

SEMIANNUAL RISK PERSPECTIVE

.....
FROM THE NATIONAL RISK COMMITTEE



SPRING 2023

CONTENTS

ABOUT THIS REPORT

ii

EXECUTIVE SUMMARY

1

PART I: OPERATING ENVIRONMENT

3

GDP Growth Moderating, but Job Market Remains Tight

3

PART II: BANK PERFORMANCE

14

Bank Profitability Remained Strong in 2022 Amid Rising Interest Rates and Economic Uncertainty

14

PART III: SPECIAL TOPIC—INVESTMENTS IN TECHNOLOGY INFRASTRUCTURE

19

PART IV: TRENDS IN KEY RISKS

21

A. Liquidity Levels Have Been Strengthened in Response to The Failures of Several Banks And Investment Portfolio Depreciation

21

B. Credit Risk Remains Moderate, With Stress Increasing

24

C. Operational Risk Remains Elevated

26

D. Compliance Risk Remains Elevated

29

E. Climate-Related Financial Risk Update

30

PART V: SUPERVISORY ACTIONS

33

ABOUT THIS REPORT

The Office of the Comptroller of the Currency (OCC) charters, regulates, and supervises national banks and federal savings associations and licenses, regulates, and supervises the federal branches and agencies of foreign banking organizations.¹ The OCC supervises these banks to ensure they operate in a safe and sound manner, provide fair access to financial services, treat customers fairly, and comply with applicable laws and regulations.

The OCC's National Risk Committee (NRC) monitors the condition of the federal banking system and identifies key risks. The NRC also monitors emerging threats to the federal banking system's safety and soundness and ability to provide fair access to financial services and treat customers fairly. NRC members include senior agency officials who supervise banks of all sizes and develop bank supervisory policy. The NRC meets quarterly and issues guidance to examiners that provides perspective on industry trends and highlights issues requiring attention.

The OCC's *Semiannual Risk Perspective* addresses key issues facing banks, focusing on those that pose threats to the safety and soundness of banks, their ability to provide fair access and fair treatment to customers, and their compliance with applicable laws and regulations. This spring 2023 report presents data in five main areas: the operating environment, bank performance, special topics in emerging risks, trends in key risks, and supervisory actions. The report reflects data as of December 31, 2022, unless otherwise indicated.

The OCC welcomes feedback by email: NRCReport@occ.treas.gov.

.....

1 Throughout this report, the term "banks" refers collectively to national banks, federal savings associations, and federal branches and agencies.

EXECUTIVE SUMMARY

KEY TAKEAWAYS

- ▶ The overall strength of the federal banking system is sound. The OCC has closely monitored the condition of the institutions it supervises throughout the market stress this spring. The agency has engaged directly with its banks to ensure they are appropriately managing their risks and restoring confidence in the banking system. Many banks have increased their cash holdings and borrowing capacity to cover potential depositor withdrawals. These moves enhance resiliency, but also could put pressure on bank earnings.
- ▶ The banking system faced increased volatility due to a liquidity crisis in the first quarter of 2023. Banks are focused on stabilizing liquidity and maintaining confidence in the banking system.
- ▶ Banks should remain diligent and confirm the effectiveness of their risk management practices, ensuring their ability to continue to withstand current and future economic and financial challenges.

KEY RISK THEMES



LIQUIDITY levels have been strengthened in response to the failures of several banks and investment portfolio depreciation. Rising long-term rates caused significant depreciation in investment portfolios, focusing attention on banks' liquidity risk profiles.



CREDIT RISK remains moderate in aggregate, but signs of stress are increasing, for instance in certain segments of commercial real estate. Overall, credit markets and loan portfolios remain resilient, and problem loan levels remain manageable. The persistent drag from high inflation and rising interest rates, however, is causing credit conditions to deteriorate.



OPERATIONAL RISK is elevated. Cyber threats persist. Digitalization of banking products and services is expanding, especially as banks increase use of third parties. This expansion presents both opportunities and risks.



COMPLIANCE RISK is elevated. Banks continue to operate in a dynamic environment in which compliance management systems are challenged to keep pace with changing products, services, and delivery channel offerings developed in response to customer needs and preferences.

Expectations for future interest rates and yield curves are uncertain as the Board of Governors of the Federal Reserve System (Federal Reserve) weighs actions to combat inflation and contagion fears resulting from bank failures. Rising interest rates continue to pose increasing risk to banks' access to cost-efficient funding sources. Asset-liability management practices, including liquidity and interest rate risk modeling, stress testing, and sensitivity analysis, are critical to banks' efforts to maintain sufficient access to cost-efficient sources of liquidity. A focus on ensuring operational readiness to access contingent liquidity sources is warranted in light of the degree and speed of deposit flight observed in early 2023.

Inflationary cost increases are driving down profit margins and borrower repayment capability over a wide range of businesses, with the impact most notable in service industries. The commercial real estate market is expected to experience credit issues due to higher vacancy rates and higher interest rates when loans are refinanced. Retail and mortgage credit metrics have largely returned to pre-COVID levels. The banking industry has signaled that delinquency and loss rates will continue to increase from their historically low levels. Effective risk management including stress testing are proven processes for managing risk.

Cyber threat actors continue to target the financial services industry and its key service providers with ransomware and other attacks. The current geopolitical situation further underscores the importance of cyber threat monitoring and adds complexities in operations as banks update processes to comply with economic sanctions issued by the U.S. government. Market disruptions in the crypto sector have declined, but the industry remains volatile. Recent bank failures underscore how technological advances can enable rapid deposit outflows. Today's technology can be used to support real-time money movement and accelerate communications across social media and other digital channels. Some banks may struggle to keep up with technological advances, and prolonged use of legacy systems can increase risk. Part III of this report discusses the challenges and costs associated with the continued use of aging technologies and systems reaching their end of life (EOL) and the importance of banks investing and aligning technology with their business goals.

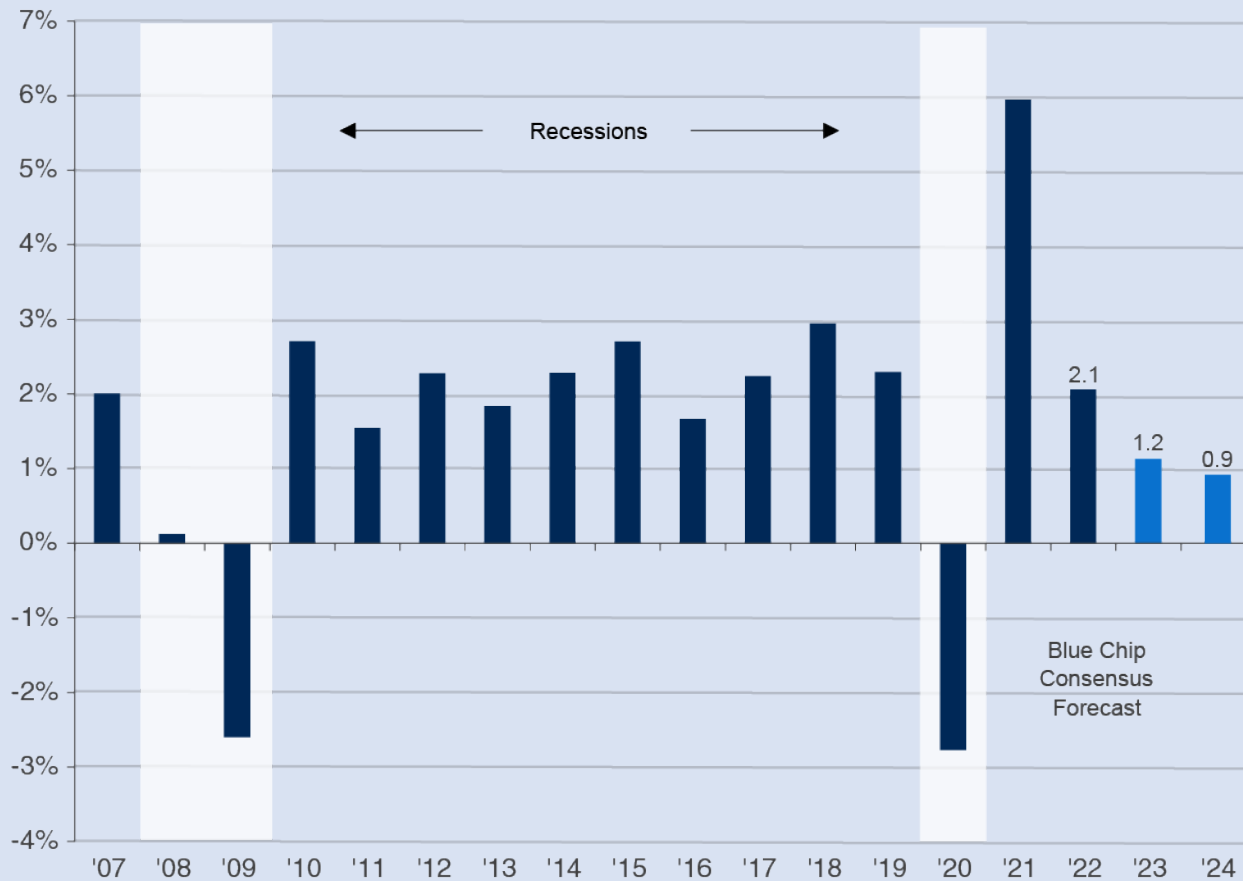
Compliance risk remains elevated as banks continue to expand their use of innovative technology for product and service delivery and expand their partnerships with third parties, such as financial technology companies (fintechs). Additionally, heightened focus on ensuring fair access to credit and fair treatment of applicants and borrowers contributes to elevated fair lending risk. There is also a noted increase in financial crimes, especially check fraud, and Bank Secrecy Act/anti-money laundering (BSA/AML) risks in traditional banking products and services.

OPERATING ENVIRONMENT

GDP GROWTH MODERATING, BUT JOB MARKET REMAINS TIGHT

Most forecasters predict a moderate, fairly short-lived recession in 2023 with unemployment expected to rise slightly to 4.6 percent. On an annual basis, however, gross domestic product (GDP) growth is only expected to slow in 2023 rather than to decline outright. See figures 1 and 2. Market participants still expect the Federal Reserve to maintain its inflation-fighting stance despite recent bank failures and pressures in financial markets. Real GDP grew at a 1.1 percent annual rate in the first quarter of 2023, down from the 2.6 percent pace in the fourth quarter of 2022. Consumer spending, which accounts for 70 percent of GDP, continued to support economic growth, contributing 2.5 percentage points to the first quarter's annualized rate. However, this was offset by a slowdown in business capital spending and declines in housing investment and inventories. Moreover, forward-looking gauges of real economic activity, such as the index of leading indicators and the 10 year (Y)-3 month (M) Treasury spread, point to a continued slowdown in economic growth.

