

Supervision and Regulation Report





The Federal Reserve System is the central bank of the United States. It performs five key functions to promote the effective operation of the U.S. economy and, more generally, the public interest.

The Federal Reserve

- conducts the nation's monetary policy to promote maximum employment and stable prices in the U.S. economy;
- promotes the stability of the financial system and seeks to minimize and contain systemic risks through active monitoring and engagement in the U.S. and abroad;
- **promotes the safety and soundness of individual financial institutions** and monitors their impact on the financial system as a whole;
- fosters payment and settlement system safety and efficiency through services to the banking industry and U.S. government that facilitate U.S.-dollar transactions and payments; and
- promotes consumer protection and community development through consumer-focused supervision and examination, research and analysis of emerging consumer issues and trends, community economic development activities, and administration of consumer laws and regulations.

To learn more about us, visit www.federalreserve.gov/aboutthefed.htm.

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Preface

The Federal Reserve promotes the safety and soundness of individual financial institutions and monitors their impact on the financial system. It is responsible for supervising—monitoring, inspecting, and examining—certain financial institutions to ensure that they comply with rules and regulations, and that they operate in a safe-and-sound manner. The Federal Reserve supervises bank holding companies, savings and loan holding companies, the U.S. operations of foreign banking organizations, and state member banks of varying size and complexity.

The Federal Reserve Board publishes its semiannual Supervision and Regulation Report to inform the public and provide transparency about its supervisory and regulatory policies and actions as well as current banking conditions. Previous reports are available at https://www.federalreserve.gov/publications/supervision-and-regulation-report.htm.

For more information on how the Federal Reserve Board promotes the safety and soundness of individual financial institutions and the financial system see https://www.federalreserve.gov/supervisionreg.htm.

Abbreviations

ACL	allowance for credit losses
AI	artificial intelligence
AML	anti-money laundering
API	application programming interface
BTFP	Bank Term Funding Program
ВНС	bank holding company
BSA	Bank Secrecy Act
CA	Consumer Affairs
CBLR	Community Bank Leverage Ratio
СВО	community banking organization
CDS	credit default swap
CECL	current expected credit loss
CET1	common equity tier 1
CLD	construction and land development
CRE	commercial real estate
C&I	commercial and industrial
FASB	Financial Accounting Standards Board
FB0	foreign banking organization
FDIC	Federal Deposit Insurance Corporation
FFIEC	Federal Financial Institutions Examination Council
FHLB	Federal Home Loan Bank
Fintech	financial technology
GAAP	generally accepted accounting principles
G-SIB	global systemically important bank
HELOC	home equity line of credit
IHC	intermediate holding company
IT	information technology
IRR	interest rate risk
LB0	large banking organization
LFBO	large and foreign banking organization

LISCC	Large Institution Supervision Coordinating Committee
NBA	nonbank assets
NMB	state nonmember bank
occ	Office of the Comptroller of the Currency
RBO	regional banking organization
RRE	residential real estate
SEC	U.S. Securities and Exchange Commission
SHC	securities holding company
SLHC	savings and loan holding company
SMB	state member bank
SR	Supervision and Regulation
U.S. G-SIB	global systemically important bank headquartered in the United States
wSTWF	weighted short-term wholesale funding

Executive Summary

The U.S. banking system is sound and resilient, with strong capital and liquidity. At the same time, recent stress in the banking system shows the need for us to be vigilant as we assess and respond to risks. The recent failures of three large U.S. banks have also demonstrated the risks of concentrated funding sources and poor management of interest rate risks. As interest rates have risen, fair values of investment securities have declined significantly. Deposit costs have also increased from low levels, and firms are turning to wholesale borrowings to address emerging funding needs. Delinquency rates for some loan segments have started to increase from the low levels seen over the past several years. Banks have increased provisions for credit losses in anticipation of asset quality deterioration. Accordingly, supervisors are redoubling their efforts to assess banks' preparedness for emerging credit, liquidity, and interest rate risks.

During 2022, Federal Reserve supervisors began preparing for the increased possibility of a more challenging economic environment for banks. In view of unprecedented growth of deposits during the pandemic and questions about how depositors would react to more adverse conditions, supervisors focused on assessing firms' ability to manage risks related to liquidity. Supervisors also undertook additional examination work to evaluate interest rate risks and the impact on firms' funding options. Declines in the fair value of investment securities have led to pressures on liquidity and capital at some banks, necessitating updates to contingency funding plans. Federal Reserve supervisors have also increased efforts to evaluate banks' credit risk exposure, with particular attention being focused on regional and community banks' commercial real estate lending.

This report focuses on developments in three areas:¹

- Banking System Conditions provides an overview of the financial condition of the banking sector.
- 2. Regulatory Developments outlines the Federal Reserve's recent regulatory policy work.
- Supervisory Developments highlights the Federal Reserve's current supervisory programs and priorities.

¹ Generally, data in this report are as of year-end 2022.

Banking System Conditions

The banking system remains sound and holds high levels of capital and liquidity. However, uncertain economic conditions and rising interest rates are increasing firms' credit, liquidity, and interest rate risks. Declines in the fair value of investment securities have increased significantly, reduced asset liquidity and, for certain banks, weighed on capital. The recent failures of three large U.S. banks have also demonstrated the risks of concentrated funding sources and poor management of interest rate risks (see box 3).

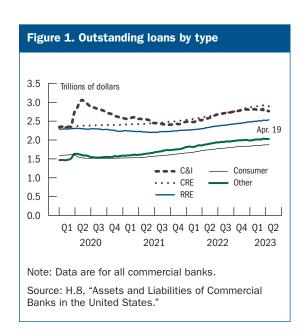
Deposits have also fallen, leading to higher funding costs and increased reliance on wholesale borrowings. Delinquency and net charge-off rates for some consumer loan and commercial real estate (CRE) segments have increased. The strong growth in net interest income in recent quarters is likely to abate as funding costs rise (see the "Supervisory Developments" section).

Loan Growth Continued, but Pace of Growth Has Slowed

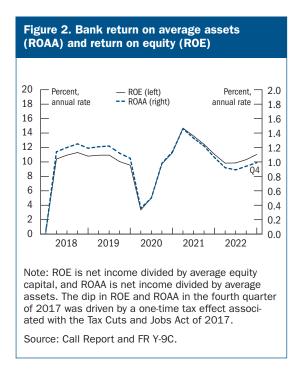
Loan balances continued to grow in the fourth quarter of 2022 and the first quarter of 2023 across most major loan categories. However, the pace of growth slowed relative to the second and third quarters of 2022 (figure 1). Tighter lending standards and weaker demand contributed to the

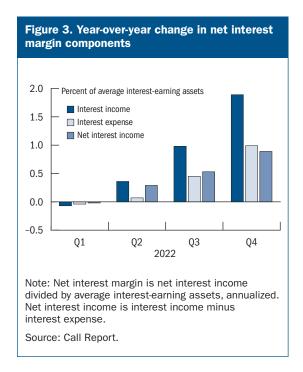
slower growth in commercial and industrial (C&I) and CRE lending.² Robust consumer spending continued to drive growth in credit card loan balances, pushing overall consumer loan balances higher. Residential real estate (RRE) loan balances increased, but mortgage originations slowed with rising interest rates.

Deposits have declined since reaching a high of \$18 trillion in April 2022. Between April 2022 and April 2023, deposits fell by \$960 billion. Consequently, the ratio of loans to deposits reached 70 percent in April 2023, up from 61 percent a year prior. Despite this recent increase, the ratio of loans to deposits remained below its 10-year average of



² Board of Governors of the Federal Reserve System, "The January 2023 Senior Loan Office Opinion Survey on Bank Lending Practices," Senior Loan Office Opinion Survey on Bank Lending Practices (2023), https://www.federalreserve.gov/data/sloos/sloos-202301.htm.





