAO-17-117

Table 74: Email notice that transaction limit has been exceeded (question 15h)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	2.7	1.3	4.9
No	96.4	94.0	98.0
Unsure	0.9	0.2	2.4
		Banks	
Yes	1.1	0.1	3.6
No	98.4	95.5	99.6
Unsure	0.6	0.0	2.8
		Credit Unions	
Yes	5.7	2.8	10.2
No	92.8	88.0	96.1
Unsure	1.5	0.3	4.5

Source: GAO | GAO-17-117

Table 75: Other (question 15i)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	8.8	5.2	13.9
No	84.6	79.1	89.2
Unsure	6.5	4.0	9.9
		Banks	
Yes	10.2	5.0	17.9
No	86.4	78.7	92.1
Unsure	3.4	1.2	7.6
		Credit Unions	
Yes	6.7	2.9	12.8
No	81.7	72.9	88.6
Unsure	11.6	6.0	19.6

Source: GAO | GAO-17-117

Tables 76–86 provide estimates for question 16: Which of the following steps, if any, do you take when a customer has exceeded the Regulation D six-transaction limit three or more times in a 12-month period in their money market account?

Table 76: Call customer to advise him/her about Regulation D violation (question 16a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	44.6	38.6	50.5
No	54.2	48.3	60.2
Unsure	1.2	0.4	2.8
		Banks	
Yes	55.5	47.5	63.5
No	44.0	36.0	52.0
Unsure	0.6	0.0	2.6
		Credit Unions	
Yes	23.4	16.1	32.0

No	74.2	65.6	81.7
Unsure	2.4	0.7	5.8

Source: GAO | GAO-17-117

Table 77: Mail Regulation D disclosure to customer (question 16b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	26.7	21.1	32.3
No	72.3	66.6	77.9
Unsure	1.0	0.3	2.6
		Banks	
Yes	31.7	23.9	39.5
No	68.0	60.2	75.8
Unsure	0.3	0.0	2.6
		Credit Unions	
Yes	17.6	11.2	25.7
No	80.2	72.1	86.8
Unsure	2.2	0.6	5.6

Source: GAO | GAO-17-117

Table 78: Mail Regulation D violation notice to customer (question 16c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	63.7	58.7	68.7
No	35.5	30.5	40.5
Unsure	0.8	0.2	2.2
		Banks	
Yes	83.0	76.6	88.2
No	17.0	11.8	23.4
Unsure	0.0	0.0	2.5
		Credit Unions	
Yes	27.6	19.8	35.3
No	70.2	62.4	78.1
Unsure	2.2	0.6	5.5

Source: GAO | GAO-17-117

Table 79: Mail notice of account closure or conversion to custom (question 16d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound percentage
		All Depository Institutions	
Yes	50.6	45.1	56.1
No	48.7	43.2	54.2
Unsure	0.7	0.1	2.1
		Banks	
Yes	73.4	66.2	80.6
No	26.3	19.1	33.5
Unsure	0.3	0.0	2.5
		Credit Unions	
Yes	6.4	3.1	11.6
No	92.1	86.9	95.8
Unsure	1.4	0.2	4.5

Source: GAO | GAO-17-117

Table 80: Charge a fee against the account (in addition to the Regulation D six-transaction limit fee) (question 16e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	13.8	9.7	19.0
No	85.0	79.7	89.3
Unsure	1.2	0.3	3.1
		Banks	
Yes	15.9	10.2	23.2
No	84.1	76.8	89.8
Unsure	0.0	0.0	2.7
		Credit Unions	
Yes	10.1	5.2	17.2
No	86.6	78.9	92.3
Unsure	3.3	0.8	8.8

Source: GAO | GAO-17-117

Table 81: Prohibit Regulation D transactions (online transfers, phone transfers, ACH) (question 16f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	18.2	13.6	23.5
No	79.5	74.6	84.5
Unsure	2.3	0.9	4.7
		Banks	
Yes	13.0	7.7	20.2
No	84.9	77.5	90.6
Unsure	2.1	0.5	5.6
		Credit Unions	
Yes	27.5	19.6	35.4
No	69.8	61.6	77.9
Unsure	2.7	0.7	6.9

Source: GAO | GAO-17-117

Table 82: Convert money market account to a transaction (checking) account (account number does not change) (question 16g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	46.6	40.8	52.4
No	52.7	46.9	58.5
Unsure	0.7	0.1	2.1
		Banks	
Yes	64.3	56.6	72.0
No	35.1	27.4	42.9
Unsure	0.6	0.0	2.7
		Credit Unions	
Yes	10.0	5.3	16.8
No	89.0	82.2	93.9
Unsure	1.0	0.1	3.7

Source: GAO | GAO-17-117

Table 83: Close account and transfer funds to existing transaction (checking) account (question 16h)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	36.0	30.1	41.8
No	62.5	56.6	68.4
Unsure	1.5	0.4	3.7
		Banks	
Yes	51.7	43.4	43.4
No	46.7	38.5	55.0
Unsure	1.6	0.2	5.2
		Credit Unions	
Yes	5.9	2.2	12.2
No	92.7	86.4	96.7
Unsure	1.4	0.2	4.5

Source: GAO | GAO-17-117

Table 84: Close account and transfer funds to a new transaction (checking) account (account number changes) (question 16i)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	34.1	28.2	40.1
No	65.0	59.0	70.9
Unsure	0.9	0.2	2.4
		Banks	
Yes	49.6	41.1	58.1
No	50.1	41.6	58.5
Unsure	0.3	0.0	2.7
		Credit Unions	
Yes	5.6	2.0	11.9
No	92.5	86.2	96.5
Unsure	1.9	0.5	5.2

Source: GAO | GAO-17-117

Table 85: Close account and send check to customer (question 16j)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	26.9	21.2	32.6
No	71.7	65.9	77.4
Unsure	1.4	0.3	3.8
		Banks	
Yes	41.0	32.5	49.5
No	57.6	49.1	66.2
Unsure	1.4	0.1	5.5
		Credit Unions	
Yes	1.9	0.5	5.2
No	96.6	92.8	98.8
Unsure	1.4	0.2	4.5

Source: GAO | GAO-17-117

Table 86: Other (question 16k)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	9.5	5.9	14.3
No	83.2	77.6	87.9
Unsure	7.3	4.3	11.3
		Banks	
Yes	6.6	2.5	13.6
No	88.4	80.8	93.7
Unsure	5.1	2.1	10.0
		Credit Unions	
Yes	14.0	8.1	21.9
No	75.4	65.9	83.4
Unsure	10.6	5.3	18.5

Source: GAO | GAO-17-117

Impact on Banks, Credit Unions and Customers

Table 87: Over the last 2 years, have your costs for monitoring accounts to enforce the six-transaction limit increased, decreased or stayed about the same? (Question 17)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Increased	20.4	16.2	24.5
Decreased	0.6	0.2	1.7
Stayed about the same	73.8	69.2	78.3
Don't know	5.2	3.2	8.0
		Banks	
Increased	22.4	16.2	28.5
Decreased	0.6	0.1	2.4
Stayed about the same	74.5	68.1	80.9
Don't know	2.5	0.8	5.8
		Credit Unions	
Increased	17.7	12.7	23.7
Decreased	0.7	0.1	2.6
Stayed about the same	72.8	66.5	79.1
Increased	8.8	5.0	14.0

Source: GAO | GAO-17-117

Tables 88–94 provide estimates for question 17A: What were the main drivers for the increase in costs?