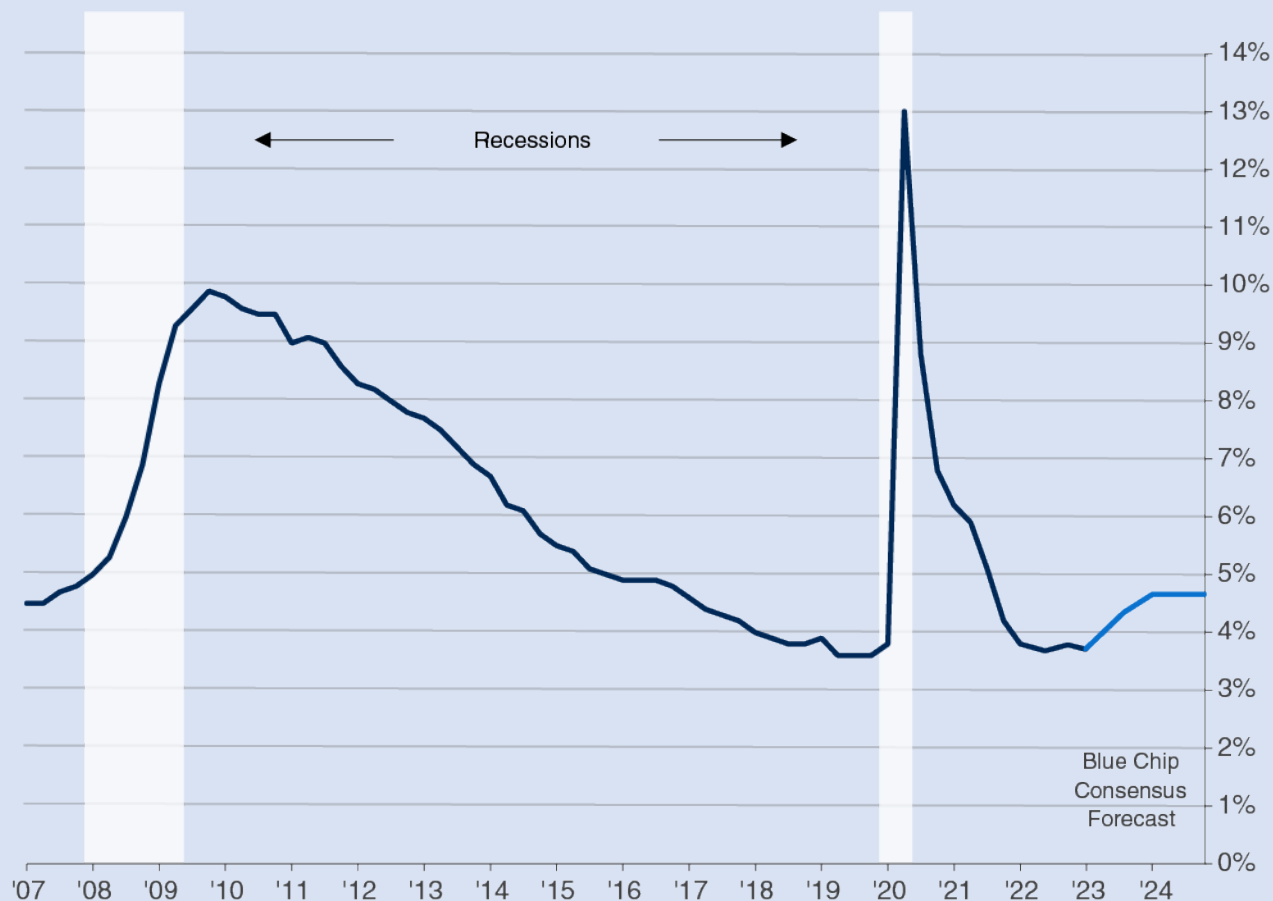
FIGURE 1: REAL GDP, PERCENT CHANGE ANNUAL RATE



Sources: Bureau of Economic Analysis, Blue Chip Economic Indicators (April 2023)

The job market remains resilient despite the Federal Reserve’s efforts to cool labor demand. Payroll employment rose by a solid 236,000 in March, and the three-month average for growth was 344,000 new jobs. In addition, the unemployment rate was 3.5 percent in March, reflecting a labor market that is still tight. See figure 2. Growth in average hourly earnings increased at a 4.2 percent year-over-year pace in March. Wage growth, while trending lower, remains well above the pre-COVID trend. From 2017 to 2019, growth in average hourly earnings over a 12-month period averaged 3.1 percent. The current rate of wage gains remains inconsistent with the Federal Reserve’s 2 percent inflation target.

FIGURE 2: QUARTERLY AVERAGE UNEMPLOYMENT RATE



Sources: Bureau of Labor Statistics (1Q:2023), Blue Chip Economic Indicators (April 2023)

The headline personal consumption expenditure (PCE) price index increased 4.2 percent in March from its year-earlier level. Price growth peaked at 7 percent in June 2022, the largest year-over-year inflation increase since December 1981. This increase stood in sharp contrast to the trend over the past four decades, when inflation averaged 2 to 3 percent annually. See figure 3. While falling energy prices (as well as slower price increases in the goods sector) are helping inflation to edge lower, it remains well above the Federal Reserve’s 2.0 percent target. The improvement in supply chains eased inflation within the goods sector, and strong COVID-related demand for goods rotated back to service sector. But owners’ equivalent rent inflation (which follows home price growth with a 12–18-month lag) remains high and may even accelerate in the first half of 2023, while inflation in wage-sensitive services is likely to remain sticky, complicating the direction of monetary policy. At the same time, overall shelter inflation (this includes owners’ equivalent rent and rent of primary residences) is expected to decline in late 2023. This expectation is what underlies most forecasts of declining overall inflation over the next 12 months.

FIGURE 3: PERSONAL CONSUMPTION EXPENDITURES PRICE INDEX, YEAR-OVER-YEAR PERCENT CHANGE



Sources: Bureau of Economic Analysis (4Q:2022), Blue Chip Economic Indicators (April 2023)

The Federal Reserve’s tightening cycle has been aggressive, and the central bank is likely to continue to prioritize price stability over economic growth. Liquidity and financial market stress associated with recent bank failures show early signs of stabilization. Deposit runoff has eased at regional banks after abrupt outflows in mid-March. However, usage of the Federal Reserve lending facilities indicates that there is still a need for liquidity. Bank term funding and discount window lending by the Federal Reserve are well below their peaks at the beginning of the crisis, although levels are still consistent with some liquidity stress (which is likely concentrated among a few institutions). The Federal Funds Target Rate (federal funds rate) is 5.00–5.25 percent, up from 0.25–0.50 percent in May 2022. Moreover, interest rates could remain high well into a 2023 economic slowdown.

With the 3-month Treasury rate currently hovering just above 5.0 percent, monetary policy has moved into restrictive territory. The Federal Reserve’s tighter monetary policy represents a significant change in stance, as rates remained near the zero-lower bound for most of the past 15 years. The 10-year Treasury rate has risen this year, albeit at a slower pace than short-term rates, leading to narrowing spreads across the maturity spectrum and an inverted yield curve. Economists expect the 3-month Treasury yield to remain close to 5 percent through the third quarter of this year and then to edge down as activity softens. By contrast, the

10-year Treasury yield is expected to remain under 4 percent for an extended period. These forecasted rates imply that the yield curve will remain inverted throughout this year and next, suggesting a protracted period of elevated recession risk.

Similar to U.S. inflation, headline inflation appears to have peaked in many countries, but recent figures suggest that core inflation rates (excluding volatile food and energy prices) remain above foreign central banks' targets. Further tightening of monetary policies, including raising of interest rates by the Federal Reserve and other major central banks, creates challenges for economies that pursue different economic and monetary policies. Countries that have high debt levels and depend on foreign financing may continue to experience upward pressure on interest rates and/or depreciation of their currencies.

Rising global interest rates are expected to contribute to slower economic growth in 2023 but by less than projected six months ago. In Europe, a mild winter and rapid shift to alternative energy sources helped avert an energy crisis, and consensus projections have the eurozone narrowly avoiding a contraction in 2023. China's growth should accelerate with the end of China's zero-COVID policy, supporting trade and tourism in Asia and increasing demand for commodities.

While the improvement in expectations for global growth should benefit U.S. exporters, higher interest rates and currency volatility could increase foreign credit risks for banks. Geopolitical risks remain heightened and could rapidly change the outlook, especially an escalation of Russia's invasion of Ukraine or increasing U.S. tensions with China.

HIGHER MORTGAGE RATES COOLING HOUSING MARKETS

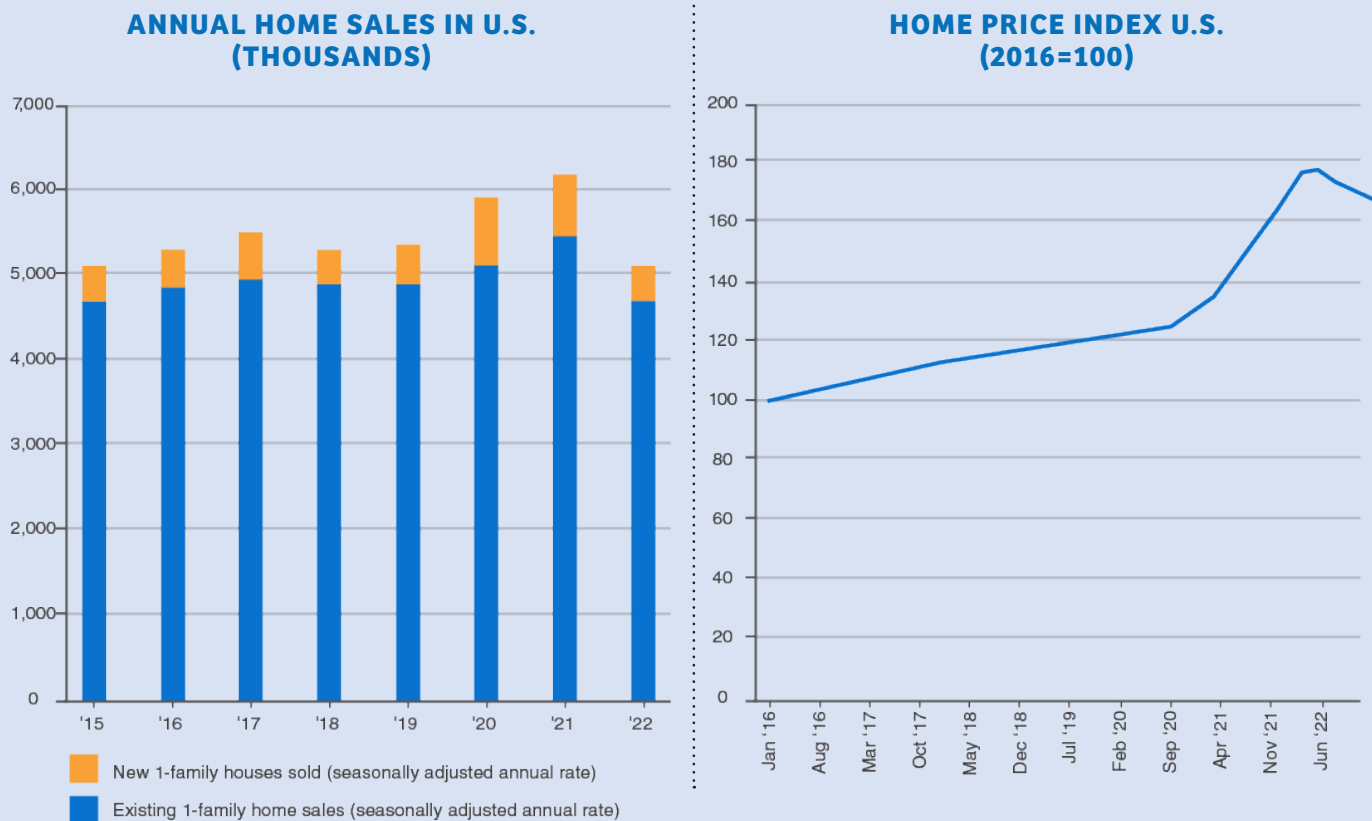
Housing markets cooled as the Federal Reserve increased interest rates to combat inflation. The average 30-year fixed mortgage rate grew more than 300 basis points in less than 12 months, from 3.21 percent in January 2022 to 6.69 percent in December 2022, but has fallen in the second quarter of 2023 to 6.35 percent. This is the fastest rise in mortgage rates since the 1980s. This rate spike, combined with the rapid increase in home prices in 2020–2022, pushed the average payment on a 30-year fixed rate loan to roughly one-third of median household income, up from one-fifth pre-COVID.²