72 percent. For additional background, see box 1 on page 6 of the November 2022 Supervision and Regulation Report.³

Net Interest Margins Expanded, but Funding Costs Are Increasing

During the second half of 2022, bank earnings performance, measured as return on average assets and return on equity, improved (figure 2). Strong growth in net interest income more than made up for increasing loan loss provisions and falling noninterest income.

Net interest margins measure the difference between interest income and the amount of interest paid for funding, expressed as a share of average earning assets. Between year-end 2021 and year-end 2022, the industry net interest margin increased by nearly 1 percent, boosted by strong year-over-year growth in interest income (figure 3).

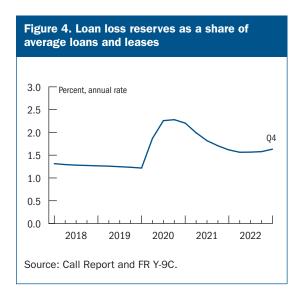
Net interest income is unlikely to experience such strong growth this year. Many firms hold fixedrate assets that were acquired when interest rates were lower than current market rates. These assets will weigh on future interest income. Funding costs are expected to increase as interest rates on deposits rise with market rates and funding mixes shift toward more use of wholesale sources.

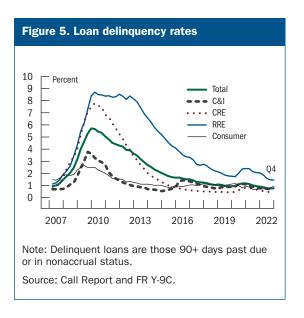
³ Board of Governors of the Federal Reserve System, Supervision and Regulation Report (Washington: Board of Governors, November 2022), https://www.federalreserve.gov/publications/files/202211-supervision-and-regulation-report.pdf.

Noninterest income fell as mortgage banking, investment banking, and investment management revenues declined. Provisions increased as firms built up credit loss reserves for loans and leases due to loan growth and a weakening credit outlook (figure 4).⁴

Delinquency Rates Are Low but Rising

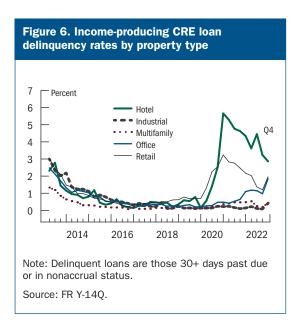
Overall, problem loan levels remain low. Delinquency rates were little changed across most major loan categories in the second half of 2022. The one exception was consumer loans, as credit card and auto loan delinquency rates continued to rise from low levels (figure 5). The Federal Reserve expects loan delinquency rates to increase as loan interest rates are adjusted higher. CRE loan performance is also being monitored closely given potential deterioration in the office segment stemming from the trend toward working from home. Vacancy rates for office properties in central business districts have increased. Based on data from the Capital Assessments and Stress Testing information collection (FR Y-14Q), the delinquency rate for the office segment was over 1.8 percent in the fourth quarter of 2022, well above its 10-year average of 0.7 percent (figure 6). The office segment represented 22 percent of total income-producing CRE loan commitments as of the fourth quarter of 2022.

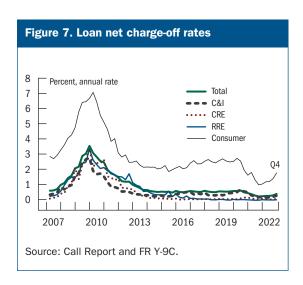




Net charge-off rates remained near 15-year lows. However, all major loan categories recorded higher net charge-off rates in the second half of 2022. The most notable increase was in consumer loans, as credit card and auto loan charge-offs drove the consumer loan net charge-off rate higher for a fifth quarter in a row (figure 7). In the fourth quarter of 2022, the auto loan net

⁴ As of the fourth quarter of 2022, more than one-third of the industry's credit loss reserves for loans and leases were allocated to credit cards.





charge-off rate more than doubled from a year prior, albeit from historically low levels. Meanwhile, the credit card net charge-off rate continued to rise, reaching its highest level since the second quarter of 2021.⁵ Still, the credit card net charge-off rate remains historically low.

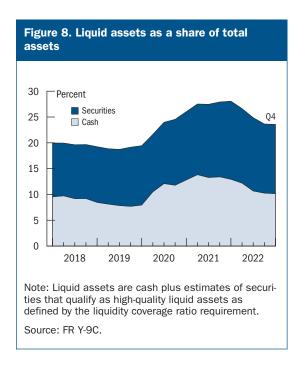
Banks' projections in the second half of 2022 indicated a weakening credit outlook, which led banks to increase loan loss provisions. Firms have been closely monitoring their CRE portfolios, especially office exposures, for signs of stress. The level of credit risk in office exposures has grown amid higher interest rates, tighter lending standards, and a structural change in the office market due to work from home and hybrid work options. In addition, large firms lowered their internal loan risk ratings for most CRE property types and some C&I sectors, such as healthcare and manufacturing, in the fourth quarter of 2022.

Liquid Assets Remain High Overall, but Some Firms Face Increased Funding Risk

Liquid assets, including cash and securities, declined in the second half of 2022. Banks added about \$2.4 trillion in cash balances between the onset of the pandemic and the third quarter of 2021. Since then, however, cash balances have declined by almost \$1 trillion, as banks have used existing cash holdings to manage a decline in deposits and to fund increased lending. Despite these recent declines, liquid assets' share of total assets remained above its 10-year average (figure 8).

⁵ The recent rise in credit card delinquency and net charge-off rates were driven by the nonprime segment.

Securities held by firms continued to depreciate in the second half of the year. As of the fourth quarter of 2022, the fair value of available-for-sale securities declined to an estimated \$277 billion below their amortized cost, compared to \$224 billion as of the second quarter of 2022.6 This level of declines in the fair value of securities limits firms' willingness to sell securities to meet funding needs, as selling securities below their amortized cost would result in realized losses and negatively affect earnings. Significant declines in the fair value of securities, combined with high levels of uninsured deposits, can elevate liquidity risks, as seen with the failure of Silicon Valley Bank. For additional background, see box 3 on page 11 of



the November 2022 Supervision and Regulation Report.⁷ As an alternative to selling securities, firms can access other contingent sources of funding, including the discount window and the new Bank Term Funding Program, by pledging eligible securities.

Capital Levels Remain Well Above Regulatory Minimums

Firms added to capital through the retention of earnings in the second half of 2022. The industry's aggregate common equity tier 1 (CET1) capital ratio, which measures capital that absorbs losses as they occur relative to risk-weighted assets, was slightly below its five-year average at the end of 2022 (figure 9). Despite declines in the fair value of available-for-sale securities weighing on their CET1 capital, the largest and most complex firms improved their aggregate CET1 capital ratio.⁸

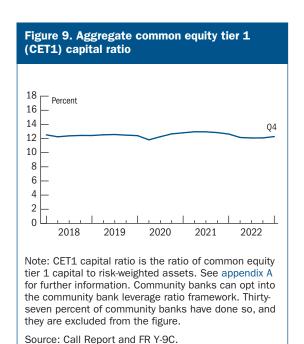
Many banks, however, have reported declines in tangible common equity capital as interest rates have increased. Dower tangible common equity can adversely affect market participants' capital assessments, stock price valuations, and access to certain types of funding.

⁶ Held-to-maturity securities are reported at amortized cost. As such, changes in their fair value are not reflected on firms' balance sheet and do not affect firms' tangible book value of capital. As of the fourth quarter of 2022, the fair value of held-to-maturity securities was an estimated \$341 billion below their amortized cost. Estimates do not reflect losses related to available-for-sale securities that were transferred to held-to-maturity and do not reflect hedging impacts or tax consequences.