Note: Question 17A was only asked to institutions that responded "Increased" in question 17.

Table 88: Institutional growth (question 17A, a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	59.9	47.7	72.1
No	40.1	27.9	52.3

Unsure	0.0	0.0	3.0
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	5.8
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	6.2

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 89: Merger or acquisition (question 17A, b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	15.6	7.3	27.8
No	84.4	72.2	92.7
Unsure	0.0	0.0	3.2
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	5.9
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	6.9

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 90: Increase in number of Regulation D violations (question 17A, c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	43.3	31.1	55.5
No	52.7	40.3	65.0
Unsure	4.0	0.9	10.8
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	3.3	0.3	12.4
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 91: IT and/or software costs (question 17A, d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	64.5	53.0	76.1
No	34.9	23.4	46.4
Unsure	0.6	0.0	5.5
		Banks	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	5.6
		Credit Unions	
Yes	83.5	68.8	93.2
No	15.0	5.7	29.7
Unsure	1.5	0.1	11.3

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Table 92: Mailing costs (question 17A, e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	85.8	76.3	92.5
No	14.2	7.5	23.7
Unsure	0.0	0.0	3.1
		Banks	
Yes	91.8	79.3	98.0
No	8.2	2.0	20.7
Unsure	0.0	0.0	5.6
		Credit Unions	
Yes	n/r	n/r	n/r
No	n/r	n/r	n/r
Unsure	0.0	0.0	6.9

Source: GAO | GAO-17-117

Note: n/r indicates that w e are not reporting results because the maximum half-w idth of the confidence interval is greater than 15 percentage points.

Table 93: Staff time to review automated compliance or monitoring (question 17A, f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	95.3	89.3	98.5
No	3.3	0.8	8.8
Unsure	1.4	0.0	7.4
		Banks	
Yes	99.2	90.4	100.0
No	0.8	0.0	9.6
Unsure	0.0	0.0	5.2
		Credit Unions	
Yes	n/r	n/r	n/r
No	7.6	1.7	20.1
Unsure	n/r	n/r	n/r

Source: GAO | GAO-17-117

Note: n/r indicates that w e are not reporting the estimate because the maximum half-w idth of the confidence interval is greater than 15 percentage points.

Table 94: Other (question 17A, g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	3.6	0.6	11.3
No	92.2	83.0	97.3
Unsure	4.2	0.8	12.1
		Banks	
Yes	3.2	0.1	15.1
No	91.9	77.8	98.3
Unsure	5.0	0.5	17.8
		Credit Unions	
Yes	4.5	0.3	18.7
No	n/r	n/r	n/r
Unsure	2.6	0.1	16.7

Source: GAO | GAO-17-117

Note: n/r indicates that we are not reporting the estimate because the maximum half-width of the confidence interval is greater than 15 percentage points.

Questions 17B: What were the main drivers for the decrease in costs?

Note: Question 17B was only asked to institutions that responded "Decreased" in question 17. We do not present estimates for this question because it is open-ended. We present estimates for closed-ended questions only.

Tables 95–101 provide estimates for question18: In the past 12 months, have you received any of these types of customer feedback (comments and questions) about Regulation D?

Table 95: Customers did not understand that a transaction limit applied to their accounts (question18a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	58.7	53.5	63.8
No	37.1	32.0	42.2
Unsure	4.2	2.5	6.7
		Banks	
Yes	52.3	44.7	59.9
No	43.6	36.1	51.2
Unsure	4.1	1.9	7.6
		Credit Unions	
Yes	66.8	60.1	73.5
No	28.8	22.2	35.4
Unsure	4.4	2.0	8.5

Source: GAO | GAO-17-117

Table 96: Customers did not understand which types of transactions were subject to the Regulation D six-transaction limit (question18b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	60.8	55.7	65.9
No	34.4	29.4	39.4
Unsure	4.8	2.9	7.5
		Banks	
Yes	58.7	51.3	66.0
No	37.3	30.1	44.6
Unsure	4.0	1.8	7.4
		Credit Unions	
Yes	63.5	56.6	70.4
No	30.6	23.8	37.4
Unsure	5.9	2.9	10.7

Source: GAO | GAO-17-117

Table 97: Customers had questions or concerns about fees charged (question18c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	40.1	34.8	45.4
No	55.8	50.5	61.2
Unsure	4.1	2.5	6.3
		Banks	
Yes	41.7	33.9	49.4
No	54.6	46.9	62.4
Unsure	3.7	1.7	6.9
		Credit Unions	
Yes	38.1	31.1	45.1
No	57.3	50.2	64.5
Unsure	4.6	2.2	8.3

Source: GAO | GAO-17-117

Table 98: Customers had questions or concerns about account closures and conversions (including a change to account number) (question18d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	25.1	20.4	29.8
No	70.6	65.7	75.5
Unsure	4.3	2.6	6.7
		Banks	
Yes	36.5	28.9	44.1
No	59.9	52.2	67.5
Unsure	3.6	1.7	6.8
		All Credit Unions	
Yes	11.1	6.9	16.6
No	83.8	77.6	88.9
Unsure	5.1	2.4	9.4

Source: GAO | GAO-17-117

Table 99: Customers had questions or concerns about denied transactions (question18e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	26.3	22.2	30.5
No	67.7	63.1	72.2
Unsure	6.0	3.7	9.0
	All Banks		
Yes	9.9	5.4	16.2
No	85.5	78.8	90.7
Unsure	4.7	2.2	8.6
	All Credit Unions		
Yes	45.5	38.5	52.5
No	46.9	39.7	54.2
Unsure	7.6	3.9	12.9

Source: GAO | GAO-17-117

Table 100: Other customer questions or concerns on account closures and conversions (question18f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Yes	17.2	13.0	21.4
No	74.9	70.2	79.6
Unsure	7.9	5.4	11.1
	Banks		
Yes	23.2	16.7	30.8
No	70.7	63.6	77.7
Unsure	6.2	3.4	10.2
	Credit Unions		
Yes	10.1	6.2	15.2
No	80.0	73.2	85.7
Unsure	10.0	5.7	15.8

Source: GAO | GAO-17-117

Table 101: Other (question18g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	7.6	4.5	11.7
No	81.5	76.2	86.0
Unsure	11.0	7.5	15.3
		Banks	
Yes	4.1	1.3	9.7
No	88.1	81.4	93.1
Unsure	7.7	4.0	13.1
		Credit Unions	
Yes	11.8	6.5	19.1
No	73.3	64.4	81.0
Unsure	14.9	9.1	22.5