Not surprisingly, the second half of 2022 saw declines in home sales and softening in home prices. Home sales reached more than 6 million in 2021 but declined by 16 percent to just over 5 million in 2022. See figure 4 left panel. The Black Knight national home price index reached its peak in May 2022, and, as of December 2022, declined by 3 percent from that peak, though it is still well above the pre-COVID levels. See figure 4 right panel. The largest home price declines are concentrated in markets where the home price appreciation was the fastest during COVID, mostly in the Western states. Most economists are expecting further moderation in home price growth in the next two years.

.....

2 The payment-to-income ratio at the national level was 20 percent in December 2019 and 35 percent in January 2023.

FIGURE 4: U.S. HOME SALES AND HOME PRICE INDEX



Sources: U.S. Census Bureau, National Association of Realtors, Moody's Analytics, Black Knight (December 2022)

COMMERCIAL REAL ESTATE

HYBRID AND REMOTE WORK SCHEDULES CONTINUE TO TRANSFORM THE OFFICE SECTOR

The office sector continues to face challenges, with declining demand for rental space caused by the shift to hybrid and remote work schedules. Net absorption was negative in 2022, making it the third consecutive year of declining occupancy. The CoStar Group calculated that overall demand in late 2022 was 5 percent below where it would have been absent COVID.³ Office properties in urban submarkets (particularly class B and C buildings in those areas) continue to have the most stress, with higher vacancy rates and weaker rent growth than buildings in suburban locations. With a moderate recession forecast for 2023, cyclical loss of demand could be added to the still unfolding structural downshift, pushing vacancies higher. See figure 5. Distressed property sales remained low in 2022, but the elevated amount of debt that will need to be refinanced over the next two years, combined with added pressure from a possible recession, could lead to a rise in forced sales this year or next.

.....

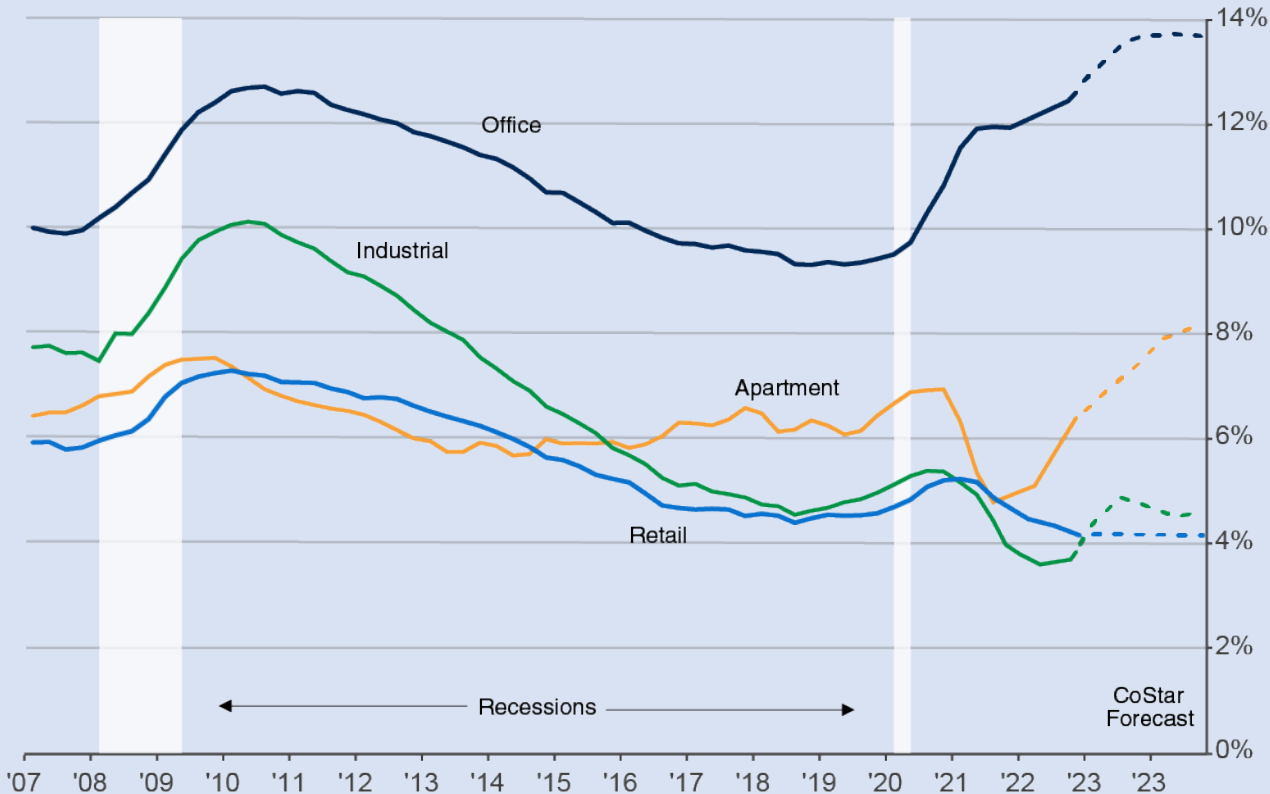
3 Refer to the CoStar Group's "The Office Picture is Clearing Up, But Major Challenges Lie Ahead," January 11, 2023.

The multifamily market experienced a reversal of fortune over the past year. Rent growth and vacancy trends are coming down from very strong performance over the last few years but are still positive. During 2021, booming tenant demand far outpaced supply additions, driving the national vacancy rate to its lowest point on record and over-the-year rent growth to its highest rate on record. However, demand receded well below new property deliveries in 2022 as economic uncertainty held back household formation and inflation cut into potential renters' budgets. Weaker demand, combined with elevated property deliveries, caused the national vacancy rate to rise last year, returning to its pre-COVID level by the end of 2022. Rent growth peaked in early 2022 and has sharply slowed. The forecast is for the national multifamily vacancy rate to steadily rise through 2024, plateauing 2 percentage points above its historical average, while rent growth is expected to continue slowing and stabilize at a rate below its long-term average. Property stress is anticipated to be strongest in the South and Southeast markets.

Other sectors of commercial real estate continue to expand. The retail sector, driven by resilient consumer spending, saw vacancies fall during the second half of 2022. Additionally, robust leisure travel helped

FIGURE 5: OFFICE SECTOR FORECAST TO HAVE ELEVATED VACANCIES THROUGH 2024

COMMERCIAL REAL ESTATE VACANCY RATES, IN PERCENT



Source: CoStar Portfolio Strategy (historical data through 4Q:2022, baseline forecast updated January 2023)

support the hotel industry in 2022. However, higher-end hotels in downtown locations that cater to business travelers have been slow to recover occupancy from COVID losses. While the national average revenue per available room reached its highest nominal value ever at the end of 2022, in inflation-adjusted real terms, it is still below its 2019 level.

CORPORATE PROFIT GROWTH MODERATED AS ECONOMY SLOWED

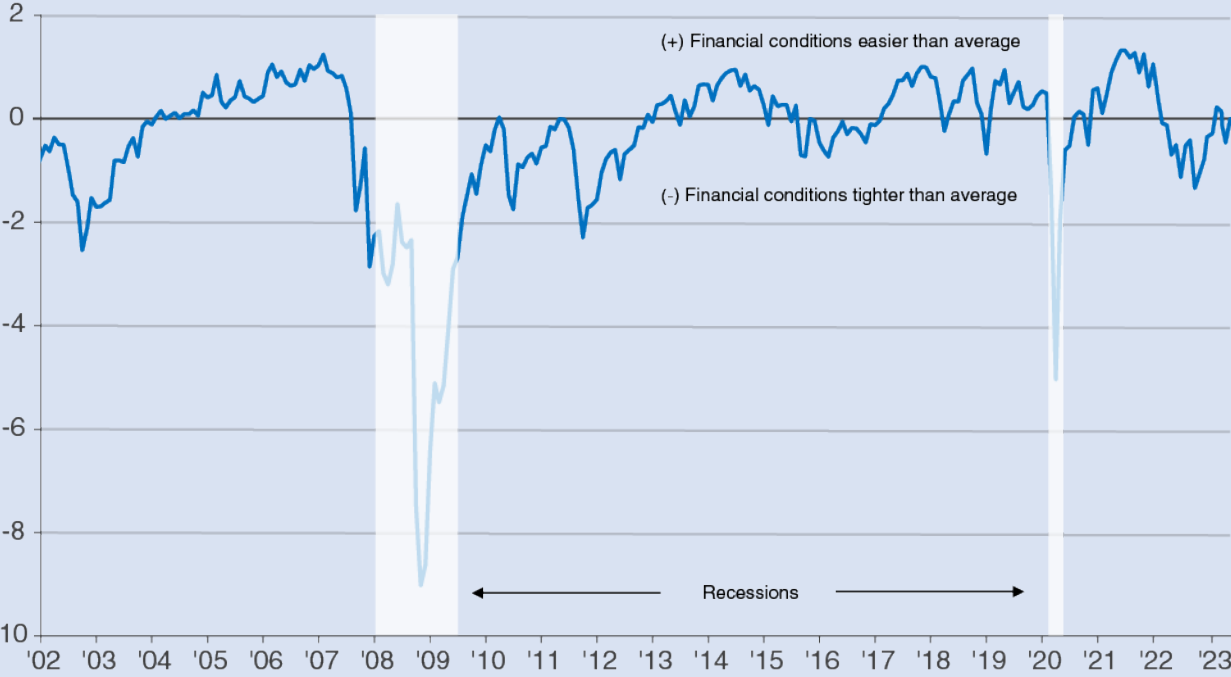
Nominal nonfinancial corporate after-tax profits also slowed to 1.3 percent in the fourth quarter of 2022 from a year earlier. The aggregate nonfinancial corporate profit margin declined modestly, with after-tax profits falling to 13.9 percent of gross value-added, but the margin is still well above its pre-COVID level. Some industries are slowing more than others. As reported by FactSet, aggregate net income for public companies in the S&P 1500 materials, consumer discretionary, financials, healthcare, and information technology industries fell in the fourth quarter of 2022 compared with the fourth quarter of 2021. These industries could see further profit margin compression as rates rise and if consumers pull back on spending due to higher prices and a slowing economy.