⁷ November 2022 Supervision and Regulation Report.

While most firms can opt out of including changes in the fair value of available-for-sale securities in regulatory capital, LISCC firms must include these fair value changes in CET1 capital.

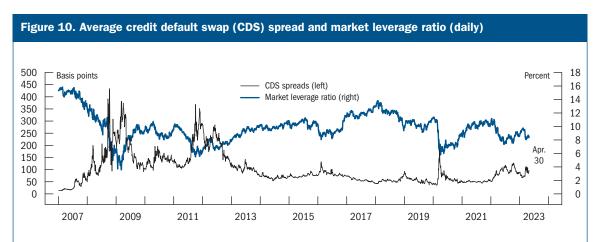
⁹ Tangible common equity is calculated by subtracting preferred equity and intangible assets (including goodwill) from a bank's book value of capital. Changes in the fair value of available-for-sale securities are included in the book value of capital.



Bank Market Indicators Have Deteriorated

The market leverage ratio and credit default swap (CDS) spreads reflect the market's assessment of bank health. The market leverage ratio is a market-based measure of a firm's capital position, where a higher ratio indicates more market confidence in the firm's financial strength. CDS spreads are a market-based measure of a firm's risk, where a lower spread indicates more market confidence in the firm. These two indicators provide the Federal Reserve with an independent, forward-looking view of the strength of the banking system.

The average market leverage ratio and average CDS spread for the largest firms showed notable improvement from mid-2022 levels. By mid-October 2022, both indicators had recovered more than two-thirds of the deterioration seen in the first part of 2022. Following the failures of two large firms in March 2023, the average CDS spread for the largest firms spiked from 71 basis points to 112 basis points and the average market leverage ratio for the largest firms fell from 9.2 percent to 8.0 percent (figure 10). Despite the recent deterioration, neither indicator has



Note: The market leverage ratio is the ratio of a firm's market capitalization to the sum of market capitalization and the book value of liabilities. Averages are calculated from available observations for the eight LISCC firms (Bank of America Corporation; The Bank of New York Mellon Corporation; Citigroup Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; State Street Corporation; and Wells Fargo & Company).

Source: Federal Reserve staff calculations using Bloomberg data.

approached the levels seen during the onset of the pandemic, when the average CDS spread and average market leverage ratio for the largest firms reached 185 basis points and 5.8 percent, respectively.

Box 1 provides a summary of bank financial performance and capital positions through the first quarter of 2023 based on the earnings results of a set of large banks.

Box 1. 1Q23 Earnings at Large Firms

This box provides a recap of banking sector conditions through March 31, 2023, based on earnings results for the 22 large U.S. bank holding companies and one savings and loan holding company subject to stress testing on an annual or biennial basis. While such trends are indicative, it should be noted that the sample may not necessarily be representative of the banking sector.

Earnings Increased Both Quarter-over-Quarter and Year-over-Year

Large banks' earnings in the first quarter of 2023 surpassed 2022 levels. Aggregate bank profitability, as measured by return on equity, approximated 13 percent in the first quarter of 2023, compared with 11 percent in the fourth quarter of 2022 and 12 percent earned in the first quarter of 2022.

Higher noninterest income, in part due to seasonally higher trading revenue, drove the quarter-overquarter improvement in return on equity. Higher net interest income, reflecting the effect of rising interest rates on asset yields and robust loan growth, drove the year-over-year improvement in return on equity.

Deposits Continued to Decline though Trends Mixed Across Large Bank Sample

In the first quarter of 2023, aggregate deposits for the sample declined quarter-over-quarter for the third time in the past four quarters.

Outflows of commercial, wealth management, and noninterest-bearing deposits continued to drive deposit declines in the first quarter of 2023. Across the large bank sample, deposit flows were comparatively better for online consumer-focused banks, which tend to pay higher deposit rates. On earnings calls, management teams indicated that the recent bank failures had minimal impacts on their forecasts for deposit levels and costs.

Banks Modestly Built Loan Loss Reserves

In the first quarter of 2023, banks modestly built loan loss reserves for a third consecutive quarter. As expected, loan losses continued to rise slowly in the first quarter of 2023 and remain below prepandemic levels. On earnings calls, bank management teams cited commercial real estate as a sector that they are watching closely, particularly the office category.

Capital Ratios Increased Modestly

Common equity tier 1 (CET1) capital ratios increased modestly since the end of 2022. The aggregate CET1 capital ratio for the sample approximated 12 percent on March 31, 2023, which was slightly higher than last quarter's level and pre-pandemic levels.

Increased CET1 capital drove the quarter-over-quarter increase in the aggregate CET1 capital ratio. During the first quarter of 2023, many Large Banking Organizations reduced or halted share repurchases in part due to heightened macroeconomic uncertainty. Although Large Institution Supervision Coordinating Committee (LISCC) firms had previously slowed or suspended share repurchase in prior quarters, several LISCC firms have increased share repurchases in the first quarter of 2023.

¹ The sample includes Ally Financial Inc.; American Express Company; Bank of America Corporation; The Bank of New York Mellon Corporation; Capital One Financial Corporation; The Charles Schwab Corporation; Citigroup Inc.; Citizens Financial Group, Inc.; Discover Financial Services; Fifth Third Bancorp; The Goldman Sachs Group, Inc.; Huntington Bancshares Incorporated; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corporation; Morgan Stanley; Northern Trust Corporation; The PNC Financial Services Group, Inc.; Regions Financial Corporation; State Street Corporation; Truist Financial Corporation; U.S. Bancorp; and Wells Fargo & Company. Data is unadjusted for mergers and acquisitions.

Regulatory Developments

The Federal Reserve has taken several policy actions since the publication of the November 2022 Supervision and Regulation Report. Significant actions are detailed in table 1 below. All Supervision and Regulation (SR) and Community Affairs (CA) letters are available on the Federal Reserve Board's website. ¹⁰

The Federal Reserve recently issued statements for supervised institutions engaged in or interested in engaging in crypto-asset-related activities (box 2). The crypto-asset-related statements support the financial industry's innovative use of technology to efficiently provide financial services in a safe-and-sound manner.

From 11/01/2022 to 04/28/2023			
Date issued	Rule/guidance		
11/23/2022	Agencies announce results of resolution plan review for largest and most complex domestic banks. Joint press release: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20221123a.htm		
12/2/2022	Federal Reserve Board invites public comment on proposed principles providing a high-level framework for the safe-and-sound management of exposures to climate-related financial risks for large banking organizations. Press release: https://www.federalreserve.gov/newsevents/pressreleases/other20221202b.htm		
12/16/2022	Federal Reserve Board adopts final rule that implements Adjustable Interest Rate (LIBOR) Act by identifying benchmark rates based on SOFR (Secured Overnight Financing Rate) that will replace LIBOR in certain financial contracts after June 30, 2023. Press release: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20221216a.htm		
1/3/2023	Agencies issue joint statement on crypto-assets risk to banking organizations. Joint press release: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230103a.htm		
1/17/2023	Federal Reserve Board provides additional details on how its pilot climate scenario analysis exercise will be conducted and the information on risk-management practices that will be gathered over the course of the exercise. Press release: https://www.federalreserve.gov/newsevents/pressreleases/other20230117a.htm		
1/27/2023	Federal Reserve Board issues policy statement to promote a level playing field for all banks with a federal supervisor, regardless of deposit insurance status. Press release: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230127a.htm		
2/23/2023	Agencies issue joint statement on liquidity risks resulting from crypto-asset market vulnerabilities. Joint press release: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230223a.htm		

The Federal Reserve publishes SR and CA letters to address significant policy and procedural matters related to the Federal Reserve System's supervisory responsibilities and its consumer compliance supervisory responsibilities, respectively. SR letters are available on the Board's website at https://www.federalreserve.gov/supervisionreg/srletters/srletters.htm, and CA letters are available on the Board's website at https://www.federalreserve.gov/supervisionreg/caletters/caletters.htm.