Source: GAO | GAO-17-117

Table 102: Which of these feedback items was the most common one received in the past 12 months? (Question 19)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Customers did not understand that a transaction limit applied to their accounts	27.6	23.0	32.2
Customers did not understand which types of transactions were subject to the six-transaction limit	25.7	21.1	30.3
Customers had questions or concerns about fees charged	11.6	8.4	15.4

Customers had questions or concerns about account closures and conversions (including a change in account number)	3.8	2.0	6.6
Customers had questions or concerns about denied transactions	5.5	3.6	8.0
Other customer questions or concerns on account closures and conversions	1.0	0.3	2.5
Other	6.8	4.4	10.1
Unsure	18.0	14.3	21.7
		Banks	
Customers did not understand that a transaction limit applied to their accounts	24.0	17.4	30.5
Customers did not understand which types of transactions were subject to the six-transaction limit	33.1	25.9	40.3
Customers had questions or concerns about fees charged	12.0	7.6	17.9
Customers had questions or concerns about account closures and conversions (including a change in account number)	6.2	3.1	10.9
Customers had questions or concerns about denied transactions	0.8	0.0	4.3
Other customer questions or concerns on account closures and conversions	1.6	0.3	4.4
Other	8.6	4.9	13.8
Unsure	13.8	9.6	18.9

	Credit Unions		
Customers did not understand that a transaction limit applied to their accounts	32.1	25.7	38.5
Customers did not understand which types of transactions were subject to the six-transaction limit	16.4	11.7	22.1
Customers had questions or concerns about fees charged	10.9	6.8	16.5
Customers had questions or concerns about account closures and conversions (including a change in account number)	0.9	0.0	4.0
Customers had questions or concerns about denied transactions	11.4	7.4	16.6
Other customer questions or concerns on account closures and conversions	0.3	0.0	2.1
Other	4.6	2.0	9.0
Unsure	23.2	17.1	29.4

Source: GAO | GAO-17-117

Table 103: Over the past 12 months, what is the approximate percentage of your total customer feedback (questions or concerns) on deposit accounts that is related to Regulation D? (Question 20)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
	All Depository Institutions		
Less than 1%	64.7	59.9	69.5
1% to 5%	18.1	14.1	22.1
More than 5% to 10%	3.6	2.0	5.8

More than 10% to 30%	1.1	0.4	2.4
More than 30%	0.5	0.0	2.3
Unsure	11.9	9.1	15.3
		Banks	
Less than 1%	72.3	65.6	79.0
1% to 5%	17.5	12.0	24.2
More than 5% to 10%	1.3	0.2	4.0
More than 10% to 30%	0.2	0.0	2.0
More than 30%	0.8	0.0	4.1
Unsure	8.0	4.6	12.7
		Credit Unions	
Less than 1%	55.0	48.2	61.9
1% to 5%	18.8	13.8	24.8
More than 5% to 10%	6.5	3.4	11.0
More than 10% to 30%	2.3	0.9	4.9
More than 30%	0.3	0.0	2.1
Unsure	17.0	12.4	22.6

Source: GAO | GAO-17-117

Table 104: Based on your customer feedback, how much of a burden does the Regulation D six-transaction limit place on your customers with nontransaction accounts? (Question 21)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
No burden	14.0	10.7	18.0
Small burden	46.3	41.1	51.4
Moderate burden	26.2	21.7	30.7
Large burden	7.2	4.8	10.4
Unsure	6.3	4.2	9.0
		Banks	
No burden	14.7	10.0	20.4
Small burden	49.7	42.3	57.1
Moderate burden	25.1	18.6	31.5

Large burden	6.5	3.2	11.6
Unsure	4.1	2.0	7.3
		Credit Unions	
No burden	13.2	8.6	19.1
Small burden	42.0	35.1	48.9
Moderate burden	27.6	21.5	33.8
Large burden	8.2	5.0	12.5
Unsure	9.1	5.3	14.1

Source: GAO | GAO-17-117

Tables 105-113 present estimates for question 22: What do you view as the benefits, if any, of Regulation D?

Table 105: Assists with the ability to pay interest on nontransaction (savings, money market, etc.) accounts (question 22a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	33.4	28.2	38.6
No	53.4	47.9	58.8
Unsure	13.2	9.7	17.5
		Banks	
Yes	41.6	33.8	49.4
No	46.5	38.7	54.4
Unsure	11.8	7.3	17.8
		Credit Unions	
Yes	23.1	16.9	29.3
No	61.9	54.6	69.2
Unsure	15.0	9.9	21.5

Source: GAO | GAO-17-117

Table 106: Transaction limit helps minimize administrative costs for nontransaction (savings, money market, etc.) accounts (question 22b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	26.5	21.5	31.4
No	63.7	58.4	69.0
Unsure	9.8	6.8	13.6
		Banks	
Yes	27.8	20.6	35.1
No	63.2	55.6	70.9
Unsure	8.9	5.1	14.2
		Credit Unions	
Yes	24.9	18.3	31.4
No	64.2	57.0	71.5
Unsure	10.9	6.4	17.0

Source: GAO | GAO-17-117

Table 107: Creates a clear distinction between nontransaction (savings and money market) accounts and transaction (checking) accounts for the purpose of implementing monetary policy (question 22c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	51.1	45.7	56.5
No	40.2	34.9	45.4
Unsure	8.8	6.0	12.3
		Banks	
Yes	53.0	45.2	60.8
No	39.4	31.7	47.1
Unsure	7.6	4.2	12.3
		Credit Unions	
Yes	48.8	41.5	56.1
No	41.0	34.0	48.1
Unsure	10.2	5.9	16.1

Source: GAO | GAO-17-117

Table 108: Makes determining required reserves easier (question 22d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	33.5	28.4	38.7
No	48.8	43.3	54.3
Unsure	17.7	13.4	22.0
		Banks	
Yes	34.4	26.8	42.0
No	48.6	40.6	56.7
Unsure	16.9	11.3	23.8
		Credit Unions	
Yes	32.5	25.7	39.2
No	48.9	41.5	56.3
Unsure	18.6	12.9	25.5

Source: GAO | GAO-17-117

Table 109: Encourages consumer saving (question 22e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	30.4	25.2	35.6
No	55.1	49.6	60.6
Unsure	14.5	10.8	19.0
		Banks	
Yes	33.1	25.5	40.7
No	51.7	43.7	59.7
Unsure	15.3	9.9	22.0
		Credit Unions	
Yes	27.1	20.3	34.0
No	59.2	51.9	66.6
Unsure	13.6	8.7	20.0