FINANCIAL CONDITIONS TIGHTENED WITH MARKET SENDING MIXED SIGNALS

Financial conditions tightened (see figure 6) after easing in the second half of 2022 through February 2023. In March 2023, financial stability concerns over bank failures increased financial market stress. These financial stability risks come as current and expected measures of inflation have been elevated and short-term interest rates have increased since March 2022 at the fastest pace in 40 years. This raises the risk of a material slowdown in demand for credit-sensitive sectors of the economy and a more broad-based cooling of economic activity.

FIGURE 6: FINANCIAL CONDITIONS HAVE TIGHTENED IN THE FIRST QUARTER OF 2023

U.S. FINANCIAL CONDITIONS INDEX



Source: Bloomberg (data through April 24, 2023)

Note: The U.S. Financial Conditions Index tracks the overall level of financial stress in the U.S. money, bond, and equity markets to help assess the availability and cost of credit. A positive value indicates accommodative financial conditions while a negative value indicates tighter financial conditions relative to pre-2008 crisis norms.

Some risks to the U.S. financial market outlook faded in the second half of 2022 due to developments including stronger-than-expected measures of consumer spending, strong monthly job growth, easing in supply chain stress, and moderating energy prices. These positives were outweighed, however, by other macroeconomic concerns by market participants, such as the prospect of a sharper-than-expected slowdown of economic activity, repercussions to lending from multiple bank failures, and entrenched inflation.

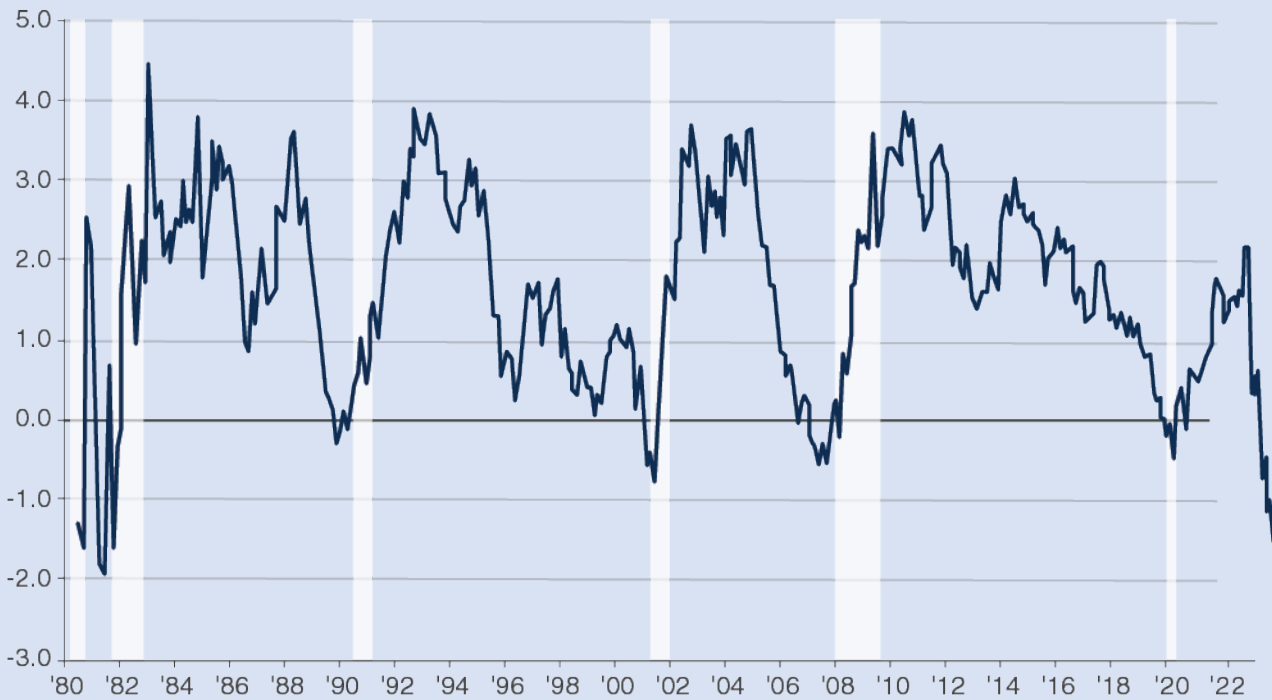
The Federal Reserve slowed the pace of interest rate hikes this year but left open the door to further increasing rates if inflation dynamics remained unfavorable, and it continued to reduce holdings of Treasury and mortgage-backed securities even with the recent increase of financial stability risks. The Federal Reserve also created a new facility, the Bank Term Funding Program, to provide additional funding to depository institutions to meet liquidity needs without the need to sell securities during periods of stress.

The pace of economic growth is forecast⁴ to remain lower over the next few quarters with elevated risks of recession. As a result, rates on longer-maturity Treasury bonds rose less than shorter-maturity notes and, as of the first quarter of 2023, the 10Y-3M yield curve inversion (see figure 7) reached levels last seen in 1981. The implied probability of recession from shorter-dated term spreads⁵ signaled an elevated risk of recession over the next year.

FIGURE 7: TREASURY YIELD TERM SPREAD HITS FOUR-DECADE LOW

TREASURY TERM SPREAD, MEASURED BY THE DIFFERENCE IN YIELDS BETWEEN THE 10Y NOTE AND 3M BILL RATE AT CONSTANT MATURITY, INDICATES AN ELEVATED PROBABILITY OF RECESSION.

U.S. TREASURY TERM SPREAD (10Y-3M), PERCENT



Source: Bloomberg (data through April 24, 2023)

U.S. Treasuries and fixed income continued to see less favorable funding conditions in the first quarter of 2023. Measures of Treasury market volatility remained elevated as market participants priced higher uncertainty. The Federal Reserve’s discount window usage hit all-time highs, reflecting tight liquidity conditions and a disruption to funding markets. Banking system reserves declined through mid-March 2023 but remain elevated compared with 2019 levels.

4 The forecast is according to the April 2023 Blue Chip Consensus.

5 The near-term Treasury term spread (3-month Treasury forward rate 18 months ahead-3-month Treasury bill) and the 10-year note-3-month bill Treasury term spread are negative as of April 24, 2023.

Equity and corporate fixed-income market prices recouped some of their losses from last year as market participants priced higher odds of a soft landing. Other measures of financial condition remained tighter than average. Survey-based and market-based inflation expectation measures have modestly declined but remained elevated above the central bank target of 2 percent inflation over the longer run. Equity market volatility, measured by the S&P 500 VIX Index, settled the quarter well below 2022 highs, even with a brief spike higher in mid-March 2023. Despite the decline, equity volatility remains above post-COVID lows, as tightening credit conditions, falling commodity prices, a strong dollar, higher input costs, uncertainty in the outlook for inflation, and expectations for a hard landing increased uncertainty for corporate profits.

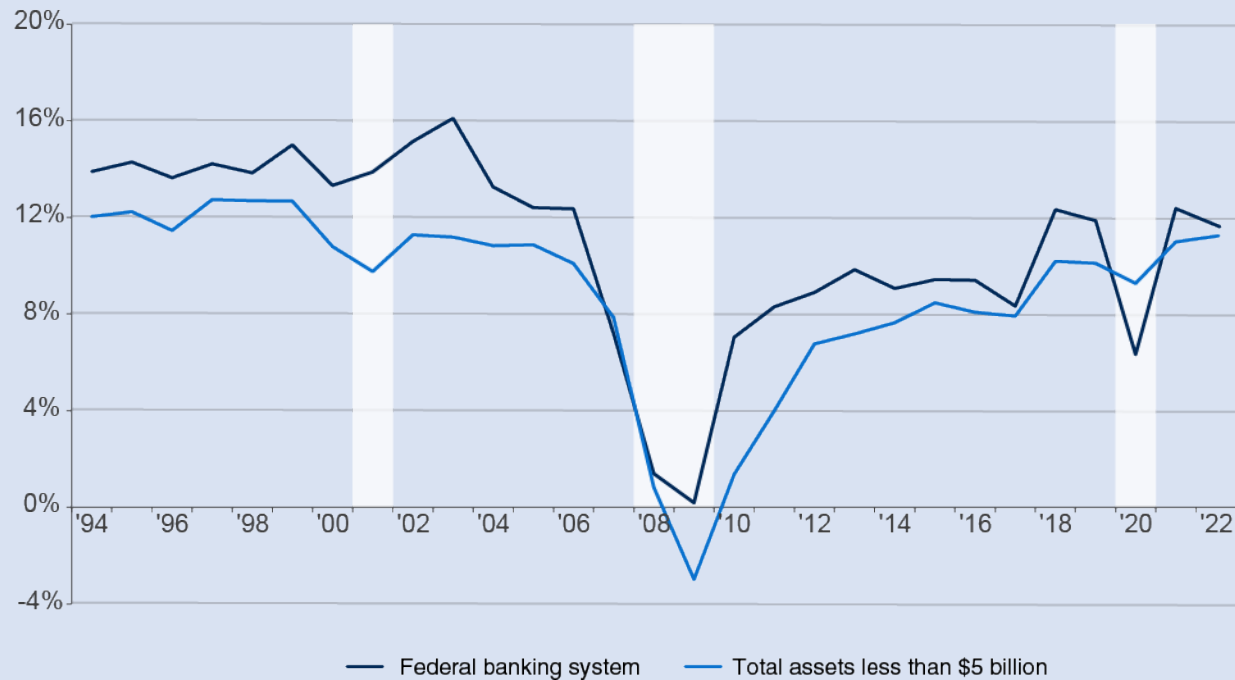
Credit spreads widened in the first quarter of 2023. Investment-grade and high-yield corporate bond markets experienced issuance increases in the first two months of 2023, but demand faltered in mid-March as the outlook for higher interest rates and recession risk somewhat diminished investor demand. There are several risks that may increase volatility in asset markets in the next few quarters, including an increase of financial stability risks, more aggressive tightening of monetary policy, an increase in geopolitical risks, and unexpected inflation dynamics. As of April 2023, most international equity indexes outperformed U.S. benchmarks this year. The U.S. dollar remained near a multi-decade high against developed market peers when measured in inflation-adjusted terms on a trade-weighted basis.

