Office of the
Comptroller of the Currency

Semiannual Risk Perspective

From the National Risk Committee

Spring 2018

Contents

About This Report

The Office of the Comptroller of the Currency (OCC) charters, regulates, and supervises national banks and federal savings associations (collectively, banks) and licenses, regulates, and supervises the federal branches and agencies of foreign banks. 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 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, as well as officials from the policy department. 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 and their compliance with applicable laws and regulations. This report presents data in five main areas: the operating environment, bank performance, special topics in emerging risk, trends in key risks, and supervisory actions.

The OCC publishes the report twice a year, drawing on the most current data as available. The spring 2018 report reflects bank data as of March 31, 2018, unless otherwise indicated.

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

Executive Summary

The condition of the federal banking system is strong. The financial performance of banks making up the federal banking system improved in 2017 compared with 2016. That improvement continued into early 2018. The economic environment through the end of the first quarter of 2018 continued to support loan growth and bank profitability. Asset quality, as measured by traditional metrics such as delinquencies, nonperforming assets, and losses, is sound. Capital and liquidity are at or near historical highs, and earnings are improving. Recent examination findings indicate incremental improvement in banks' overall risk management practices.

Competitive pressures from banks and nonbanks contribute to easing in underwriting and to the risk that sound pricing structures and practices may be compromised. Rising interest rates generally benefit net interest margins at small banks but pose potential risks that warrant monitoring.

The key risks facing the federal banking system have changed only modestly since the fall 2017 *Semiannual Risk Perspective.* Key risks include

- incremental easing in commercial credit underwriting practices.
- bank risk management of cybersecurity threats.
- third-party concentration risk for certain products and services.
- complex money-laundering and terrorism-financing methods that pose challenges in complying with the Bank Secrecy Act (BSA).
- weaknesses in compliance management processes for implementing and maintaining an effective compliance program for consumer protection regulations.
- potential effects of rising interest rates, increasing competition for retail and commercial deposits, and post-crisis liquidity regulations for banks with total assets of $250 billion or more, on the mix and cost of deposits.

The potential effect of rising interest rates on deposit mix and cost was added as a key risk issue. In addition, the integrated mortgage disclosure requirements under the Truth in Lending Act (TILA) and the Real Estate Settlement Procedures Act (RESPA) were changed from a key risk to an issue that warrants monitoring. Matters requiring attention (MRA) concerns have declined as the condition of the federal banking system has improved. Nevertheless, the most prevalent MRA concern categories are credit, operational, and compliance risks, which generally aligns with the key risk issues and the other risks the NRC is monitoring.

The NRC monitors other risks that may develop into key risk issues. Other risks that warrant awareness among bankers and examiners include

- concentrations of commercial real estate (CRE) and the need for sound concentration risk management practices.
- low or declining prices for grain, livestock, and dairy that result in lower cash flow and increased farm carryover debt for agricultural borrowers.
- challenges to compliance management systems as banks address changes to consumer compliance requirements, including changes to the data collection requirements under the

Home Mortgage Disclosure Act's (HMDA) implementing rule, Regulation C, related to applications for covered loans on which action is taken on or after January 1, 2018.
- the implementation, beginning in 2020, of the current expected credit losses standard, which may pose operational and strategic risk to some banks when measuring and assessing the collectability of financial assets.

In this edition of the *Semiannual Risk Perspective*, and in future editions, the OCC will examine special topics of emerging risk. This edition highlights the risks posed by rising interest rates.

Key Risk Themes

At this point in a long economic expansion, asset quality metrics are typically good, and changes in risk appetite and external factors become the primary drivers of credit risk and future performance. While this is the case today, the OCC is monitoring the effects of competition and complacency on the quality of new loans, credit risk management practices, and the reasonableness of concentration limits.

- Examiner reviews of underwriting indicate that satisfactory policies and practices exist to guide lending decisions, and banks are generally operating within their established risk tolerances. Competition for quality loans is strong, however, and examiners note evidence of eased underwriting, increased CRE concentration limits, and a higher level of MRA concerns related to policy exceptions. The accommodating credit environment warrants a continued focus on underwriting practices to monitor and assess credit risk and lender complacency. .
- Rising interest rates pose risks that warrant monitoring. Multiple rate increases could negatively affect credit affordability, performance, and asset valuations and influence refinancing risk, underwriting behavior, and credit terms.
- Total loans in the federal banking system grew 3.6 percent in 2017, the second consecutive year of slowing growth.[1] Large banks, which hold more than 83 percent of all loans, saw commercial loan growth fall to 4.2 percent, down from 10 percent two years ago. Midsize and community banks continued to experience strong loan growth, particularly in CRE and other commercial lending, which grew almost 9 percent in 2017. Such growth heightens the need for strong credit risk management and effective management of concentration risk.
- Commercial loan delinquencies and losses are at or near historical lows. Delinquencies are increasing in agricultural loans due to low commodity prices and thin margins. In addition, while net farm income stabilized in 2017 due to improved yields, the outlook for 2018 is not favorable. Net farm income in nominal dollars is projected to decline to the lowest level since 2006, driven primarily by a decline in revenues and increased fuel and oil, interest, and labor expenses.
- Delinquencies and losses are decreasing to pre-recession levels from historical highs for residential loans. An increased usage of risk appetite over the last two years resulted in eased underwriting and has increased delinquencies in credit cards and auto loans from historical lows. As delinquencies increase in these two areas, the OCC is placing greater supervisory attention on credit risk management in collection activities, as well as the associated risks in servicing operations, consumer compliance, and third-party relationships.