Box 2. Crypto-Assets

The Federal Reserve recently issued statements for supervised institutions engaged in or interested in engaging in crypto-asset-related activities or with crypto-sector participants. Taken together, the statements have instructed banking organizations to take a careful and cautious approach with crypto-asset-related activities or crypto-sector exposures and to ensure their risk management is appropriate. Banking organizations are neither prohibited nor discouraged from providing banking services to customers of any specific class or type, as permitted by law or regulation.

On January 3, 2023, and February 23, 2023, the Federal Reserve, the Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC) issued joint statements on risks related to crypto-assets. Risks include the possibility of fraud or misrepresentations, significant volatility, immature risk-management practices, and heightened risks associated with open, public, and/or decentralized networks. The January 3 statement also described the agencies' approaches to supervising these activities, noting their careful and cautious approach for current and proposed activities at banking organizations. The February 23 statement notes that certain sources of funding from crypto-asset-related entities may pose heightened liquidity risk and can lead to unpredictable deposit inflows and outflows at banking organizations. The statement reminds supervised institutions to monitor the drivers of liquidity risk and to maintain effective risk-management practices for those risks.

On January 27, 2023, the Federal Reserve issued a policy statement on section 9(13) of the Federal Reserve Act (Act).² The preamble to that statement provides clarification for state member banks on the Board's interpretation of section 9(13) of the Act with respect to certain crypto-asset-related activities. The statement also stated that the Federal Reserve would presumptively prohibit state member banks from holding crypto-assets as principal.

The Federal Reserve continues to actively monitor and supervise interest or engagement in crypto-asset-related activities by supervised institutions. The Federal Reserve will continue to build knowledge, expertise, and understanding of the risks crypto-assets and crypto-asset-related activities may pose to banking organizations, their customers, and the broader U.S. financial system. The Federal Reserve is creating a specialized team of experts to monitor and analyze novel-activities-related developments and to coordinate oversight of banking organizations engaging in such activities.

See Board of Governors of the Federal Reserve System, "Joint Statement on Crypto-Asset Risks to Banking Organizations," news release, January 3, 2023, https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230103a1.pdf. See also Board of Governors of the Federal Reserve System, "Joint Statement on Liquidity Risks to Banking Organizations Resulting from Crypto-Asset Market Vulnerabilities," news release, February 23, 2023, https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230223a1.pdf.

² See "Policy Statement on Section 9(13) of the Federal Reserve Act," at https://www.federalregister.gov/documents/2023/02/07/2023-02192/policy-statement-on-section-913-of-the-federal-reserve-act.

Supervisory Developments

This section provides an overview of recent supervisory efforts to assess institutions' safety and soundness and compliance with laws and regulations. There are separate subsections for large financial institutions with assets of \$100 billion or more and community and regional banking organizations. Supervisory approaches and priorities differ by financial institution size and complexity.

The Federal Reserve is responsible for overseeing the implementation of certain laws and regulations relating to consumer protection and community reinvestment. The scope of the Federal Reserve's supervisory jurisdiction varies based on the consumer law or regulation and on the asset size of the state member bank. Consumer-focused supervisory work is designed to promote a fair and transparent marketplace for financial services and to ensure supervised institutions comply with applicable federal consumer protection laws and regulations.

More information about the Federal Reserve's consumer-focused supervisory program can be found in the Federal Reserve's 108th *Annual Report 2021*. The 2022 *Annual Report* is expected to be published by the end of the second quarter of 2023.¹¹

Box 3 describes the results of the Silicon Valley Bank Review.

Current Supervisory Priorities

Anticipating a more challenging banking environment, the Federal Reserve focused examination work during 2022 on assessing the adequacy of bank risk management in addressing the impact of higher interest rates on liquidity, asset values, and credit quality. Bank risk-management practices could include taking actions to build capital and liquidity as needed, and being ready to use available sources of funding, including the discount window and the new Bank Term Funding Program.

Work to date has included horizontal assessments of contingency funding plans at firms supervised by the Large Institution Supervision Coordinating Committee as well as of liquidity risk management at large and foreign banking organizations. In addition, the Federal Reserve has increased supervisory activities at community banking organizations (CBOs) and regional banking organizations (RBOs) with elevated interest rate risk exposures. For those CBOs and RBOs with

¹¹ Board of Governors of the Federal Reserve System, 108th Annual Report of the Board of Governors of the Federal Reserve System (Washington: Board of Governors, 2021), https://www.federalreserve.gov/publications/files/2021-annual-report.pdf.

Box 3. Silicon Valley Bank Review

On March 13, the Federal Reserve Board announced that Vice Chair for Supervision Michael S. Barr would lead a review of the supervision and regulation of Silicon Valley Bank (SVB). On April 28, the review was issued. The review highlighted four key takeaways on the causes of the bank's failure:

- 1. Silicon Valley Bank's board of directors and management failed to manage their risks;
- 2. Federal Reserve supervisors did not fully appreciate the extent of the vulnerabilities as Silicon Valley Bank grew in size and complexity;
- 3. When supervisors did identify vulnerabilities, they did not take sufficient steps to ensure that Silicon Valley Bank fixed those problems quickly enough; and
- 4. The Board's tailoring approach in response to the Economic Growth, Regulatory Relief, and Consumer Protection Act and a shift in the stance of supervisory policy impeded effective supervision by reducing standards, increasing complexity, and promoting a less assertive supervisory approach.

The report is a self-assessment and its lessons will be used to guide efforts to strengthen the Federal Reserve's supervision and regulation. The Federal Reserve also welcomes external reviews of SVB's failure, as well as congressional oversight, and intends to take other perspectives into account as it considers changes to its framework of bank supervision and regulation to ensure that the banking system remains strong and resilient.

significant securities depreciation or otherwise exhibiting elevated interest rate risk, the Federal Reserve is conducting targeted examinations to assess the adequacy of their liquidity and interest rate risk management. Box 4 describes the Board's supervisory approach to assessing interest rate risk.

More recently, examiners have increased the frequency and depth of their monitoring of the funding positions of potentially vulnerable banks. Examination activities have also been directed toward assessing the current valuation of investment securities, deposit trends, the diversity of funding sources, and the adequacy of contingency funding plans.

Given the structural changes in the commercial real estate markets, particularly lower demand for office space, supervisors have also been conducting more in-depth examinations at state member banks with relatively high concentrations of commercial real estate lending. These supervisory reviews include more testing of commercial real estate loans and detailed evaluations of banks' risk-management practices for this activity.

The Federal Reserve has also been carefully monitoring supervised institutions that are engaging in or interested in engaging in crypto-asset-related activities, complex third-party relationships with fintech companies to deliver banking products, or other novel activities. On August 16, 2022, the Federal Reserve issued SR letter 22-6, which explains that a supervised banking organization

¹ Board of Governors of the Federal Reserve System, "Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank," news release, April 28, 2023, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20230428a.htm.

should notify its lead supervisory point of contact at the Federal Reserve prior to engaging in any crypto-asset-related activity, or regarding any crypto-asset-related activities it is currently engaged in.¹² The Federal Reserve is also creating a specialized team of experts to monitor and analyze novel activities-related developments, and help coordinate oversight of such activities at banks (see box 2).