BANK PERFORMANCE

BANK PROFITABILITY REMAINED STRONG IN 2022 AMID RISING INTEREST RATES AND ECONOMIC UNCERTAINTY

The federal banking system navigated an unprecedented interest rate environment in 2022, with the federal funds rate rising over 400 basis points in just under a year, as the Federal Reserve sought to cool consumer price growth. For banks, the rising rate environment was a benefit to net interest margins, while inflation provided a boost to nominal loan growth. Bank profitability was strong in 2022 but slightly below the elevated levels of 2021. With provisions normalizing in 2022 and some temporary sources of revenue also waning, return on equity declined to 11.6 percent for the federal banking system. See figure 8. The outlook for 2023 will depend on banks' asset-liability management while potentially faced with lower loan demand and higher funding costs. Although higher interest rates and market stress exposed weaknesses in some banks' bond portfolio values, with several midsize banks coming under stress in March 2023, the Federal Reserve's Bank Term Funding Program increased the system's ability to meet funding needs without banks having to realize losses in their long-dated government securities.

FIGURE 8: TREND IN BANK RETURN ON EQUITY



Source: Integrated Banking Information System (OCC)

Note: Annual data are through year-end 2022. Banks with total assets less than \$5 billion exclude credit card and trust institutions.

The federal banking system saw historic growth in net interest income in 2022, as bank margins benefited from rising interest rates. For the system, net interest income increased 20.7 percent in 2022, the strongest rate of growth in decades. Despite the substantial increase in spread revenues, the gains were more than offset by a slowdown in other sources of revenue as well as rising expenses, such as the normalization in provisioning that occurred in 2022. See table 1.

Rising interest rates, while a benefit to net interest income, weighed on other aspects of bank performance such as noninterest income, as mortgage activity slowed and reduced revenue from gain on sale of loans. Banks also built up reserves in 2022, in contrast with the release of reserves that had added to net income a year earlier. For the system, provisions increased to \$34 billion in 2022, compared with a release of \$30 billion a year ago, bringing the current level closer to pre-COVID levels. Noninterest expense was higher than a year earlier as tight labor market conditions placed pressure on both direct (salaries and employee benefits) and indirect (data processing and consulting and advisory fees that banks report as other noninterest expense) personnel costs, particularly for the system. However, annualized data for the fourth quarter of 2022 show a slowdown in noninterest expense for both the system and for banks with less than \$5 billion in total assets, indicating that these expenses may have peaked earlier in 2022. Overall, lower noninterest income and higher expenses contributed to a decline in net income in 2022, from the elevated net income levels earlier.

TABLE 1: TRENDS IN BANK NET INCOME (IN BILLIONS OF DOLLARS)

	Federal banking system 2021	Federal banking system 2022	Federal banking system Y/Y % change	Banks with total assets of less than \$5 billion in 2021	Banks with total assets of less than \$5 billion in 2022	Banks with total assets of less than \$5 billion Y/Y % change
Net interest income	327.5	395.4	20.7%	15.6	17.4	11.9%
Noninterest income	210.2	203.4	-3.2%	7.6	6.2	-19.2%
Provisioning	-29.7	34.4	NA	0.2	0.5	168.2%
Noninterest expense	340.8	354.9	4.1%	15.4	15.5	0.6%
Net income	181.3	166.1	-8.4%	6.3	6.2	-2.3%

Source: Integrated Banking Information System (OCC)

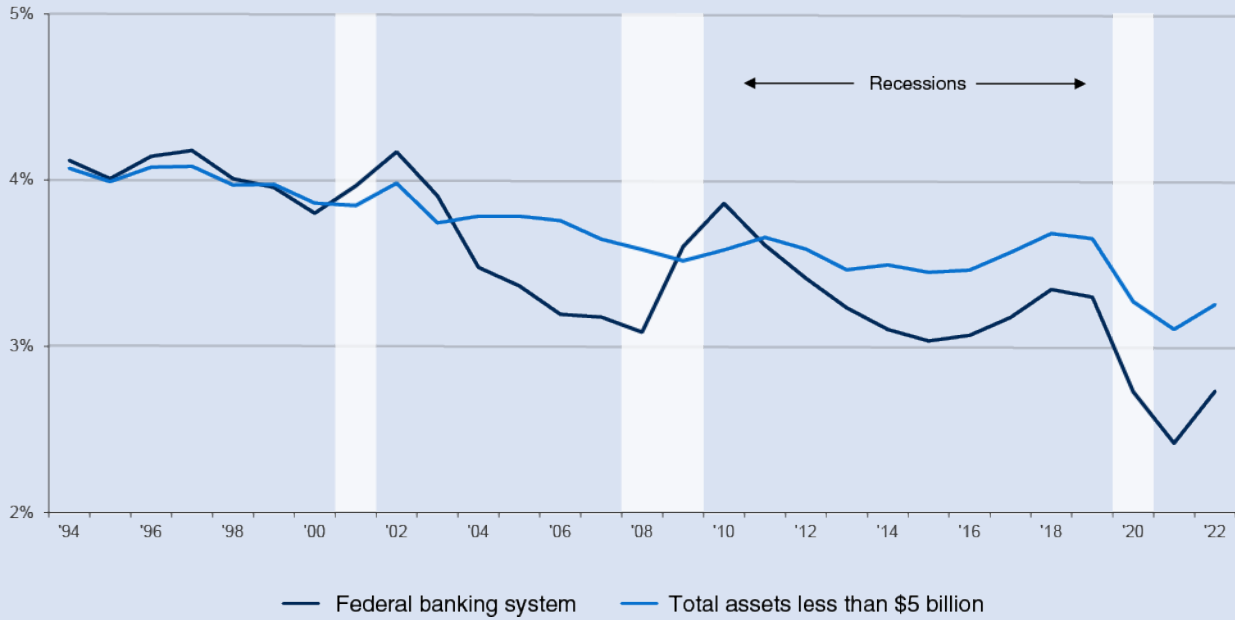
Note: Data are merger-adjusted and held constant for banks in continuous operation from the first quarter of 2015 to the fourth quarter of 2022. Banks with less than \$5 billion in total assets exclude credit card and trust institutions.

Behind the large growth in net interest income in 2022 was a significant improvement in the net interest margin (NIM) for both the system and banks with less than \$5 billion in assets, compared with the prior year. See figure 9. The increase in NIM for the system was more pronounced, increasing by 46 basis points from an all-time low of 2.4 percent in 2021, compared with an increase of 19 basis points among banks with less than \$5 billion in total assets. This suggests that, so far, banks were able to pass on rate increases to borrowers while holding funding costs low. Funding costs, which lag behind interest rate increases, remained low in 2022, with median deposit betas⁶ below the low levels of the last tightening cycle for both the system and banks with less than \$5 billion in total assets.

.....

6 A deposit beta measures the change in interest-bearing deposit expense to the change in the federal funds rate.

FIGURE 9: TREND IN NET INTEREST MARGINS



Source: Integrated Banking Information System (OCC)

Note: Annual data through year-end 2022. Banks with less than \$5 billion in total assets exclude credit card and trust institutions.

Loan growth also drove net interest income growth in 2022, remaining strong throughout the year despite the Federal Reserve’s aggressive monetary policy stance. Loan portfolios in nominal dollars—excluding Paycheck Protection Program (PPP) lending—increased 6.9 percent for the system, compared with a 5.3 percent increase in the prior year. See figure 10. Growth was led by credit card and commercial and industrial (C&I) loans, which, combined, make up 34 percent of total loan portfolios, increasing 13.9 percent and 13.5 percent, respectively.

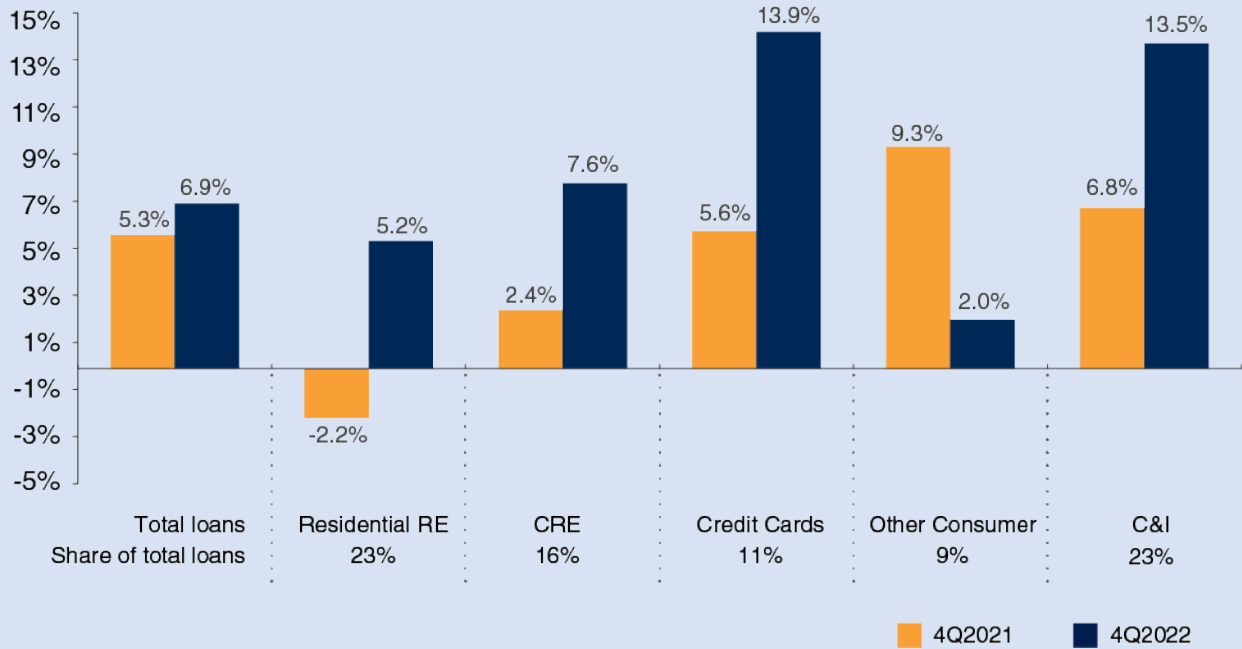
Utilization rates for C&I loans, which had dropped to a record low of 45.4 percent in mid-2021, increased for both the system and banks with less than \$5 billion in total assets, rising to 49.1 percent and 65.7 percent, respectively, as of the fourth quarter of 2022. Similarly, credit card utilization rates also increased in 2022 from record-low levels, rising to 18.1 percent for the system as of the fourth quarter of 2022, compared with a rate of 16.8 percent in mid-2021. Though utilization rates for cards and C&I loans increased, they remain slightly below the pre-COVID rates in the fourth quarter of 2019.

Although the effect of tightening monetary policy on loan demand has been delayed so far, future nominal loan growth could be affected. According to the Federal Reserve’s January 2023 Senior Loan Officer Opinion Survey⁷ on bank lending practices, a significant share of banks reported weaker demand for business loans from firms of all sizes in the fourth quarter of 2022. A significant net share of banks also reported weaker demand for auto and other consumer loans, while a moderate net share reported weaker demand for credit card loans.

.....