Source: GAO | GAO-17-117

Table 110: Encourages customers to engage in good financial planning (question 22f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	25.3	20.4	30.2
No	59.7	54.2	65.1
Unsure	15.0	11.2	19.6
		Banks	
Yes	27.5	20.4	34.6
No	57.6	49.7	65.4
Unsure	15.0	9.7	21.6
		Credit Unions	
Yes	22.6	16.3	29.9
No	62.2	54.9	69.6
Unsure	15.2	9.9	21.9

Source: GAO | GAO-17-117

Table 111: Promotes transparency and provides a level-playing field for all institutions; otherwise greater competition between institutions would exist and increase confusion for customers (question 22g)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	28.3	23.3	33.4
No	53.6	48.1	59.2
Unsure	18.0	13.8	22.2
		Banks	
Yes	36.5	28.8	44.2
No	48.8	40.8	56.9
Unsure	14.7	9.6	21.2
		Credit Unions	
Yes	18.4	12.7	25.3
No	59.5	52.1	67.0
Unsure	22.1	15.9	29.3

Source: GAO | GAO-17-117

Table 112: Increases yield on loan products for banks due to not having to hold reserves against all transaction (checking) accounts (question 22h)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	23.1	18.4	27.7
No	55.1	49.6	60.7
Unsure	21.8	17.3	26.2
		Banks	
Yes	26.6	19.6	33.6
No	55.7	47.8	63.6
Unsure	17.7	12.2	24.5
		Credit Unions	
Yes	18.8	13.4	25.4
No	54.5	47.0	62.0
Unsure	26.7	19.9	33.5

Source: GAO | GAO-17-117

Table 113: Other (question 22i)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	5.1	2.3	9.6
No	69.9	63.2	76.6
Unsure	25.0	18.7	31.3
		Banks	
Yes	5.8	1.8	13.4
No	72.4	62.0	81.4
Unsure	21.8	13.8	31.6
		Credit Unions	
Yes	4.3	1.4	9.5
No	66.6	57.0	76.2
Unsure	29.2	19.8	38.5

Source: GAO | GAO-17-117

Tables 114–119 present estimates for question 23: What do you view as the challenges, if any, of implementing Regulation D?

Table 114: Customers did not understand that a transaction limit applied to their accounts (question 23a)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	74.0	69.3	78.8
No	21.9	17.4	26.4
Unsure	4.1	2.3	6.7
		Banks	
Yes	67.2	59.9	74.4
No	29.5	22.4	36.5
Unsure	3.4	1.3	7.0
		Credit Unions	
Yes	82.3	75.7	87.8
No	12.7	8.1	18.7
Unsure	5.0	2.2	9.6

Source: GAO | GAO-17-117

Table 115: Operational challenges (creating forms, converting accounts, closing accounts etc.) (question 23b)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	68.0	63.3	72.7
No	28.7	24.1	33.4
Unsure	3.3	1.8	5.5
		Banks	
Yes	77.8	71.8	83.8
No	21.3	15.6	28.0
Unsure	0.9	0.1	3.0
		Credit Unions	
Yes	54.7	47.3	62.1

No	38.8	31.6	46.1
Unsure	6.5	3.1	11.6

Source: GAO | GAO-17-117

Table 116: Addressing customer complaints (question 23c)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	64.1	58.9	69.2
No	31.3	26.4	36.3
Unsure	4.6	2.8	7.1
		Banks	
Yes	54.7	46.9	62.4
No	41.9	34.3	49.6
Unsure	3.4	1.5	6.5
		Credit Unions	
Yes	75.9	69.5	82.4
No	18.0	12.5	24.7
Unsure	6.1	2.9	11.0

Source: GAO | GAO-17-117

Table 117: Getting customers to read their Regulation D notices from institutions (question 23d)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	81.8	77.7	85.8
No	15.2	11.5	19.5
Unsure	3.1	1.8	5.0
		Banks	
Yes	80.2	73.6	85.8
No	17.4	12.0	24.0
Unsure	2.4	0.9	5.1
		Credit Unions	
Yes	83.7	77.3	88.9

No	12.3	7.8	18.3
Unsure	4.0	1.6	8.1

Source: GAO | GAO-17-117

Table 118: Understanding the options available to our institution in complying with Regulation D (question 23e)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	49.3	43.9	54.8
No	45.3	39.9	50.7
Unsure	5.4	3.3	8.3
		Banks	
Yes	39.6	31.7	47.4
No	56.3	48.3	64.2
Unsure	4.2	1.8	8.1
		Credit Unions	
Yes	61.5	54.3	68.7
No	31.6	24.8	38.4
Unsure	6.9	3.5	12.0

Source: GAO | GAO-17-117

Table 119: Other (question 23f)

Responses	Estimated percentage	95 percent confidence interval—lower bound (percentage)	95 percent confidence interval—upper bound (percentage)
		All Depository Institutions	
Yes	5.5	3.1	8.9
No	77.7	72.1	83.3
Unsure	16.9	11.9	22.8
		Banks	
Yes	3.1	0.9	7.4
No	83.8	75.8	90.0
Unsure	13.1	7.3	21.1

	Credit Unions		
Yes	8.7	4.2	15.6
No	69.5	60.2	78.7
Unsure	21.8	13.9	31.6

Source: GAO | GAO-17-117

Appendix III: The Role of Reserve Requirements over Time

Before the establishment of the Federal Reserve System (Federal Reserve), reserve requirements, imposed by other laws, were used to ensure the liquidity of bank notes (negotiable instruments issued by depository institutions that could be redeemed for gold or silver), which were the primary medium of exchange in the mid- to late-1800s. To facilitate more widespread use of bank notes, the National Bank Act of 1863 allowed depository institutions to organize under a national charter and created a network of institutions to easily circulate their bank notes across the country.[1] In exchange for a charter that promoted widespread use of their notes, nationally chartered institutions were required to hold 25 percent reserves against their notes and customer deposits.[2]