Supervised Institutions

The Federal Reserve supervises bank holding companies, savings and loan holding companies, and state member banks of varying size and complexity. The Federal Reserve follows a risk-focused approach by scaling supervisory work to the size and complexity of an institution.

- The Large Institution Supervision Coordinating Committee (LISCC) program supervises firms that pose elevated risk to U.S. financial stability.
- The Large and Foreign Banking Organization (LFBO) program supervises U.S. firms with total assets of \$100 billion or more and all foreign banking organizations operating in the U.S. regardless of size.
- The Regional Banking Organization (RBO) program supervises U.S. firms with total assets between \$10 billion and \$100 billion.
- The Community Banking Organization (CBO) program supervises U.S. firms with less than \$10 billion in total assets.

Table 2 provides an overview of the organizations supervised by the Federal Reserve, by portfolio, including the number of institutions and total assets in each portfolio.

Large Financial Institutions

This section of the report discusses the supervisory approach for large financial institutions, U.S. firms with total assets of \$100 billion or more, and foreign banking organizations with combined U.S. assets of \$100 billion or more. These firms are either within the LISCC portfolio or the LFBO portfolio. Large financial institutions are subject to regulatory requirements that are tiered to the risk profiles of these firms. Appendix A provides an overview of key regulatory requirements.

Board of Governors of the Federal Reserve System, "Engagement in Crypto-Asset-Related Activities by Federal Reserve-Supervised Banking Organizations," SR letter 22-6/CA letter 22-6 (August 16, 2022), https://www.federalreserve.gov/supervisionreg/srletters/SR2206.htm.

Box 4. Supervisory Approach to Assessing Interest Rate Risk

The Federal Reserve and other banking agencies have longstanding policies and supervisory guidelines that establish safety and soundness principles for a bank's interest rate risk (IRR) management. The Federal Reserve evaluates IRR as part of its assessment of capital adequacy for all supervised firms. Examiners evaluate firms' IRR exposures and management practices as part of regularly scheduled full-scope or targeted examinations for CBOs and RBOs. For the larger banks, including those supervised by the Large Institution Supervision Coordinating Committee and the Large and Foreign Banking Organizations program, the Federal Reserve looks at IRR through continuous monitoring activities and targeted exams. Supervisory conclusions on the level and management of interest rate risk are summarized in the Sensitivity to Market Risk component of the interagency CAMELS rating system. These findings also commonly affect assessments of a bank's management, capital adequacy, and liquidity within the rating system.

Interest rate risk is a fundamental risk in banking. The Federal Reserve and the other federal banking agencies set forth their supervisory expectations for a bank's IRR management in a joint Policy Statement in 1996. 2 More recently, the agencies updated this guidance in 2010, as SR letter 10-1 "Interagency Advisory on Interest Rate Risk Management," and further clarified the guidance with the issuance of FAQs in 2012. 3

The guidance emphasizes the need for internal stress testing to identify and quantify an institution's IRR exposure and potential weaknesses. Stress testing, which includes both scenario and sensitivity analysis, should be an integral component of an institution's IRR management. In evaluating IRR, examiners evaluate a bank's ability to fully identify its current IRR exposure and yield curve risks, risks arising from alternative future interest rate scenarios, and whether the bank has effective IRR measurement models, metrics, and limits. This includes evaluating the risks associated with declines in the fair value of investment securities that can result from changing interest rates. Firms are also expected to continuously monitor and update key assumptions used in IRR models, such as those estimating deposit flows. Changes in depositor behavior can substantially affect IRR. This is particularly relevant during periods of rising interest rates. Firms should also maintain multiple sources of standby funding to address unexpected liquidity needs. The agencies have emphasized that simulated parallel shifts in the yield curve of plus and minus 200 basis points may not be sufficient to adequately assess a firm's IRR exposure during periods in which rate changes are more significant. A firm's risk management is expected to consider changes in rates of varying or greater magnitude (e.g., up and down by 300 and 400 basis points) across different tenors to reflect potential changing slopes and twists of the yield curve.

Firms should have policies to address interest rate risk and, in particular, established risk limits. When risk limits are breached, a bank should have procedures for taking corrective actions. Where IRR levels are excessive or risk-management practices are insufficient, examiners can cite concerns in a formal written communication requiring a bank to address the deficiencies and take further actions to reduce risk.

¹ Refer to the CAMELS definition in appendix A for an explanation of the supervisory ratings framework for state member banks.

² See "Joint Agency Policy Statement: Interest Rate Risk" at https://www.federalregister.gov/documents/1996/06/26/96-16300/joint-agency-policy-statement-interest-rate-risk.

³ See Board of Governors of the Federal Reserve System, "Interagency Advisory on Interest Rate Risk," SR letter 10-1 (January 11, 2010), https://www.federalreserve.gov/boarddocs/srletters/2010/sr1001.htm and "Questions and Answers on Interagency Advisory on Interest Rate Risk Management," SR letter 12-02 (January 13, 2012), https://www.federalreserve.gov/supervisionreg/srletters/sr1202.htm.

Portfolio	Definition	Number of institutions	Total assets (\$ trillions)
Large Institution Supervision Coordinating Committee (LISCC)	Eight U.S. global systematically important banks (G-SIBs)	8	14.3
State member banks (SMBs)	SMBs within LISCC organizations	4	1.1
Large and foreign banking organizations (LFBOs)	Non-LISCC U.S. firms with total assets \$100 billion and greater and FBOs	170	10.2
Large banking organizations (LBOs)	Non-LISCC U.S. firms with total assets \$100 billion and greater	18	5.1
Large FBOs (with IHC)	FBOs with combined U.S. assets \$100 billion and greater	11	3.1
Large FBOs (without IHC)	FBOs with combined U.S. assets \$100 billion and greater	7	1.0
Small FBOs (excluding rep offices)	FBOs with combined assets less than \$100 billion	102	1.0
Small FBOs (rep offices)	FBO U.S. representative offices	32	0.0
State member banks	SMBs within LFBO organizations	10	1.3
Regional banking organizations (RBOs)	Total assets between \$10 billion and \$100 billion	102*	2.8
State member banks	SMBs within RBO organizations	32	1.0
Community banking organizations (CBOs)	Total assets less than \$10 billion	3,504**	2.9
State member banks	SMBs within CBO organizations	655	0.6
Insurance and commercial savings and loan holding companies (SLHCs)	SLHCs primarily engaged in insurance or commercial activities	6 insurance 4 commercial	0.9

Supervisory efforts for large financial institutions focus on four components:

- 1. Capital planning and positions,
- 2. Liquidity risk management and positions,
- 3. Governance and controls, and
- 4. Recovery and resolution planning. 13

In February 2023, the Federal Reserve updated the LISCC program manual, which describes the structure, governance, supervisory process, and communication methods used when supervising large, systemically important firms.¹⁴

See box 5 for large financial institution supervisory priorities.

¹³ For more information regarding the framework for supervision of large financial institutions, see "Consolidated Supervision Framework for Large Financial Institutions," SR letter 12-17/CA letter 12-14 (December 17, 2012), https://www.federalreserve.gov/supervisionreg/srletters/sr1217.htm and box 4 in the 2018 Supervision and Regulation Report, https://www.federalreserve.gov/publications/files/201811-supervision-and-regulation-report.pdf.

¹⁴ See Board of Governors of the Federal Reserve System, Large Institution Supervision Coordinating Committee Program Manual (Washington: Board of Governors, February 2023), https://www.federalreserve.gov/publications/files/liscc-program-manual-202302.pdf.