7 Refer to the Federal Reserve’s [Senior Loan Officer Opinion Survey on Bank Lending Practices](#) (January 2023).

FIGURE 10: YEAR-OVER-YEAR CHANGE IN LOAN BALANCES, EXCLUDING PPP LOANS



Source: Integrated Banking Information System (OCC)

Note: Data are merger-adjusted and held constant from banks in continuous operation from the first quarter of 2015 to the fourth quarter of 2022. RE is real estate and CRE is commercial real estate. CRE includes commercial mortgages and construction loans. Total and C&I loans exclude PPP loans from all time periods. “Other consumer” is consumer loans less credit card loans.

SPECIAL TOPIC— INVESTMENTS IN TECHNOLOGY INFRASTRUCTURE

Banks continue to invest significant resources in maintaining and updating existing technology architecture, as well as developing and implementing innovative technologies to support operations and meet customer expectations. While many banks do this effectively, some may struggle to keep up with technological advances while continuing to maintain legacy infrastructure. The continued use of aging technologies and EOL⁸ systems can be driven by costs associated with system upgrades, challenges with updating large and highly complex system architectures, lack of a clear technology strategy, or a combination of factors. Prolonged use of these older or legacy systems could increase the likelihood of operational outages, introduce security vulnerabilities, create system maintenance challenges, and create other concerns that could reduce operational resilience. Decisions to postpone system updates or delay technology architecture upgrades can create risks to an organization and unnecessarily increase its “tech debt.”⁹

Banks can accumulate tech debt by continuing to use aging, sometimes unsupported technology without the necessary balance of fit, security, resilience, and sustainability of those technology solutions. Merged banks that simply stitch their systems together often must add workarounds and manual processes that contribute

8 EOL is a time frame usually defined by a technology vendor to describe when an asset has reached the end of its useful life cycle and when the vendor will no longer maintain and support the asset or continue to sell or license it. Refer to the *Federal Financial Institutions Examination Council Information Technology Handbook*.

9 Technical or “tech” debt is generally characterized as the accumulated future costs to a company to operate existing technology systems, and the costs to update to more advanced technologies. Refer to McKinsey Digital’s [“Tech Debt: Reclaiming Tech Equity,”](#) October 2020.

significantly to the combined bank's tech debt. Tech debt may further increase if a bank does not have a clear strategic direction for technology architecture investments or yields to short-term financial pressures that may inappropriately postpone technology investment. Effective technology strategic planning and system life cycle management processes provide for appropriate planning and due diligence for technology investment decisions.

System outages and disruptions in the financial and other sectors have been observed and can have significant operational effects on the financial industry. The importance of maintaining resilient technology infrastructures is increasing as systems are becoming increasingly interconnected, and the financial sector depends on key market participants being operational to support transactions. OCC supervision has focused on technology resilience and has identified increasing supervisory concerns related to EOL, patch management, and system and data architecture. In many instances, these concerns remain outstanding for an extended period, which may reflect costs and constraints around corrective actions. While banks' technology budgets have increased in recent years, continued investment may be challenged by economic conditions and pressure for firms to reduce costs.

Banks that align their technology with their business goals and strategic objectives have more effective operations. Technology expenditures should be appropriate to meet technology strategies, provide enterprise-wide value, support growth, and ensure appropriate security and business resilience. Delaying investments and failing to maintain technology infrastructure can lead to operational inefficiencies and reduced resilience. Banks that do not keep their technology infrastructure up to date may experience opportunity costs due to the inability to implement new products and services or achieve longer-term productivity gains. Banks should link strategic and operational plans for business units with technology architecture planning to ensure systems can support current and future business needs.

TRENDS IN KEY RISKS

A. LIQUIDITY LEVELS HAVE BEEN STRENGTHENED IN RESPONSE TO THE FAILURES OF SEVERAL BANKS AND INVESTMENT PORTFOLIO DEPRECIATION

ACCESS TO COST-EFFICIENT FUNDING SOURCES

Liquidity levels typically are sound during stable risk environments. However, during periods of market volatility and heightened sensitivity, certain deposit concentrations and an increased focus on bank performance metrics may increase liquidity risk concerns. The banking system faced increased volatility due to a liquidity crisis in the first quarter of 2023. Funding issues at some larger banks resulted in increased market volatility. During the liquidity crisis, banks focused on adding on- and off-balance-sheet sources. However, funding mix trends, depreciated investment portfolio fair values, and uncertainty regarding future interest rates and yield curves posed increasing risk to banks' access to cost-efficient funding sources. The Federal Reserve implemented actions to combat inflation by pushing interest rates and U.S. Treasury yields higher. The rise in long-term rates caused significant depreciation in investment portfolio fair values throughout 2022. Portfolio depreciation levels eased slightly in the fourth quarter as Treasury yields stabilized. Portfolio depreciation may ease in 2023 as a result of investor flight to safety, driven in part by the failures of Silvergate Bank, Silicon Valley Bank (SVB), and Signature Bank, which sharply pushed the 10-year Treasury down.

Through year-end 2022, banks with more than \$1 billion in total assets reported approximately 7 percent depreciation¹⁰ in available-for-sale (AFS) portfolios and approximately 12.5 percent depreciation in held-

.....

10 For purposes of this report, "depreciation" is defined as investment gains/losses as a percentage of amortized cost.

to-maturity (HTM) portfolios. Banks with less than \$1 billion in total assets reported approximate AFS portfolio depreciation of 10 percent and approximate HTM portfolio depreciation of 9 percent at the end of 2022. Reduced investment portfolio fair values mean that banks have less access to cost-efficient sources of liquidity and collateral available for funding needs, pledging, secured financing, and meeting margin requirements.

Investment portfolio values and banks' access to cost-efficient funding sources are likely to remain under pressure as the Federal Reserve continues implementing quantitative tightening measures (balance-sheet runoff) and considers further short-term interest rate increases to combat inflation. Future rate projections are becoming increasingly uncertain as the downward trend in inflation has slowed, and the Federal Reserve has signaled a commitment to effective federal funds rate increases to bring down inflation. Adding to this uncertainty are contagion fears resulting from the failure of SVB and Signature Bank. While investment portfolio depreciation declined in the first quarter of 2023 as longer-term rates fell, depreciation will likely rise if longer-term rates move higher. Banks with assets less than \$50 billion are projecting, on average, about a 3 percent decline in investment portfolio values for every 100-basis-point rate increase.

Investment portfolio losses will likely remain unrealized if banks maintain sufficient access to cost-efficient sources of liquidity. Liquidity in banks remains sound, but the need to monetize securities in a period of rising rates and quantitative tightening could have a material impact on earnings and capital. Deposits and liquid assets as percentages of assets remain high but declined in 2022. Increasing availability of investment alternatives resulting from rising interest rates and quantitative tightening have been primary contributing factors to declining deposit levels. Liquid assets declined due to a combination of deposit runoff and strong loan growth, but as a percentage of total assets, liquid assets remain well above pre-COVID levels. Deposit runoff and loan growth have led to rising wholesale funding usage, which is returning closer to pre-COVID levels. It is important for banks to identify contingent funding sources given declining balance sheet liquidity and increasing funding needs.

A component of effective liquidity risk management includes processes that ensure sufficient committed capacity to meet contingent liquidity needs and operational readiness to monetize securities in a timely manner should liquidity needs arise, to avoid recognizing unrealized losses. Examples include repurchase lines, Federal Home Loan Banks capacity, and access to Federal Reserve facilities. Regular testing and capacity assessments can help assess whether these sources remain accessible. This is particularly important for banks with large HTM holdings, as sale of these securities can taint the portfolio and lead to loss recognition.

STRESS TESTING

In the current environment of rising interest rates, Federal Reserve quantitative tightening, and significant economic uncertainty, consideration of a robust suite of liquidity and interest rate risk stress testing scenarios is important. Scenario analysis, stress testing, and planning can support a broad understanding of potential outcomes and risks to earnings and capital as well as help ensure access to cost-efficient funding sources. These stress scenarios can help banks understand the impacts of investment portfolio depreciation

and whether wholesale sources, such as borrowing lines and repurchase agreements, will remain accessible and at sufficient levels to meet potential liquidity needs. This is particularly important for banks with material HTM holdings as monetizing these securities can present unique challenges in times of stress.

Effective contingency funding planning and testing can help banks understand whether they have sufficient infrastructure to access these funding sources (e.g., established lines, processes, and availability). For banks lacking the required infrastructure, planning can help management understand resource requirements, including time needed to establish access to these funding sources and whether establishing access would be feasible and timely in a stressed liquidity scenario. Deposit stability is also a key consideration. Sensitivity analyses of deposit runoff rates and rate change beta assumptions are vital to liquidity stress testing in the current environment, given the likelihood of a widening spread of alternate investment yields and deposit rates as well as increased deposit competition.

INTEREST RATE RISK MODELING

The liquidity crisis has led to declining deposits and the acceleration of funding costs in 2023. There is growing uncertainty surrounding deposit stability that may have interest rate risk ramifications. Most banks continue to expect to benefit from rising interest rates,¹¹ yet projection accuracy largely depends on deposit repricing assumptions. Sensitivity analysis of deposit assumptions is critical to understanding interest rate risk exposures given different scenarios, such as higher-than-expected repricing rates or less optimal deposit mixes. Consideration of a robust suite of rate scenario types is also critical to the accuracy of interest rate risk projections.¹² Non-parallel rate scenarios, in addition to more standard scenarios such as shocks, ramps, and parallel shifts, are important to understand a bank’s interest rate risk profile, especially given the current inverted yield curve and uncertainty surrounding future rate and yield curve movements.

REFERENCE RATE TRANSITION AND LIBOR PHASE-OUT

It is important that banks continue their efforts to remediate contracts that reference the U.S. dollar London Interbank Offered Rate (LIBOR) with insufficient fallback language maturing after June 30, 2023, and to complete their transition of remaining LIBOR-referencing contracts as soon as practicable.

.....

11 The most current data collected from OCC interest rate risk examinations show the median bank (less than \$50 billion in total assets) projecting an approximate 5 percent increase in net interest income given a +200 basis point shock to interest rates.

12 Refer to [OCC Bulletin 2010-1, “Interest Rate Risk: Interagency Advisory on Interest Rate Risk Management,” for more information](#) on interest rate risk stress testing, sensitivity analyses, and other key interest rate risk management principles.

B. CREDIT RISK REMAINS MODERATE, WITH STRESS INCREASING

COMMERCIAL CREDIT

Commercial credit risk remains moderate, with the direction now increasing. Overall credit markets and corresponding credit quality metrics remain stable, but persistent headwinds threaten asset quality and loan performance. Although inflation has declined from 40-year highs recorded in the third quarter of 2022, it remains elevated, driven by more rigid costs for wages and shelter. With wages as a primary input cost, companies in the service industries are the most affected by labor costs. Operating margin deterioration is particularly evident in senior living and health care facilities, which are experiencing both wage inflation and staffing shortages. Elevated interest rates also continue to have an adverse impact on the profit margins and cash flow of some companies. The companies most affected are those with high leverage and marginal repayment capacity, and smaller and lower-rated firms with shorter debt maturities, firms with a higher level of floating debt, and firms with limited financial flexibility.