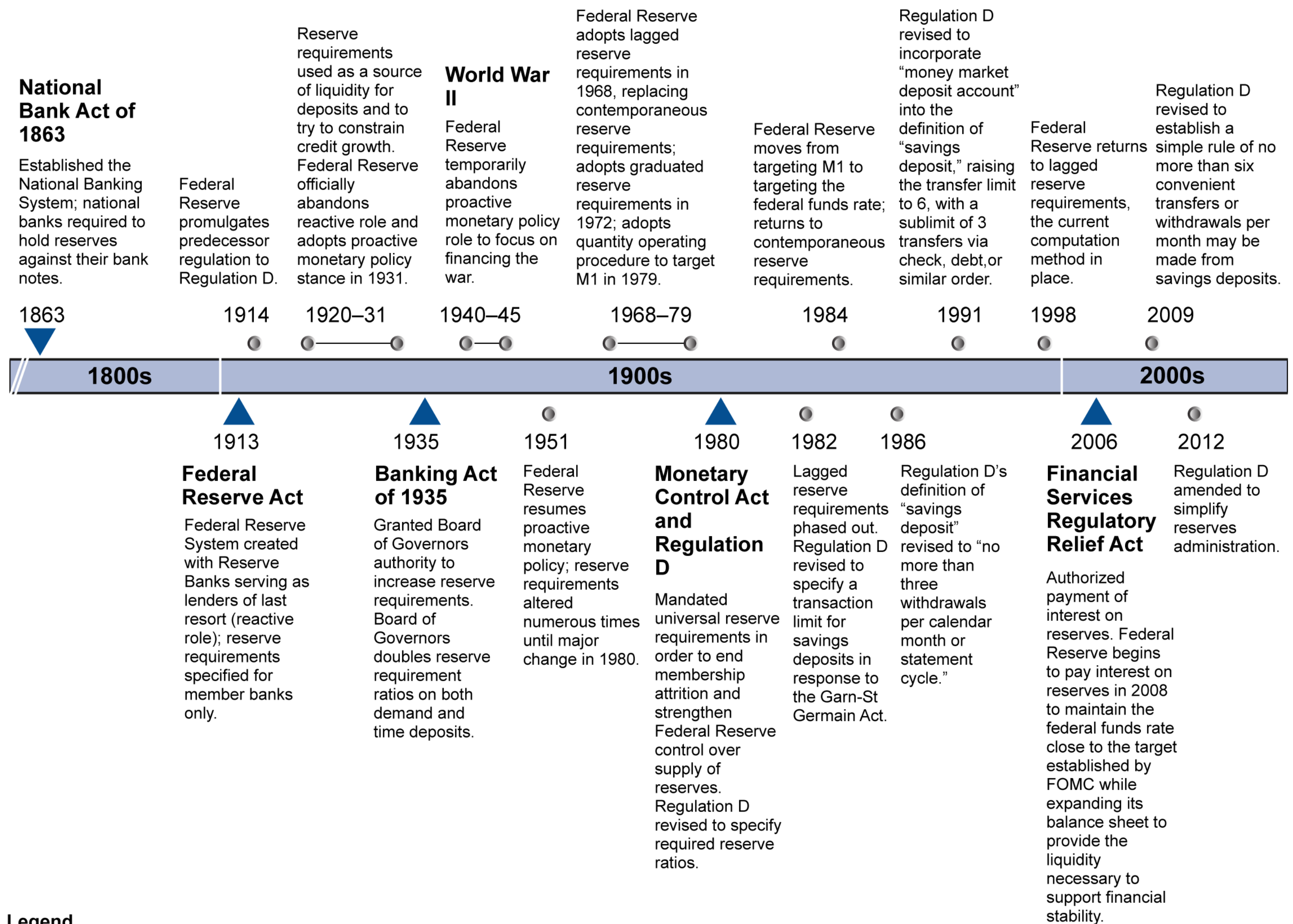
The role of reserve requirements continued to change after the Federal Reserve was created in1913 with the passage of the Federal Reserve Act (see fig. 4). When the Federal Reserve was created, reserve requirements did not have a stated role in influencing the availability and cost of money and credit. In the years before the Federal Reserve Act, a series of bank runs and financial panics made evident the need for a mechanism to accommodate temporary variations in the public's demand for cash.[3] Accordingly, the Federal Reserve Act created a system of Reserve Banks to act as lenders of last resort and thereby provide temporary liquidity relief to the nationwide banking system during times of financial crisis. Among other provisions, the Federal Reserve Act sought to establish more effective supervision of banking, and the Federal Reserve was given the responsibility of supervising state-chartered and nationally-chartered depository institutions that chose to be members of the Federal Reserve. All member institutions were subject to reserve requirements.

[1]Chap. 58, § 5, 12 Stat. 665, 666 (1863) (codified as amended at 12 U.S.C. § 21).

[2]See § 41, 12 Stat. at 677. The National Bank Act revised reserve requirements to between 15 percent for some institutions and 25 percent for institutions in select cities. Chap. 106, § 31, 13 Stat. 99, 108 (1864).

[3]A bank run is defined as the sudden withdrawal of deposits by a large number of customers at an institution; a financial panic occurs when a bank run occurs at many institutions. As deposits became the primary medium of exchange and source of funding for banks, the banking system could not meet the temporary surge in the demand for cash during bank runs and financial panics without squeezing the supply of credit (selling securities or calling in loans) and increasing interest rates—consequences that further worsened economic conditions. See Board of Governors of the Federal Reserve System, Division of Monetary Affairs, *Reserve Requirements: History, Current Practice, and Potential Reform*, Federal Reserve Bulletin (Washington, D.C.: June 1993), accessed on March 10, 2015, http://www.federalreserve.gov/monetarypolicy/0693lead.pdf.

Figure 4: Evolution of Reserve Requirements, 1863–2016



Legend

M1- the sum of currency created by the Board of Governors of the Federal Reserve System and in circulation plus the checking deposits of depository institutions

Source: GAO analysis of laws and regulations related to reserve requirements. | GAO-17-117

Note: We determined the key law s and events affecting reserve requirements to be those described in this timeline.

Beginning in the 1920s, reserve requirements gradually became important for implementing monetary policy as the Federal Reserve moved toward a more proactive role in influencing credit conditions. As borrowing increased rapidly in the 1920s, the Federal Reserve determined that reserve requirements could be used to constrain the

expansion of credit by requiring reserves against deposits used to fund loans. However, this objective was complicated in practice because reserve requirement ratios were established in the Federal Reserve Act and not by the Board of Governors of the Federal Reserve System (Board of Governors) and by the reliance on the discount rate as the primary tool for influencing the availability and cost of money and credit at the time. The discount window rate was set below market, which provided depository institutions the incentive to borrow from the Reserve Banks to finance operations.[4] This meant reserve requirements placed no significant constraint on lending. In addition, the Federal Reserve did not have the authority to raise reserve requirements at the time to make them a more binding constraint on credit expansion.

By 1931, the Federal Reserve moved from using reserve requirements as a source of liquidity for deposits held at depository institutions to using reserve requirements to proactively affect the cost and availability of money and credit. The Banking Act of 1935 gave the Board of Governors authority to increase reserve requirements and the Board of Governors doubled the required reserve ratios on demand deposits and time deposits.[5] During World War II, the emphasis on proactive monetary policy was temporarily superseded by a focus on helping fund the war through "pegging" interest rates and purchasing Treasury securities (that is, finance government debt through open market operations).

[4]Throughout the 1920s, discount window borrowings were more than half of the Federal Reserve's total assets. See *Reserve Requirements: History, Current Practice, and Potential Reform*.