Box 5. Large Financial Institution Supervisory Priorities

Capital

- Financial risks impacted by economic changes, including
 - Interest rate risk
 - Market and counterparty credit risk
 - Consumer and commercial credit risk
- Risk-management practices in credit, market, and interest rate risk
- Implementation of regulatory phase-ins (e.g., counterparty rules)
- LIBOR transition

Liquidity

- · Contingency funding plans and intraday liquidity risk management
- · Changes in deposits and the effect on funding mix
- · Asset/liability management and stress testing
- Liquidity risk management at foreign banking organization branches

Governance and controls

- Operational resilience, including cybersecurity, novel banking, and information technology risks
- · Third-party vendor risk management
- · Compliance, internal loan review, and audit
- Firm remediation efforts on previous supervisory findings

Recovery and resolution planning

- · Recovery and resolution planning, including critical operations review
- Remediation of and follow-up on resolution plan deficiencies and shortcomings, as necessary
- International coordination among global supervisors

The Financial Condition of Large Financial Institutions

Large financial institutions remain sound and report capital ratios well above regulatory minimums. Their aggregate CET1 capital ratio as of December 31, 2022, was 12.6 percent. Significant declines in the fair value of investment securities, however, are affecting capital levels for some firms. During 2022, most large institutions' net interest margins increased substantially, with asset yields increasing more than funding costs. Going forward, Federal Reserve supervisors expect deposit and borrowing costs to rise at a faster pace, which will likely moderately compress net interest margins.

Generally, liquidity positions remain adequate, and large financial institutions maintain sufficient liquid assets to meet liquidity needs under supervisory stress scenarios. However, the recent failures of Silicon Valley Bank (see box 3) and Signature Bank led to volatility in banking markets and increased funding pressures for some firms. These included First Republic Bank, which failed on May 1. Additionally, stress experienced by Credit Suisse before its announced acquisition by UBS (March 19) contributed to market uncertainty.

LFBO Liquidity Horizontal Review

While all large financial institutions continue to exceed regulatory and firm-specific internal liquidity stress metrics, changes in the economic environment have affected firms' liquidity profiles. To assess these developments, as part of the annual horizontal review of liquidity positions and risk management at LFBO firms, supervisors focused on changes to firms' liquidity stress testing assumptions, foundational aspects of liquidity risk management, such as cash flow forecasting and intraday liquidity management, and contingency funding plans, including firms' ability to use liquidity buffers when needed. Findings from these reviews are being compiled and communicated to firm management, along with recommendations for improvements.

The review noted a decline in fair value of securities held in the liquidity buffers as well as a loss of deposits as investors moved to higher yielding alternatives. The impact of changing rates has also led to multiple strategy shifts across firms. Firms that have experienced more pronounced deposit decreases in recent quarters have replaced some outflows with borrowings. Others have recently started to pay higher rates on deposits to customers. Supervisors expect that increased funding costs will result in somewhat tighter net interest margins going forward.

LISCC Contingency Funding Plan Review

As part of sound liquidity risk management, firms are required to create contingency funding plans to identify potential funding sources during times of stress. Examiners regularly evaluate a firms' contingency funding plans. In 2022, as a follow-up to prior examination work, the LISCC program performed additional examination work to confirm whether firms are able to implement their contingency funding plans on short notice.

Potential contingent actions cannot always be tested during normal times. However, the Federal Reserve expects firms to test less disruptive actions and to perform simulation exercises or draft playbooks for other actions. This enables the Federal Reserve to understand the preparedness of bank staff to take contingent actions during turbulent times. For example, the Federal Reserve expects firms to periodically test their ability to borrow from the discount window, which includes having collateral available and positioned in advance of the need to borrow.

While areas requiring improvement were identified during the review, the Federal Reserve concluded that the LISCC firms have taken significant and credible steps to prepare to execute upon their plans if needed. The Federal Reserve expects supervised institutions to regularly update and test their contingent actions in a manner that reflects evolving market conditions and idiosyncratic changes to firms' risk profiles.

Resolution Planning Reviews

In the fourth quarter of 2022, the Federal Reserve and FDIC completed evaluations of current resolution plans and provided feedback on resolution planning to large financial institutions. ¹⁵ The agencies notified LISCC firms that they need to continue the development of their resolution strategies and capabilities. The Federal Reserve and FDIC also clarified their plans for testing the LISCC firms' capabilities. LISCC firms are required to submit their next resolution plans in July 2023. ¹⁶

Additionally, in December 2022, the Federal Reserve and FDIC provided specific feedback to two large foreign-based institutions. The agencies identified areas of improvement related to cashflow forecasting, governance, and continuity of activities of the U.S. operations in the resolution plans.¹⁷

Community and Regional Banking Organizations

This section of the report discusses the financial condition and supervisory approach for banking organizations with assets less than \$100 billion, including CBOs, which have less than \$10 billion in total assets, and RBOs, which have total assets between \$10 billion and \$100 billion.

The Financial Condition of CBOs and RBOs

During 2022, regulatory capital ratios for community and regional banking organizations improved or remained steady, with the vast majority of CBOs and all RBOs reporting regulatory capital ratios above well-capitalized minimums as of year-end 2022. However, a number of banks hold investment securities with significant declines in the fair value that have reduced their tangible equity levels.

¹⁵ The agencies identified a shortcoming in Citigroup Inc.'s resolution plan and did not identify any shortcomings or deficiencies in the plans from other LISCC banking organizations. See the Board's press release at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20221123a.htm.

¹⁶ The reviews of resolution plans are mandated under section 165(d) of the Dodd-Frank Wall Street Reform and Consumer Protection Act (12 U.S.C. § 5365(d)).

¹⁷ The agencies identified deficiencies in the 2021 plan submission of Credit Suisse AG, and a shortcoming in BNP Paribas' 2021 plan submission. The agencies did not identify shortcomings or deficiencies in the plans from the other LFBOs. See the Board's press release at https://www.federalreserve.gov/newsevents/pressreleases/bcreg20221216b.htm.

Liquidity levels at most CBOs and RBOs remained high and adequate to support ongoing funding needs. For example, at year-end 2022, core deposits as a share of total assets remained high and above pre-pandemic levels. In March and April 2023, as publicly reported, some RBOs experienced significant deposit outflows, reflecting contagion from recent bank failures. Outflows were concentrated at banking organizations with unusually high levels of uninsured deposits, significant declines in the fair value of securities, and exposures to crypto and novel banking activities and the technology sector. Declines in the fair value of securities can affect banks' willingness to sell securities to fund their liquidity needs. As a result, some firms are turning to contingent sources of funding, such as the discount window and other borrowings.

Current problem loan rates remain very low, but delinquencies have increased for some loan segments from the very low levels over the past several years (see the "Banking System Conditions" section). The Federal Reserve also expects increased interest rates on loans to contribute to higher loan delinquencies in 2023.

Most small banking organizations reported sound earnings and substantial improvements in their net interest margins during 2022. However, deposit and borrowing costs are increasing and will moderate net interest margins and likely reduce earnings in 2023.

Examinations of Interest Rate Risk and Funding

Based on emerging interest rate and liquidity risks, in 2022, the Federal Reserve initiated heightened monitoring of, and targeted examinations at, CBOs and RBOs reporting significant declines in the fair value of securities. These efforts have been directed at fully assessing an institution's sensitivity to market risk and evaluating the effects of this exposure on liquidity and capital. Examiners also

Box 6. CBO and RBO Supervisory Priorities for 2023

Credit risk

- High-risk loan portfolios and debt service coverage capacity in a changing interest rate environment
- Credit concentrations, particularly in commercial real estate
- Implementation of Current Expected Credit Losses (CECL) for CBOs in 2023

Liquidity risk

- Contingent funding plans
- · Liquidity coverage of uninsured deposits

Other financial risks

- Interest rate risk
- Securities risk
- Capital adequacy

Operational risk

- Information technology and cybersecurity preparedness
- Fintech and banking-as-a-service activities
- Adequacy of third-party risk management

have been evaluating liquidity and interest rate risk management practices and contingency funding plans at these institutions (box 6). When weaknesses or excessive exposures are identi-

fied, examiners require institutions to take corrective action. They may also downgrade supervisory ratings or implement enforcement actions as appropriate.