The Federal Reserve continues to assess for additional federal fund rate hikes if inflation remains elevated. Manufacturing production and new order indexes are declining. Further rate hikes will continue to increase the cost of business investment and consumer goods, placing downward pressure on demand. Demand-side shocks for industries and companies already under stress from high input costs and/or higher interest rates create the potential for a rapid and sustained decline in cash flow and profitability. The sustained period of price increases will likely serve as a drag on revenues for a wide range of industries, particularly growth-dependent borrowers and industries that are dependent on consumer discretionary spending if consumers significantly curtail spending across the board.

As businesses continue to navigate the cultural shift from in-person to remote work, risk in the office market remains high. Vacancy rates for the largest metropolitan markets remain elevated, and total rentable space now exceeds the peak reached during the Great Recession. Recent news headlines have noted high-profile defaults, but widespread defaults and material valuation adjustments are not evident. The office market is headed for increased volatility over the next few years. Severity is uncertain and will be uneven, with properties and businesses in urban business districts more at risk. The extent of ongoing knock-on effects to the nonoffice real estate that underpins retail and other small businesses that are heavily reliant on office worker traffic is also uncertain.

The multifamily market remains sound but has started to moderate, with increasing vacancy levels due to slowing demand and new inventory. The industrial market, which has been the best-performing commercial real estate segment, is also starting to exhibit some signs of softening. Overall multifamily and industrial vacancy rates remain low, and it is uncertain whether the market is reaching an inflection point or reverting to a normalized level. However, just as with other commercial real estate property types, rising interest rates will have a negative impact on cash flows and values and increase project financing costs.

Stress testing and scenario analysis continue to be effective tools not only to identify vulnerabilities but also to measure the potential impact those vulnerabilities could have on earnings and capital. Banks should also be mindful that this rising rate environment may lead to elevated refinance and repricing risks. Repricing risk is a more immediate issue for banks, with many banks having refinanced loans before rate increases started. However, the type and level of risk will vary by portfolio. It is important for banks to consider identifying the level of exposure from rising rates and assessing the impact to individual borrowers and portfolios.

Remote work, early retirements, and strong competition continue to contribute to a tight labor market. Although staffing and talent issues have not resulted in a material level of supervisory concerns, banks continue to report that recruiting and retaining necessary talent are a challenge. Amid a long trend of near-record-low problem loan levels, banks have pared back problem loan management functions. Banks should consider how to effectively respond in the event there is a need to quickly scale up loan workout functions in the event of a downturn.

RETAIL CREDIT

Retail credit performance remains satisfactory. Some products' credit performance continues to normalize while other products have regained pre-COVID performance levels. Delinquencies and losses are expected to increase throughout 2023, with the level of unemployment and the duration of these challenges driving the extent of performance deterioration. Consumers are relying more on savings and credit cards to fuel expenditures, potentially indicating strain. Portfolio growth is moderate, and underwriting remains disciplined. Consumers remain positioned to weather the economic challenges with a strong job market, wage growth, strong (albeit declining) levels of liquid assets, and manageable levels of debt. Eighty-five percent of consumer loans are fixed rate, mitigating payment shock from interest rate increases. Credit risk, including rising credit card and auto delinquencies, is moderate but remains manageable. Effective risk management and disciplined underwriting practices have positioned banks to better withstand current economic challenges. The most vulnerable consumers are those in lower-income brackets, on a fixed income, or those highly leveraged.

After strong growth in housing prices, higher interest rates have dampened demand. The housing market is reflecting price declines consistent with economists' expectation that national home prices will soften modestly, with severe national price declines unlikely. Current refreshed loan-to-value averages indicate continued adequate collateral coverage on loans secured by residential real estate. Affordability and declining values are present in automobile, marine, and recreational vehicle lending, which will likely materialize in losses more quickly than will residential real estate loans due to limited equity. Consumers are using more debt as reflected by increases in credit cards and personal debt levels. Student loan debt payments, which paused during COVID, will soon resume, adding to monthly debt service requirements for some consumers. Consumers who carry credit card balances and use home equity lines of credit will continue to experience higher costs related to the interest rate increases. The OCC expects that borrowers will avoid refinancing primary residential mortgages due to higher refinance mortgage rates.

It is important for banks to remain vigilant in identifying, monitoring, and managing weaker portfolio segments. Specific actions may include stress testing vulnerable segments, vintages, and geographies, and then adjusting underwriting standards and utilizing loss mitigation and collection strategies based on stress-testing results. Additional actions may include implementing increased portfolio monitoring and appropriately allocating for risk in the allowance for credit losses. Sound governance, transparency, and documentation of assumptions and judgments, including those for scenario selection and weighting, are critical to an adequate allowance for credit losses.

Prudent underwriting and effective portfolio management can reduce the impact of economic volatility. It is important for banks to closely guard against complacency. Robust analysis of borrowers' repayment abilities and reliable valuations of collateral remain critical to effective risk selection. With considerable uncertainty in current economic conditions, bank management teams should consider monitoring the potential impacts on credit quality from changing unemployment levels, declining asset values, inflation impacts on disposable income, and changes in payment rates, and consumers' payment prioritization in this increasing interest rate environment.

As economic challenges persist, it is important that banks should continue to emphasize sound risk management and loss mitigation practices. Loss mitigation strategies, including forbearance and modification programs, should offer meaningful affordable and sustainable payment assistance to borrowers while minimizing loss exposure to the bank. Although the uniqueness of COVID necessitated granting forbearance actions without evaluating the individual customer's financial hardship, the public health emergency ended on May 11, 2023. As the public health emergency has ended, granting forbearance actions in the absence of evaluating the individual customer's financial hardship is not considered safe or sound. For example, offering a short-term forbearance action or an extension to a customer experiencing a permanent loss of income may not address the root cause of the financial hardship. Workout programs based solely on term extensions or increased amortization periods may not be in the best interest of the borrower or the bank. Interest rate reductions should have a meaningful place in modification waterfall considerations. Lastly, it is inappropriate for banks to use forbearance, extension, or modification programs to mask delinquencies or defer losses to a future period. Accurate and timely risk identification, delinquency reporting, and loss recognition are necessary for accurate financial reporting.

C. OPERATIONAL RISK REMAINS ELEVATED

CYBERSECURITY

Operational risk continues to be elevated as cyberattacks evolve and become more sophisticated and damaging to the U.S. economy. Continuing cyberattacks and current geopolitical tensions highlight the importance of heightened threat monitoring and safeguarding against disruptive attacks targeting the financial sector. On February 23, 2023, the Cybersecurity and Infrastructure Security Agency renewed its message of "Shields Up" for increased vigilance to the continuing cyber threat. Additionally, threat actors are increasingly targeting bank service providers or exploiting vulnerabilities of third-party software

products used by banks. These attacks demonstrate the need for banks to assess the risks arising from their third parties and develop a comprehensive approach to operational resilience and supply chain risk.

Ransomware continues to affect the sector by targeting banks and their third-party providers. These attacks have the potential to affect banks and market operations by rendering critical data inaccessible as well as by threatening the confidentiality of customer data through data leaks. Threat actors continue to leverage phishing emails targeting employees and compromised credentials to gain access to networks through remote access solutions. Such unauthorized access would enable threat actors to conduct ransomware and other extortion campaigns that can affect bank customers. Malicious actors have also continued use of distributed denial of service attacks targeting the financial sector.

Threat actors continue to exploit publicly known software vulnerabilities and weak authentication controls at targeted organizations, including banks and financial service providers. To mitigate against cyber risks, it is important for banks to adopt heightened threat and vulnerability monitoring processes and implement effective security measures, including the use of multifactor authentication, hardening of systems configurations, and timely patch management. Banks may benefit from programs such as the Cybersecurity and Infrastructure Security Agency’s Known Exploited Vulnerabilities Catalog as they manage risk around regularly targeted vulnerabilities in their infrastructure. Banks also should consider how to effectively implement and regularly test backups for key systems to provide operational resilience, including maintaining immutable backup of critical data in the event malware encrypts or corrupts systems.

INNOVATION AND ADOPTION OF NEW PRODUCTS AND SERVICES

Banks continue to leverage new technology and innovative products and services to further their digitalization efforts and to meet evolving customer demand and expectations. Examples of innovations include faster and real-time payment products, increased use of mobile and digital technologies to deliver financial services, application programming interfaces, data aggregation services, artificial intelligence and machine learning, contactless payment devices, and distributed ledger technologies.

While these products and services and their underlying technologies can offer many benefits to banks and their customers, adoption of these new products, services, and delivery channels, as well as expanded relationships with fintech companies and other third parties, can contribute to a complex operating environment along with increasing compliance, reputational, strategic, and other risks. Banks are reminded to implement appropriate due diligence, change management, and risk management processes when considering changes to products, services, and operating environments.¹³ Additionally, some banks and service providers are challenged with maintaining legacy technology architectures while responding to increasing digitalization needs. It is important that strategic plans address technology needs, including managing strategies for systems nearing their EOL. Refer to “Part III: Special Topic—Investments in

.....
13 Refer to OCC Bulletin 2017-43, [“New, Modified, or Expanded Bank Products and Services: Risk Management Principles.”](#)

Technology Infrastructure” of this report for further discussion. Additionally, it is important for banks to maintain appropriate operational resilience for technology architecture, including critical third parties, commensurate with the size and complexity of products, services, and operations being supported. An appropriate operational resilience approach can enhance a bank’s ability to mitigate disruption from all hazards, including not only cyber threats but other technology and operational outages.

Sound fraud risk management practices can help safeguard against fraud, financial crimes, and operational errors. Increasing digitalization of products and services can heighten risk of fraud and error, such as fraud targeting many peer-to-peer (P2P) payment platforms. While P2P payment platforms can provide enhanced capabilities and ease to consumers for managing payments, the faster and streamlined payment capabilities have also been used to facilitate consumer fraud. Banks can aid customers by strengthening controls, educating customers on potential scams, and enhancing internal fraud monitoring capabilities. Examiners will continue to assess how banks are managing these and other risks related to changes in operating environments driven by these innovations.

The OCC continues to approach crypto-asset products, services, and activities cautiously for a variety of reasons, including high volatility, high-risk lending, excessive leverage, interconnectedness, concentration within the crypto industry, and lack of comprehensive regulation. Although crypto-asset products and services may share some risks with traditional products and services, risks may manifest in novel ways due to market structures and the underlying technology. The OCC, the Federal Reserve, and the Federal Deposit Insurance Corporation recently issued statements describing several key risks associated with crypto-assets and the crypto-asset sector, and potential liquidity risks to banks from crypto-asset market vulnerabilities, that banks should consider before engaging in crypto-asset-related activities.¹⁴ Banks are reminded to follow the process outlined in OCC [Interpretative Letter 1179](#) before engaging in crypto-asset-related activities that may be legally permissible.