[5]While reserve requirements apply to transaction accounts currently, the term "transaction account" did not exist until 1980; prior to 1980 reserve requirements were imposed on "demand deposits, according to the Board of Governors. A time deposit is currently defined as a deposit from which the depositor does not have a right and is not permitted to make withdrawals within 6 days after the date of deposit unless the deposit is subject to an early withdrawal penalty of at least 7 days' simple interest on amounts withdrawn within the first 6 days after deposit. From 1914 to 1935, section 19 of the Federal Reserve Act specified a minimum maturity of 30 days for any account classified as a "time deposit." See Pub. L .No. 63-43, § 19, 38 Stat. 251, 270 (1913). The Thomas Amendment of 1933 amended section 19 of the Federal Reserve Act to authorize the Federal Reserve to raise or lower reserve requirements subject to presidential approval and the declaration of a national emergency. See Agriculture Adjustment Act, Pub. L. No. 73-10, ch. 25, tit. III, § 46, 48 Stat. 31, 54 (1933).The Banking Act of 1935 eliminated these conditions for changing reserve requirements, but prohibited the Federal Reserve from reducing reserve requirements below the levels then in force or from more than doubling those requirements. See Pub. L. No. 74-305, § 207, 49 Stat. 684, 706.

In 1951, the Federal Reserve returned to proactive monetary policy, focusing on financial conditions in short-term money and credit markets. From this period to 1980, reserve requirements for member institutions were based on geography and were adjusted numerous times.[6] Reserve requirements were adjusted to reinforce or supplement the effects of open market operations and discount policy on credit conditions as well as in response to financial innovation that created new sources of funding operations to circumvent reserve requirements on deposits. For example, the Board of Governors imposed marginal reserve requirements—additional requirements on each new increment of deposits—on large time deposits and Eurocurrency liabilities (net balances of depository institutions organized in the United States but with non-U. S. offices and international banking facilities).[7]

Reserve requirement computation methods also changed in the 1960s and 1970s. In 1968, the Board of Governors adopted a system of lagged reserve requirements. Under this system, an institution's required reserves were computed based on its deposit levels from the preceding 2 weeks, replacing contemporaneous computation occurring during a reserve maintenance period. Contemporaneous computation provides for a real-time link between reserve requirements and M1 (the sum of currency held by the public plus transaction deposits of depository institutions). Four years later in 1972, the Board of Governors adopted a graduated reserve requirements schedule—varying reserve requirements depending on deposit levels regardless of geographic location. Because reserve requirements were imposed only on the liabilities of member institutions, some state-chartered institutions that chose to be members

[6]Depository institutions had to hold in reserve different percentages of deposits that could be withdrawn on demand (demand deposits) depending on whether they were classified as central reserve city banks (18 percent), reserve city banks (15 percent), or country banks (12 percent). See Pub. L. No. 63-43, § 19, 38 Stat. 251, 270 (1913). Originally, the rationale for these distinctions among cities was a carryover from the designation of redemption cities in the national bank era. In 1913, banks in New York, Chicago, and St. Louis were classified as central reserve city banks, and banks in about 50 other cities were designated as reserve city banks. The number of reserve cities changed as some cities were added and others deleted by the Board of Governors. For example, in 1922, St. Louis was reclassified as a reserve city, and in 1962 the central reserve city designation was eliminated altogether. See *Reserve Requirements: History, Current Practice, and Potential Reform*.

[7]By imposing marginal reserve requirements on these deposit liabilities, the Federal Reserve affected the cost of acquiring these liabilities and thus the supply of credit though banks.

began to leave the Federal Reserve.[8] The graduated reserve requirements were intended to reduce reserve requirements for smaller banks, which were more likely to leave the Federal Reserve, but it further weakened the link between M1 and aggregate reserve balances. In response, the Federal Reserve adopted a quantity operating procedure (targeting the amount of reserve balances in the banking system overall through open market operations) designed to maintain close, short-run control of M1 in 1979.[9] According to the Federal Reserve, the ability to control M1 depended on the strength and stability of the link between reserves at member banks and the level of M1 deposits in the entire banking system—a link that was being weakened by the decline in Federal Reserve membership and a complicated system for determining reserve requirements. The Federal Reserve feared that continuing declines in Federal Reserve membership would diminish and undermine the effectiveness of monetary policy under a quantity operating procedure.

In response to declining Federal Reserve membership and to strengthen the Federal Reserve's control over the implementation of monetary policy, Congress passed the Depository Institutions Deregulation and Monetary Control Act of 1980 (Monetary Control Act). The Monetary Control Act amended the Federal Reserve Act to require "all depository institutions," not just member banks, to satisfy reserve requirements, thereby increasing the Federal Reserve's ability to influence money market conditions.[10] It also simplified the graduated reserve requirement schedule. Furthermore, the Monetary Control Act initially set a basic reserve requirement ratio of 3 percent on transaction accounts below a specified level (the "low reserve tranche") and specified a reserve requirement ratio of 12 percent on all transaction accounts over that amount and provided that the Board of Governors could adjust the latter

[8]From the 1950s to 1980, 28 percent of membership generally consists of state-chartered institutions.

[9]An operating procedure is the day-to-day policy actions, or tactics employed to achieve long-run monetary policy objectives, such as targeting a desired quantity of reserves (quantity operating procedure) or a desired price of reserves (interest rate operating procedure).

[10]See Pub. L. No. 96-221, tit. I, § 103, 94 Stat. 132, 134. Reserve requirements are imposed on commercial banks, savings banks, savings and loan associations, credit unions, U.S. branches and agencies of foreign banks, Edge corporations, and agreement corporations.

ratio between 8 percent and 14 percent.[11] The Monetary Control Act also imposed reserve requirements on two other types of liabilities: nonpersonal time deposits, and Eurocurrency liabilities.[12] This effectively broadened the reserves base and allowed the Federal Reserve to improve control over the supply of reserves. The Board of Governors amended Regulation D in 1980 to implement the reserve requirements provisions of the Monetary Control Act.[13] Two years later, Congress passed the Garn-St Germain Depository Institutions Act of 1982 (Garn-St Germain Act), which amended the Federal Reserve Act to provide that transaction accounts at depository institutions below a certain level, known as the "exemption amount" were to be subject to a reserve requirement ratio of zero percent.[14] This amendment provided for the exemption amount to be adjusted each year by a statutory formula that takes into account the percentage increase or decrease in all reservable liabilities at all depository institutions over the previous year.

Roughly beginning in 1984, the Federal Reserve shifted from targeting M1 towards targeting the cost of reserves (federal funds rate) and then adjusting the supply of balances in the banking system relative to the demand for balances to achieve the target federal funds rate. That same year, the Board of Governors moved from a system of lagged reserve requirements (reserve requirements computation based on institutions' deposit levels from the preceding 2 weeks) to a system of contemporaneous reserve requirements (reserve requirements computed during the reserves maintenance period). Although the focus was not on M1, this change tightened the link between reserves and M1, allowing the Federal Reserve to achieve a stable, predictable demand for reserves and estimate the supply of reserves needed to achieve the target federal funds rate. In 1998, the Board of Governors returned to a system of lagged reserve requirements, which is still in place. The Federal Reserve Act as originally enacted neither explicitly authorized the payment of interest on reserve balances maintained at Reserve Banks nor

[11] § 103, 94 Stat. at 134.

[12] § 103, 94 Stat. at 134 and 136.