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[1] Calculated on existing charters held constant.

Operational risk is elevated as banks adapt business models, transform technology and operating processes, and respond to evolving cyber threats.

- The sophistication of cyber threats is evolving. Banks face threats that seek to exploit personnel, processes, and technology. These threats target large quantities of personally identifiable information and proprietary intellectual property to facilitate fraud and misappropriation of funds at the retail and wholesale levels. Other cyber-attacks may seek to disrupt or otherwise impair operations. Failure to maintain proper cybersecurity controls can lead to material negative effects on banks, consumers, and national and economic security.
- Banks rely on third-party relationships to support key services and operations because of greater economies of scale and advanced technical resources. Doing so can allow banks to better manage their operations. Banks are expected to effectively manage risks associated with the use of third parties through appropriate due diligence and risk oversight to ensure third parties maintain controls protecting the confidentiality, integrity, and availability of systems and data.
- Consolidation among large technology service providers has heightened third-party concentration risk, in which a limited number of providers service large segments of the banking industry for key financial services. If not properly managed by the service providers and their clients, operational events at these larger service providers could affect significant parts of the financial industry. The OCC and other federal banking agencies continue to prioritize their supervisory work at these service providers.
- Evolving business and operating models that include new delivery channels, products, and services create risks that banks need to properly manage. Financial technology firms and services leveraging innovative business models provide banks with opportunities and challenges as emerging technologies are transforming financial products, services, and operations.

Compliance risk remains elevated as banks manage money-laundering risks in a complex environment. Implementing changes to policies and procedures to comply with amended consumer protection requirements are challenging banks' compliance risk management processes.

- The challenge for banks to comply with BSA requirements persists because of the dynamic nature of money-laundering and terrorism-financing methods. Banks using new or evolving delivery channels increase customer convenience and access to financial products and services, but can also create vulnerabilities that criminals can exploit. Banks engaging in such offerings should focus on refining or updating BSA compliance programs to address vulnerabilities.
- BSA and anti-money laundering (AML) compliance risk management systems often do not keep pace with evolving risks, resource constraints, changes in business models, and regulatory changes. The OCC continues to identify BSA program deficiencies and have several outstanding enforcement actions (EA) directing banks to improve BSA/AML risk management.
- The increasing number of Office of Foreign Assets Control (OFAC) sanctions, as well as the evolving breadth, complexity, and coverage of these sanctions, increases the associated

operational and compliance risks. Some banks have not sufficiently kept abreast of trends in OFAC sanctions and update policies, procedures, and processes.
- Complex and amended regulations may strain banks' compliance management systems and change management processes and increase operational, compliance, and reputation risks. These changes include requirements now in effect under the Financial Crimes Enforcement Network's (FinCEN) beneficial Ownership/Customer Due Diligence regulation, as well as the amended regulations implementing the HMDA, the Military Lending Act (MLA), and the integrated mortgage disclosures under TILA and RESPA.
- Some banks have had difficulty implementing the significant system and operational changes necessary for the integrated mortgage disclosure forms required for most mortgage loans secured by real property since October 3, 2015. Banks' compliance risk management and audit functions are expected to be sufficient to promote ongoing compliance with the regulation.
- Some banks that rely on software, automated tools, disclosure forms, and third-party relationships to comply with the integrated disclosure requirements face difficulties validating systems for processing loan applications, creating and distributing disclosures, and underwriting and closing loans. Sound risk management practices include maintaining processes and systems that are sufficient to identify covered borrowers and loan products and producing accurate calculations and required disclosures.

There is uncertainty in how bank deposits will react to increasing interest rates. Banks may experience unexpected adverse shifts in liability mix or increasing costs that may adversely affect earnings or increase liquidity risk.