In conjunction with these efforts and in the wake of recent bank runs, examiners have elevated the frequency and depth of monitoring of liquidity and interest rate risks at RBOs and CBOs that may be vulnerable to deposit outflows. Furthermore, supervisors have been working with these institutions to ensure they have access to multiple sources of contingent funding, including the Federal Reserve's discount window and recently introduced Bank Term Funding Program. Supervisors are also ensuring banks can operationalize their contingency funding plans as needed during times of stress.

Evaluation of Commercial Real Estate and Other Credit Exposures

The shift toward telework has reduced demand for office space in a number of markets, which could lead to a decline in the value of office properties. In addition, higher interest rates have increased the risk that some commercial real estate mortgage borrowers may have difficulty refinancing maturing loans. CBOs and RBOs often hold higher concentrations in CRE loans and, therefore, can be exposed to a higher level of risk in the event of a downturn in the CRE market. Accordingly, since mid-2021, the Federal Reserve has increased monitoring of the performance of CRE loans. Further, in June 2022, the Federal Reserve expanded examination procedures for CBOs and RBOs with significant CRE concentration risk, focusing on an institution's financial condition, capital planning, and risk management. These added procedures require more transaction testing of loan quality as well as more in-depth assessments of risk-management processes related to commercial real estate lending. Attention is also being aimed at evaluating construction and land development lending activities. Construction lending has historically accounted for a significant share of losses during CRE market downturns.

Some of these CRE loan reviews have resulted in rating downgrades and the issuance of matters requiring attention at these institutions. In view of concerns about the future performance of some CRE loan segments, particularly the office segment, the Federal Reserve will maintain this heightened focus on evaluating CRE lending at CBOs and RBOs through 2023.

The Federal Reserve is also augmenting examination procedures to assess the impact of increasing interest rates on the performance of commercial and industrial loans. This includes additional testing of loan quality and assessments of underwriting quality as part of regularly scheduled examinations.

Cybersecurity and Crypto-Related Risks

Cybersecurity risk remains a notable issue for CBOs and RBOs. While these institutions have been taking steps to strengthen their systems, examiners continue to identify vulnerabilities. Reliance on third-party service providers and other technology solutions also presents operational risks to smaller banking organizations. As a result, examiners are continuing a high level of testing of these institutions' preparedness for ransomware attacks and system breaches that may put personally identifiable information at risk of disclosure.

The turmoil in crypto markets in late 2022 and early 2023 resulted in extreme deposit runoff at banks that specialized in servicing the crypto industry. It also led to the voluntary liquidation of Silvergate Bank. The Federal Reserve is increasing examination work at institutions engaged in crypto-related activities, including heightening scrutiny of the stability of their crypto-related deposits, as well as other novel fintech activities. Examiners have also increased their attention on assessing third-party risk management for those banking organizations that rely on partnerships to offer these novel services.

Appendix A: Data Sources and Terms

Data Sources

The Supervision and Regulation Report includes data both on institutions supervised by the Federal Reserve System and some institutions outside Federal Reserve supervision. The report reflects data through April 30, 2023. This appendix details these sources.

FFIEC Call Reports

The FFIEC Consolidated Reports of Condition and Income, also known as the Call Report, is a periodic report that is required to be completed by every national bank, state member bank, insured nonmember bank, and savings association as of the last day of each calendar quarter. The details required to be reported depend on the size of the institution, the nature of the institution's activities, and whether it has foreign offices. Call Report data are a widely used source of timely and accurate financial data regarding a bank's financial condition and the results of its operations. The data collected from the Call Report are used to monitor the condition, performance, and risk profiles of reporting institutions individually and as an industry.

FR Y-9C

The Consolidated Financial Statement for Holding Companies, also known as the FR Y-9C report, collects basic financial data from domestic bank holding companies (BHCs), savings and loan holding companies (SLHCs), U.S. intermediate holding companies of foreign banking organizations (U.S. IHCs), and securities holding companies (SHCs). Initiatives to reduce reporting costs for firms led to increases in the minimum asset size thresholds for reporting from \$500 million to \$1 billion, and from \$1 billion to \$3 billion effective March 2015 and September 2018, respectively. In addition, BHCs, SLHCs, U.S. IHCs, and SHCs meeting certain criteria may be required to file this report, regardless of size. However, when such BHCs, SLHCs, U.S. IHCs, or SHCs own or control, or are owned or controlled by, other BHCs, SLHCs, U.S. IHCs, or SHCs, only top tier holding companies must file this report for the consolidated holding company organization. The information contained in the report is as of the last day of each calendar quarter.

FR Y-14Q

The FR Y-14Q report is part of the Capital Assessments and Stress Testing information collection (FR Y-14). The FR Y-14 data collection is used to assess the capital adequacy of large firms using forward-looking projections of revenue and losses, to support supervisory stress test models, and continuous monitoring efforts as well as to inform the Federal Reserve's operational decision-

making as it continues to implement the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The FR Y-14Q collects detailed data on BHCs', IHCs', and SLHCs' various asset classes, capital components, and categories of pre-provision net revenue.

H.8 Assets and Liabilities of Commercial Banks in the United States

The H.8 release provides an estimated weekly aggregate balance sheet for all commercial banks in the United States. The H.8 release is primarily based on data that are reported weekly by a sample of approximately 875 domestically chartered banks and foreign-related institutions. Data for domestically chartered commercial banks and foreign-related institutions that do not report weekly are estimated at a weekly frequency based on quarterly Call Report data.

Notes on Data Sources and Terms

CAMELS Ratings

Following an examination of a commercial bank, the examiner's conclusions regarding the overall condition of the bank are summarized in a composite rating assigned in accordance with guidelines provided under the Uniform Financial Institution Rating system (referred to as "CAMELS"). The composite rating represents an overall appraisal of six key assessment areas (components) covered under the CAMELS rating system: Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk.

In addition to and separate from the interagency Uniform Financial Institutions Rating System, the Federal Reserve assigns a risk-management rating to all SMBs. The summary, or composite, rating, as well as each of the assessment areas, including risk management, is delineated on a numerical scale of 1 to 5, with 1 being the highest or best possible rating. Thus, a bank with a composite rating of 1 requires the lowest level of supervisory attention while a 5-rated bank has the most critically deficient level of performance and, therefore, requires the highest degree of supervisory attention.

When appraising the six key assessment areas and assigning a composite rating, the examiner weighs and evaluates all relevant factors for downgrades and upgrades of supervisory ratings.

Current Expected Credit Losses Methodology (CECL)

In 2016, the Financial Accounting Standards Board (FASB) announced significant changes to credit loss accounting under U.S. generally accepted accounting principles (GAAP). Refer to Accounting Standards Update (ASU) No. 2016-13, Financial Instruments—Credit Losses, Topic 326, Measurement of Credit Losses on Financial Instruments.

The CECL replaced the incurred loss methodology for financial assets measured at amortized cost. For these assets, CECL requires banking organizations to recognize lifetime expected credit losses. Further, banking organizations are required to incorporate reasonable and supportable forecasts in developing their estimate of lifetime expected credit losses, while also considering past events and current conditions.

Supervised institutions that are SEC filers, excluding smaller reporting companies, were required to adopt CECL on January 1, 2020. All other institutions are required to implement CECL by 2023. For additional information, refer to the Federal Reserve's CECL Resource Center – CECL Resource Center (https://www.supervisionoutreach.org/cecl).