[13] See Reserve Requirements of Depository Institutions, 45 Fed. Reg. 56009 (Aug. 22, 1980). The Federal Reserve promulgated the predecessor regulation to Regulation D in 1914. Regulation No. 7, Federal Reserve Board, November 11, 1914.

[14] See Pub. L. No. 97-320, tit. IV, § 411(a), 96 Stat. 1469, 1520 (codified at 12 U.S.C. § 461(b)(11)).

specifically prohibited the payment of interest.[15] However, Congress passed the Financial Services Regulatory Relief Act of 2006, which amended the Federal Reserve Act to provide specific authorization for balances at Reserve Banks to receive earnings (interest on reserves).[16] This effectively broadened the set of monetary policy tools available to the Federal Reserve.

[15]The Monetary Control Act required the Federal Reserve to pay interest on supplemental reserves (reserves on marginal sources of funding) if it chose to impose them. See Pub. L. No. 96-221, tit. I, § 103, 94 Stat. 132, 135.

[16]See Pub. L. No. 109-351, § 201, 120 Stat. 1966, 1968. The original effective date was 2011 (see § 203, 120 Stat. at 1969), but Congress gave the Federal Reserve authority to begin paying interest on reserves in 2008. See Pub. L. No. 110-343, § 128, 122 Stat. 3765, 3796. (amending 12 U.S.C. § 461(b)).

Appendix IV: Monetary Policy Implementation without Reserve Requirements

Central banks have generally transitioned from reserve operating procedures where reserve requirements are critical to achieving monetary policy objectives. Although not necessarily generalizeable to the United States, the experiences of central banks in several countries suggest that it is possible to achieve monetary policy objectives in an environment of zero reserve requirements—or when these requirements are nonbinding. The common element in each of these cases is the use of interest rate operating procedures, where monetary policy tools are used to contain policy targets within a specific range. The primary instruments that enable these operating procedures are mechanisms to influence the demand for central bank balances, such as the payment of interest on reserves and lending facilities similar to the discount window. Approaches that use these tools to establish upper and lower limits on a policy rate (e.g., the federal funds rate) are referred to as “channel” or “corridor” operating frameworks. In general, the targeted interest rate is bounded within a “corridor” by a rate of interest on central bank lending at the top and a rate of interest on deposits at the central bank at the bottom to limit fluctuation in that targeted rate. The payment of interest on reserves is critical to successful implementation of monetary policy in an operating framework where required reserves are set to zero or are nonexistent.

Useful lessons about the implementation of monetary policy in a zero reserve requirement environment come from the experiences of countries that have elected to eliminate or significantly reduce reserve requirements. Many of these approaches have been employed for a number of years. For example, Canada phased out reserve requirements by 1994 while the Bank of England did so by 1981. While there are consequences for reducing or eliminating reserve requirements on the implementation of monetary policy, including potential short-term interest rate volatility and the cost associated with other frameworks, the corridor operating frameworks in these and other counties also provide examples of dealing with those consequences without reliance on the required maintenance of reserves.[1] However, the ability to extend the experiences of other countries to the United States is unclear given a number of differences, including the size of the banking systems and type of

[1]Reserve requirements can still play an important role in keeping short-term rates from fluctuating undesirably within the corridor. Other ways to mitigate interest rate volatility include various mechanisms that help generate a demand for central bank balances that are sensitive to interest rates between the upper and lower limits of the corridor. In this manner, the central bank can influence the demand for reserves by the structure of its operational framework.

institutions operating in the financial system. For example, the Canadian financial system consists of roughly 80 banks according to the IMF compared to several thousand banks in the United States.

Corridor operating systems without reserve requirements can vary by the key features and structural elements that reflect each nation's unique institutional and financial market structure as well as key decisions about tradeoffs and preferences.[2] The institutional details of the corridor system also can vary over time at a given central bank. The global financial crisis resulted in a number of nonconventional monetary policy measures by central banks and deviations from the operational frameworks in place pre-crisis. Therefore, while not necessarily reflective of the exact operational procedures currently in place at the given central bank, some examples include the following:

- **Bank of Canada and Reserve Bank of Australia.** Before the global financial crisis, these central banks implemented monetary policy using a simple (or "symmetric") corridor framework where the target interest rate is bounded by central bank deposit and lending facilities—and the aim is to keep short-term rates in the center of the corridor. In the absence of reserve requirements, central bank balances are largely composed of payment and settlement balances and balances held for precautionary purposes. Payment and settlement balances, which are generally less predictable and stable than required reserves, are also not as sensitive to short-term interest rates. As a result, to help keep short-term rates from fluctuating undesirably, the Bank of Canada and Bank of Australia operated relatively narrow corridors and made frequent use of open market operations to manage the overnight rate, among other things. In 2009, the Bank of Canada began temporarily operating what could be characterized as an "asymmetric" corridor or "floor system" (see Reserve Bank of New Zealand below).
- **Bank of England.** Before 2009, the United Kingdom implemented a monetary policy approach based on a system of voluntary reserves. When active, banks must establish a reserve target and maintain that

[2]See D. Bowman, E. Gagnon, and M. Leahy, "Interest on Excess Reserves as a Monetary Policy Instrument: The Experience of Foreign Central Banks," International Finance Discussion Papers, No. 996 (Board of Governors of the Federal Reserve System: 2010) and Gordon H. Sellon and Stuart E. Weiner, "Monetary Policy Without Reserve Requirements: Case Studies and Options for the United States," Economic Review, quarter II (Federal Reserve Bank of Kansas City: 1997) for a fuller description of the corridor operating approaches taken by foreign central banks.

target to earn interest and are penalized for holding an amount outside the target range. Banks can ensure the target is reached by using the Bank of England's standing lending and borrowing facilities. These standing facilities form a ceiling and floor (interest rate corridor) around the policy rate. Open market operations were conducted several times during the day to meet the demand for central bank balances and supply appropriate levels of reserves to meet banks' target level of reserves. The Bank of England suspended voluntary reserves targets in March 2009 and moved to an asymmetric corridor system in which the targeted rate is close to the Bank of England lending rate.