- Uncertainty exits around the sensitivity of deposits to rising interest rates. Historically high levels of non-maturity deposits acquired during a very low interest rate environment, competition for insured retail deposits, and advances in technology are factors that may result in deposit behavior that deviates from historical norms.
- Competitive pressures may increase the cost of deposits as interest rates increase. Regulatory liquidity requirements for banks with total assets of $250 billion or more increase these competitive pressures.
- Bank deposit mix has shifted to lower cost non-maturity deposits, which have been more favorable than the historical norm at this point in the cycle. This shift has been a key driver of lower deposit betas, which measure the responsiveness of bank deposit rates to changes in market rates, and also increased net interest margins (NIM) for the system and for small banks. Rising interest rates typically trigger outflows of low-cost deposits, increasing deposit betas, and a flatter yield curve that could temper further NIM expansion.

Part I: Operating Environment

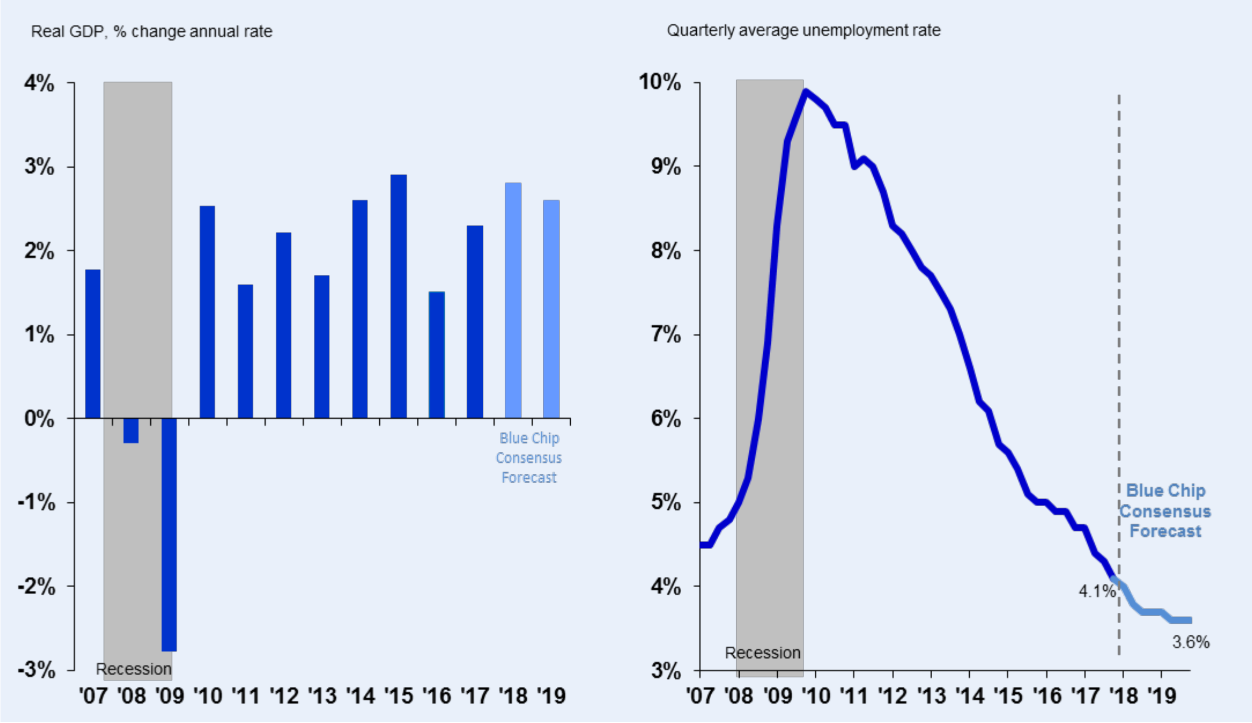
U.S. real gross domestic product (GDP) growth accelerated to 2.3 percent in 2017 from 1.5 percent in 2016, driven primarily by stronger nonresidential business investment. Tax cuts and increased government spending are expected to further spur economic growth in the short run. Hiring remained solid in 2017, with employers adding an average of 182,000 jobs per month, slightly less than the 2016 average. Job growth became more balanced across the country over the past year, as hiring picked up in the goods-producing sector and gradually slowed in private services, such as the retail trade, education, health care, and technology industries. Regionally, hiring picked up in commodity-dependent areas but slowed modestly in technology-reliant states in the West as the labor market tightened and skilled labor became scarcer.

The combination of tax reform and increased fiscal stimulus increased economic growth and inflation expectations for 2018, which in turn may make for a less accommodative outlook for U.S. monetary policy. The Board of Governors of the Federal Reserve System has gradually raised interest rates and reduced its balance sheet holdings of Treasury and agency securities through maturity runoff. The Federal Reserve may move more aggressively should signs of overheating occur this year. Market volatility spiked in stock and bond markets during the first quarter of 2018, as market participants reassessed valuations and interest rate expectations. Treasury yields climbed during the first quarter of 2018 because of expectations for modest economic growth and inflation and issuance of federal debt.