Commercial Real Estate Loans

Commercial real estate loans are the sum of construction, land development, and other land loans; loans secured by multifamily residential properties; and loans secured by nonfarm nonresidential properties.

Note: H.8 commercial real estate data include loans secured by farmland.

Common Equity Tier 1 (CET1)

Common equity capital is currently evaluated using a CET1 capital ratio, which was introduced into the regulatory capital framework in 2014, consistent with international Basel III reforms. The CET1 capital ratio is defined as CET1 capital, which consists primarily of common stock and retained earnings, as a percent of risk-weighted assets. Advanced approaches institutions are required to report risk-weighted assets using an internal model-based approach and a standardized approach. An advanced approaches institution is subject to the lower of the ratios. CBOs that have opted into the community bank leverage ratio (CBLR) framework are not required to report a CET1 capital ratio and risk-weighted assets.

From 2006 through 2013, tier 1 common capital was used to measure common equity capital for all firms. In 2014, both tier 1 common capital (for non-advanced approaches firms) and CET1 capital (for advanced approaches firms) were used. From 2015 to present, CET1 capital has been used for all firms.

Community Bank Leverage Ratio Framework

The CBLR framework, which became effective January 1, 2020, allows qualifying CBOs to adopt a simple leverage ratio to measure capital adequacy. To qualify for the framework, a CBO must have less than \$10 billion in total consolidated assets, have limited trading activity and off-balance-sheet exposure, meet the leverage ratio requirement, and not be part of an advanced approaches banking organization. The leverage ratio requirement for the CBLR framework was temporarily low-

ered to 8 percent beginning in the second quarter of 2020 through the remainder of calendar year 2020. The requirement was set at 8.5 percent for calendar year 2021 and returned to its previous 9 percent level beginning January 1, 2022.

The leverage ratio requirement for the CBLR framework is defined with respect to tier 1 capital as a percent of average total consolidated assets for the quarter as reported on Schedule RC-K on the Call Report or Schedule HC-K on Form FR Y-9C, as applicable. A CBLR banking organization with a ratio above the requirement will not be subject to other capital and leverage requirements.

Consumer Loans

Consumer loans include credit cards, other revolving credit lines, automobile loans, and other consumer loans (includes single payment and installment loans other than automobile loans, and all student loans).

Credit Default Swap Spread

The five-year credit default swap spread is the premium payment expressed as a proportion of the notional value of the debt that is being insured against default (typically \$10 million in senior debt) in basis points. Data are based on daily polls of individual broker-dealers worldwide. Note that these broker quotes are typically not transaction prices. Data provided are for LISCC firms only.

Credit Loss Reserves

Credit loss reserves represent the allowance for credit losses on a bank's portfolio of financial instruments carried at amortized cost (including loans held for investment, held-to-maturity debt securities, trade receivables, reinsurance receivables, and receivables that relate to repurchase agreements and securities lending agreements), net investment in leases as a lessor, and off-balance-sheet credit exposures not accounted for as insurance or derivatives. Credit loss reserves are recorded on a bank's balance sheet.

Note: For banks that had not yet adopted the CECL methodology, credit loss reserves represent the allowance for losses on a bank's portfolio of loans and leases held for investment.

Delinquent Loans

Delinquent loans are the sum of 90+ days past due loans and nonaccrual loans.

Note: FR Y-14Q delinquent loans are the sum of 30+ days past due loans and nonaccrual loans.

Liquid Assets

Liquid assets are cash plus estimates of securities that qualify as high-quality liquid assets, as defined by the Board's liquidity coverage ratio rule.

Market Leverage Ratio

The market leverage ratio—defined as the ratio of the firm's market capitalization to the sum of market capitalization and the book value of liabilities—can be considered a market-based measure of firm capital (expressed in percentage points). Data provided are for LISCC firms only.

Net Interest Margin

Net interest margin measures a bank's yield on its interest-bearing assets after netting out interest expense.

Prime Brokerage

Some large banks offer a suite of services to large investment funds known as prime brokerage. These services include the ability to borrow securities or cash, cash management, access to research, and providing connections to potential investors. Lending is an important aspect of these services. The investment funds typically obtain loans secured by equities or other securities through the prime broker.

Provisions

Provisions represent the amount necessary to adjust credit loss reserves to reflect management's current estimate of expected credit losses. Provisions are recorded as an expense item on the bank's income statement.

Note: For banks that had not adopted the CECL methodology, provisions represent the amount needed to make the allowance for losses on a bank's portfolio of loans and leases adequate to absorb management's estimate of loan and lease losses.

Residential Real Estate Loans

Residential real estate loans refer to loans secured by 1 to 4 family residential properties, including: revolving, open-end loans secured by 1 to 4 family residential properties and extended under lines of credit; closed-end loans secured by first liens on 1 to 4 family residential properties; and closed-end loans secured by junior (i.e., other than first) liens on 1 to 4 family residential properties.

Top Holder

All data, unless otherwise noted, refer to the top-holder data. This population generally comprises top-tier Call Report filers and top-tier FR Y-9C filers, including depository SLHCs and foreign banking organizations. In instances where a top-tier holding company does not file the FR Y-9C, we combine financial data of subsidiary banks/thrifts to approximate the consolidated financial data

of the holding company. Commercial and insurance SLHCs, cooperative banks, and non-deposit trust companies are excluded from the top-holder population.

Tiering of Regulation

In October 2019, the Board adopted rules that tier its regulations for domestic and foreign banks and holding companies to match their risk profiles more closely. The rules establish a framework that sorts institutions with \$100 billion or more in total assets into four categories based on several factors, including asset size, cross-jurisdictional activity, reliance on weighted short-term wholesale funding (wSTWF), nonbank assets (NBA), and off-balance-sheet exposure (table A.1).

Category I U.S. G-SIBs	Category II >=\$700b total assets or >=\$75b in cross- jurisdictional activity	Category III >=\$250b total assets or >=\$75b in NBA, wSTWF, or off-balance-sheet exposure	Category IV Other firms with \$100b to \$250b total assets
Bank of America Bank of New York Mellon Citigroup Goldman Sachs JPMorgan Chase Morgan Stanley State Street Wells Fargo	Northern Trust	Capital One Charles Schwab PNC Financial Truist Financial U.S. Bancorp	Ally Financial American Express Citizens Financial Discover Fifth Third First Citizens Huntington KeyCorp M&T Bank Regions Financial
vary by legal entity)			
		Barclays US Credit Suisse USA Deutsche Bank USA DWS USA TD Group US UBS Americas	BMO Financial BNP Paribas USA HSBC North America MUFG Americas RBC US Santander Holdings USA
	Barclays US MUFG Sumitomo Mitsui	Bank of Montreal BNP Paribas Credit Suisse Deutsche Bank Mizuho Royal Bank of Canada Toronto-Dominion UBS	Banco Santander Bank of Nova Scotia Canadian Imperial HSBC Société Générale
	Bank of America Bank of New York Mellon Citigroup Goldman Sachs JPMorgan Chase Morgan Stanley State Street	Category I U.S. G-SIBs >=\$700b total assets or >=\$75b in cross- jurisdictional activity Bank of America Bank of New York Mellon Citigroup Goldman Sachs JPMorgan Chase Morgan Stanley State Street Wells Fargo vary by legal entity) Barclays US MUFG	Category I U.S. G-SIBs >=\$700b total assets or >=\$75b in NBA, wSTWF, or off-balance-sheet exposure Bank of America

Find other Federal Reserve Board publications (www.federalreserve.gov/publications.htm) or order those offered in print (www.federalreserve.gov/files/orderform.pdf) on our website. Also visit the site for more information about the Board and to learn how to stay connected with us on social media.



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