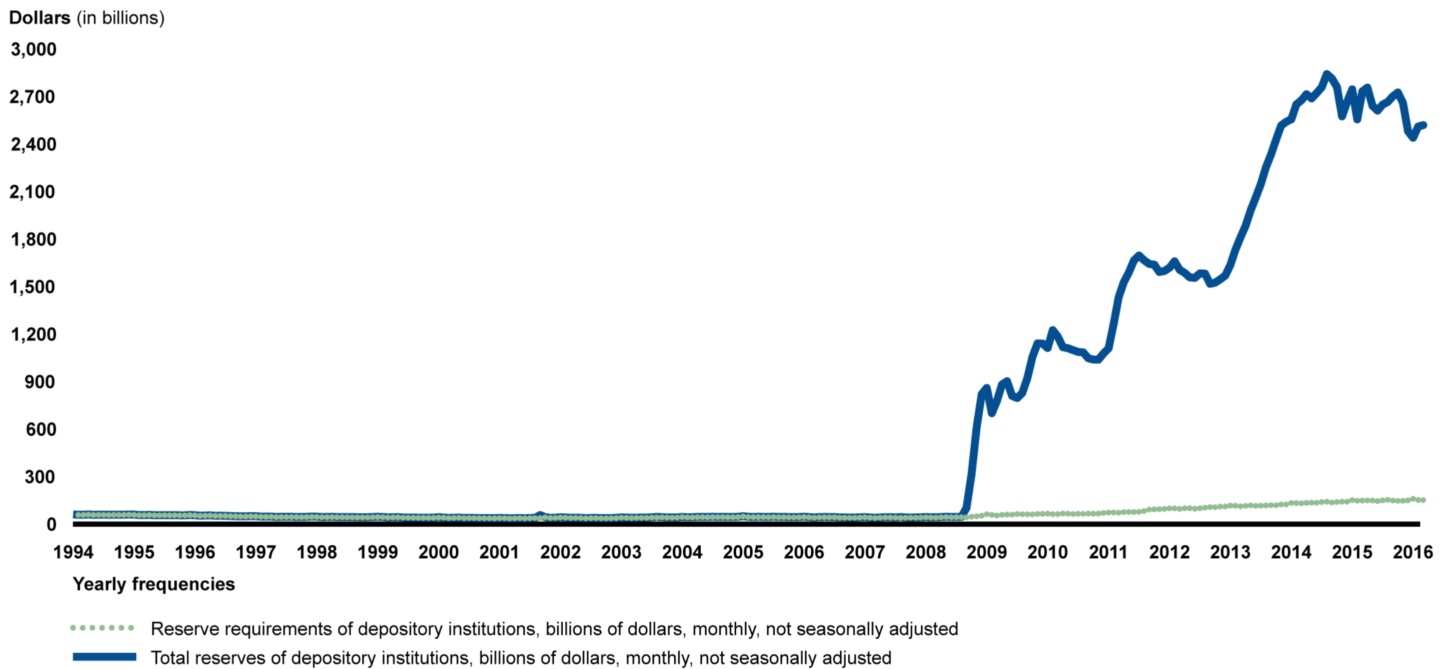
- **Reserve Bank of New Zealand.** In 1999, the Reserve Bank of New Zealand began implementing monetary policy through a symmetric corridor system, relying on standing lending and deposit facilities, and open market operations. As in the systems described above, payment and clearance balances factor heavily in the conduct of monetary policy. In response to concerns about the effectiveness of the corridor framework, the central bank began substantially increasing the volume of central bank balances in the system in 2006. This approach of providing abundant balances (reserves) serves to reduce interest rate volatility within the corridor.[3] It is important to note that there are very few financial institutions operating in New Zealand and the majority of these are foreign owned.

The Federal Reserve currently operates a monetary policy approach that is similar to the type of framework it could employ if it were to significantly reduce or eliminate reserve requirements. However, the Federal Reserve revised its operational framework for monetary policy implementation to enhance its control over the federal funds rate given the amount of excess reserves in the system. The high volume of reserves is a consequence of actions taken by the Federal Reserve to address the recent global financial crisis. As figure 7 shows, balances maintained to satisfy reserve requirements are so low relative to the total balances in the banking system that reserve requirements are considered "nonbinding" on the behavior of depository institutions. As of March 2016, balances maintained to satisfy reserve requirements totaled $152 billion while total reserve balances totaled $2.52 trillion—indicating that excess

[3]Corridor approaches where the banking system operates with substantial excess holdings of central bank balances and the short-term market rate is allowed to trade at a level close to the policy rate floor are known as floor systems. In response to the financial crisis a number of central banks have operated floor systems similar to the Reserve Bank of New Zealand, including the Bank of England and the Bank of Canada.

balances are more than $2 trillion. Under these conditions, reserve requirements do not play the typical facilitating role in the implementation of monetary policy in the United States. More importantly, because of the size of its balance sheet, the Federal Reserve had difficulty influencing the federal funds rate through the typical shifts in the supply of reserves, which warranted a revision in its operational framework for implementing monetary policy.

Figure 5: Required and Total Reserves Held by Depository Institutions, 1994–2016



Source: Federal Reserve Bank of St. Louis (Federal Reserve Economic data). | GAO-17-117

To retain flexibility in its treatment of assets purchased in response to the financial crisis, since 2008, the Federal Reserve has been influencing the federal funds rate using tools that include the payment of interest of reserves (which also would be necessary to implement monetary policy in an operating framework with reserve requirements set to zero). The Federal Reserve's current approach is anchored by the rate of interest it pays on reserves and the interest rate on the overnight reverse repurchase agreement (RRP) facility that is also accessible to nondepository financial institutions. A key feature of this operating procedure is that it allows the Federal Reserve to significantly increase

the supply of reserves while keeping the short-term interest rate close to its target.[4]

While the Federal Reserve uses key elements of the corridor operating approaches used by foreign central banks, it has not formally adopted a corridor system. Nevertheless, the U.S and foreign experiences illustrate that monetary policy can be implemented in an environment in which reserve requirements are not binding (due to low or zero reserve requirements or abundant excess reserves). However, the operational framework in the United States has not been tested in an environment of scarce reserves. In such an environment, a number of technical, operational, and practical issues would need to be addressed. GAO offers no policy conclusions on the appropriate approach for the United States and this presentation should not be interpreted as a judgement on how monetary policy should be conducted.

[4]In other interest rate operating approaches, the quantity of reserve balances must be set to a particular level to achieve the interest rate target. This is theoretically not the case with the floor variant of the corridor operating system.

Appendix V: Comments from the National Credit Union Administration

National Credit Union Administration
Office of the Executive Director

August 17, 2016

SENT BY E-MAIL

Lawrence Evans
Director, Financial Markets and Community Investment
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548
evansl@gao.gov

Dear Director Evans:

We have reviewed the GAO's study entitled *Federal Reserve – Observations on Regulation D and the Use of Reserve Requirements*. The report evaluates the impact and alternatives to the current reserve requirements regime used in the United States.

We recognize the complexities as outlined in the study to changing the current regime, including the potential impact on implementing monetary policy.

Thank you for the opportunity to comment.

Sincerely,

for Mark Treichel
Executive Director

1775 Duke Street – Alexandria, VA 22314-3428 – 703-518-6320

Appendix VI: GAO Contact and Staff Acknowledgements

GAO Contact

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

Staff Acknowledgments

In addition to the contact listed above, Karen Tremba (Assistant Director), Vida Awumey (Analyst-in-Charge), and Abigail Brown made major contributions to this report. Also contributing to this report were Carl Barden, Bethany Benitez, Rudy Chatlos, Andrew Furillo, Farrah Graham, John Karikari, Jill Lacey, Kristeen McLain, Roberto Pinero, Barbara Roesmann, and Jena Sinkfield.

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