THIRD-PARTY RISK MANAGEMENT AND OTHER OPERATIONAL RISKS

Digitalization and technological advances furthered the trend of banks outsourcing technology operations and banks entering partnerships or other arrangements with third parties, including fintechs, to deliver innovative financial products and services. For example, increasing adoption of cloud services in the financial sector, as noted in a recent U.S. Department of the Treasury report, is allowing banks to gain efficiencies, but also can present risk if not implemented properly.¹⁵ Effective management and oversight are important for third-party relationships. It is important for banks to conduct appropriate due diligence, as well as ongoing monitoring and oversight of the third parties’ performance. This oversight should be commensurate with the nature and criticality of the proposed activity.

.....

14 Refer to [OCC News Release 2023-1](#), “Agencies Issue Joint Statement on Crypto-Asset Risks to Banking Organizations,” and [OCC News Release 2023-18](#), “Agencies Issue Joint Statement on Liquidity Risks Resulting from Crypto-Asset Market Vulnerabilities.”

15 Refer to the Treasury Department’s [The Financial Services Sector’s Adoption of Cloud Services](#) (February 2023).

Recent bank failures underscore how technology can be leveraged to fuel rapid deposit outflows due to advancements in systems with real-time money movement capabilities and use of social media and other digital channels to accelerate communications. As part of a bank’s risk management practices, it may be prudent for bank management to monitor digital channels for unusual or higher-volume activities, prepare and train call center staff, and monitor social media for shifts in sentiment or other negative news.

The banking industry experienced a great deal of change in response to COVID and the return-to-office strategies. In addition, demand for staff with specialized experience and technical expertise has required banks to increasingly focus on the recruitment and retention of individuals in key positions. Despite the current talent pressures, it is important for banks to maintain effective talent management strategies that identify critical skill sets and plans for staff recruitment, retention, and, where necessary, outsourcing.

D. COMPLIANCE RISK REMAINS ELEVATED

As banks consider entering into relationships with fintechs, management needs to identify compliance risks associated with third parties and ensure those risks are effectively managed (see OCC Bulletin 2023-17, “[Third-Party Relationships: Interagency Guidance on Third-Party Relationships: Risk Management](#)”). If banks enter into third-party relationships, including relationships with fintechs, an effective risk management process includes clear roles and responsibilities for overseeing and managing those relationships. The result of breakdowns in the risk management process could include noncompliance with regulatory requirements.

BANK SECRECY ACT AND OFFICE OF FOREIGN ASSETS CONTROL COMPLIANCE RISKS

Another consideration when banks enter into third-party relationships is the identification and appropriate risk management of money laundering, terrorist financing, and other financial crime risks associated with such arrangements. As banks continue to expand their digital and electronic products, services, and capabilities, continuing financial crime risks in traditional banking activities are an important consideration. For example, there have been significant increases in check fraud as highlighted in a recent Financial Crimes Enforcement Network (FinCEN) Alert¹⁶ on the nationwide surge in check fraud schemes targeting the U.S. Mail. Establishing effective fraud risk mitigation remains important to banks and consumers, and fraud is one of FinCEN’s anti-money laundering/countering the financing of terrorism national priorities.

Banks should take note of two additional FinCEN alerts. The first alert relates to human smuggling along the southwest border of the United States and provides trends, typologies, and red flag indicators to help

.....
¹⁶ Refer to “FinCEN Alert on Nationwide Surge in Mail Theft-Related Check Fraud Schemes Targeting the U.S. Mail,” FIN-2023-Alert003, February 27, 2023.

banks better identify and report suspicious transactions potentially related to such activity.¹⁷ The second alert relates to potential investments in the U.S. commercial real estate sector by sanctioned Russian elites, oligarchs, their family members, and the entities through which they act.¹⁸

CONSUMER COMPLIANCE AND FAIR LENDING

Banks operate in a dynamic compliance environment, as product, service, and delivery channel offerings are updated frequently to keep pace with customer needs and preferences. New, modified, or expanded products, services, and operational structures expose banks to heightened consumer compliance risk if they are not effectively implemented with appropriate changes and updates to compliance management systems.

Banks also should review and as necessary ensure that products and services are delivered in a fair and equitable manner. Banks should maintain effective talent management strategies to ensure sufficient resources and subject matter expertise to implement critical controls, such as monitoring, testing, and self-evaluations necessary to manage fair lending risk, particularly if the bank uses new modeling methods, advanced algorithms for underwriting, or alternative data. Fair lending controls should include systems and processes for evaluating loan applications, from originations through the life of the loan, to assess whether the bank is marketing, soliciting applications, offering, and extending credit on an equal basis.

E. CLIMATE-RELATED FINANCIAL RISK UPDATE

Banks should have robust risk management programs in place to identify, measure, monitor, and control climate-related financial risks. The OCC's climate-risk financial management supervision work remains based on our mandate of safety, soundness, and fairness. Supervisory efforts are focused on institutions with over \$100 billion in total assets.

Physical and transition risks from climate change may have safety and soundness implications for OCC-regulated entities. Physical risks from natural disasters continue to impact the United States, such as the winter storms that paralyzed two-thirds of the country resulting in severe floods that California experienced in late 2022 and early 2023. Transition risk drivers such as the passage of the Inflation Reduction Act¹⁹ and the further increase of renewable power generation²⁰ continue to manifest.

17 Refer to "FinCEN Alert on Human Smuggling along the Southwest Border of the United States," FIN-2023-Alert001, January 13, 2023.

18 Refer to "FinCEN Alert on Potential U.S. Commercial Real Estate Investments by Sanctioned Russian Elites, Oligarchs and Their Proxies," FIN-2023-Alert002, January 25, 2023.

19 Public Law 117-169 (August 16, 2022).

20 International Energy Agency, [Renewables 2022](#).

The OCC continues to consider the comments received on the draft Principles for Climate-Related Financial Risk Management for Large Banks issued in December 2021. The OCC is also working closely with interagency colleagues to determine next steps.

OBSERVATIONS OF LARGE BANKS' MANAGEMENT OF CLIMATE-RELATED FINANCIAL RISKS

The OCC has been conducting supervision activities at its largest banks (those with over \$100 billion in total assets) to understand the banks' climate-related financial risk management programs. Based on observations from these reviews, banks have been making progress to incorporate climate-related financial risks in their risk management frameworks and policies. At the same time, the large banks overall have significant additional work to do to move those programs to maturity. The OCC anticipates that all large banks will need to increase their capabilities, investments in data, and sophistication of their analysis to be fully effective in their risk management of climate-related financial risks.

Most banks have established board governance and senior management structure around climate-related financial risks. This includes instances in which management developed organizational structures and expertise and assigned responsibilities across the three lines of defense to manage climate-related financial risks. Board committees have assumed responsibility for oversight of climate-related financial risks, with board members receiving training to develop the expertise to oversee these risks. Bank management is at varying stages of incorporating climate-related financial risks in their strategic planning processes and understanding the impacts of these risks on the banks' financial condition and operations over different time horizons. Large banks are making progress to include climate-related financial risks in their risk appetite statements. Some banks are developing or have incorporated qualitative statements, while a few others are developing or have incorporated quantitative metrics.

Large banks are in varying stages of developing processes to measure and monitor the potential exposures to physical and transitions risks. The banks are using a combination of internal data and external data from various sources to identify, measure, and manage the risks. Most banks leverage and enhance existing risk identification processes to capture the unique characteristics of climate-related financial risks. In some instances, banks developed tools and analysis, such as dashboards and heat maps, to measure and monitor exposures for the risks. Some banks have developed more robust reports for senior management and the board.

Banks with more mature processes have started conducting forward-looking scenario analysis to better understand and measure climate-related financial risks. This work will be ongoing. The application of these scenarios to the lines of business, portfolios, and geographies is often limited. Common challenges include lack of sufficient data and modeling scenarios with extended time frames and the resulting need to make many assumptions. For those large banks that have conducted climate scenario analysis, the output is primarily used for informational purposes as they learn more about the results and monitor the quality of the data before using it for business decision purposes. Most banks engage in industry efforts to share information and learn about leading practices.

INTERAGENCY WORK HIGHLIGHTS

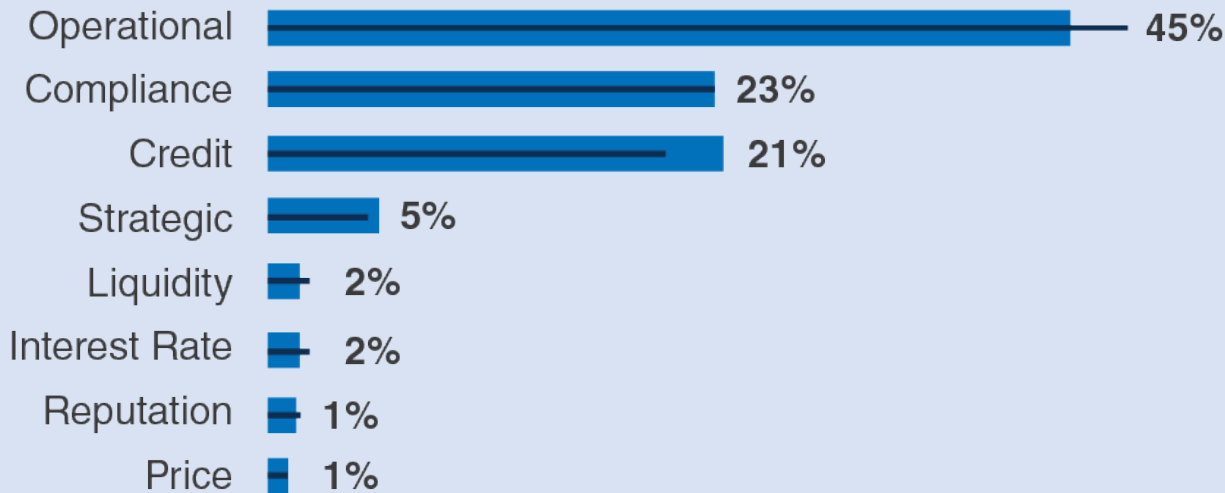
The OCC continues its interagency collaboration efforts to address climate-related financial risks both domestically and internationally. The OCC actively collaborates with other member agencies on the Financial Stability Oversight Council’s Climate-Related Financial Risk Committee. The OCC is also active in the Basel Committee on Banking Supervision Task Force on Climate-Related Financial Risks and the Network of Central Banks and Supervisors for Greening the Financial System.

SUPERVISORY ACTIONS

The OCC communicates supervisory concerns to a bank’s board and management in the form of matters requiring attention (MRA), which consist of one or more subsidiary concerns. MRA concerns include practices that deviate from sound governance, internal control, or risk management principles. Such deviations, if not addressed appropriately, could adversely affect a bank’s condition or risk profile, or result in violations of laws or regulations, leading to enforcement actions. Figure 11 shows the composition of outstanding MRA concerns.

FIGURE 11: OUTSTANDING MRA CONCERNS

OPEN CONCERNS - PRIMARY RISK



Source: OCC Data

Note: Figures do not add to 100 percent due to rounding.