U.S. Economic Growth to Continue, Unemployment to Stay Low

The consensus forecast is for the economic expansion, now in its ninth year, to continue through at least 2019. With no apparent economy-wide imbalances, the consensus forecast expects growth to pick up modestly to 2.8 percent in 2018 before slipping to 2.6 percent in 2019. Accordingly, the economy is expected to outpace estimates of its potential non-inflationary growth rate. The unemployment rate, which averaged 4.1 percent in the first quarter of 2018, is forecast to fall to 3.6 percent in 2019, which would be its lowest rate in nearly 50 years (see figure 1).

Figure 1: GDP and Unemployment Trends

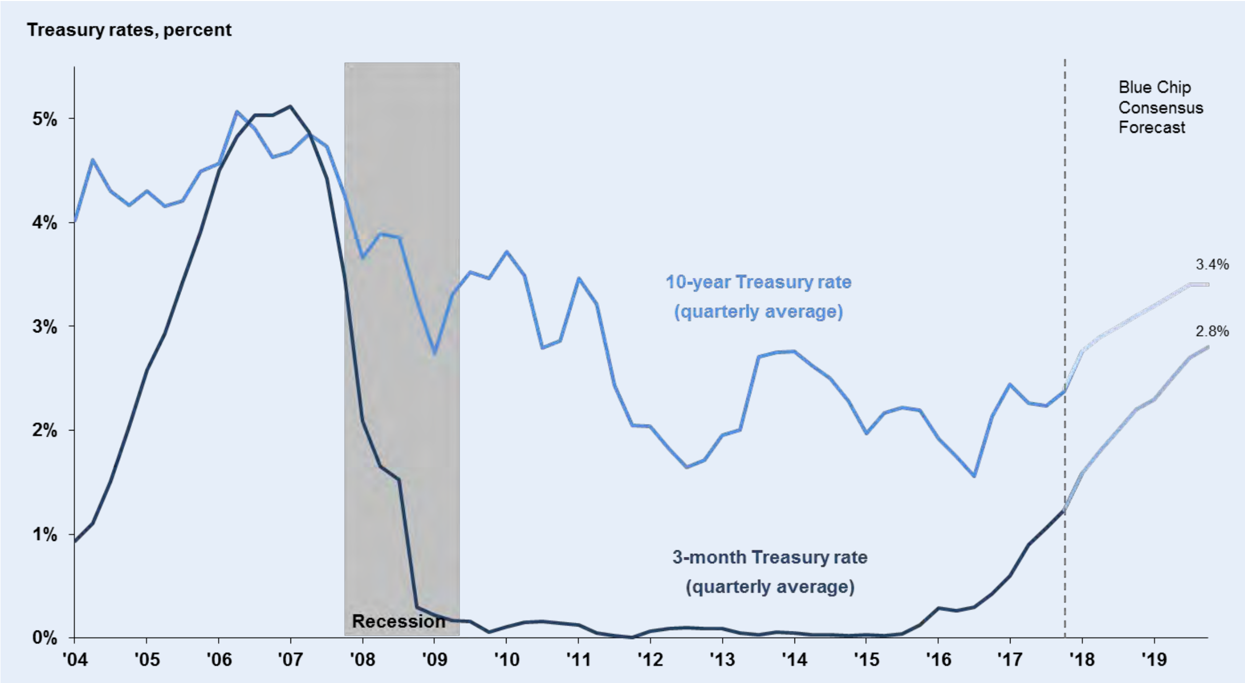


Source: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics (historical through first quarter of 2018), Blue Chip Indicators (February 2018)

Interest Rates Expected to Be Higher and Yield Curve Flatter in 2018

The consensus forecast is for the yield curve to move higher and to flatten after the Tax Cuts and Jobs Act (TCJA) passed last year. The expected pickup in wage growth and inflation because of the TCJA stimulus has led to forecasts of higher interest rates. The Blue Chip Consensus Forecast is for the three-month Treasury rate to climb to 2.8 percent and the 10-year rate to reach 3.4 percent in the fourth quarter of 2019, their highest quarterly averages since 2007 and 2011, respectively (see figure 2). About 10 percent of the Blue Chip contributors foresee a significantly faster increase in interest rates. The additional fiscal stimulus of the recently passed two-year spending pact increases the risk that the economy grows and interest rates rise faster than forecast. Higher rates are generally positive for small bank margins when the yield curve is steep. A flatter yield curve could complicate the margin outlook for banks if the curve flattens at a pace or magnitude beyond expectations.

Figure 2: Short- and Long-Term Interest Rate Measures

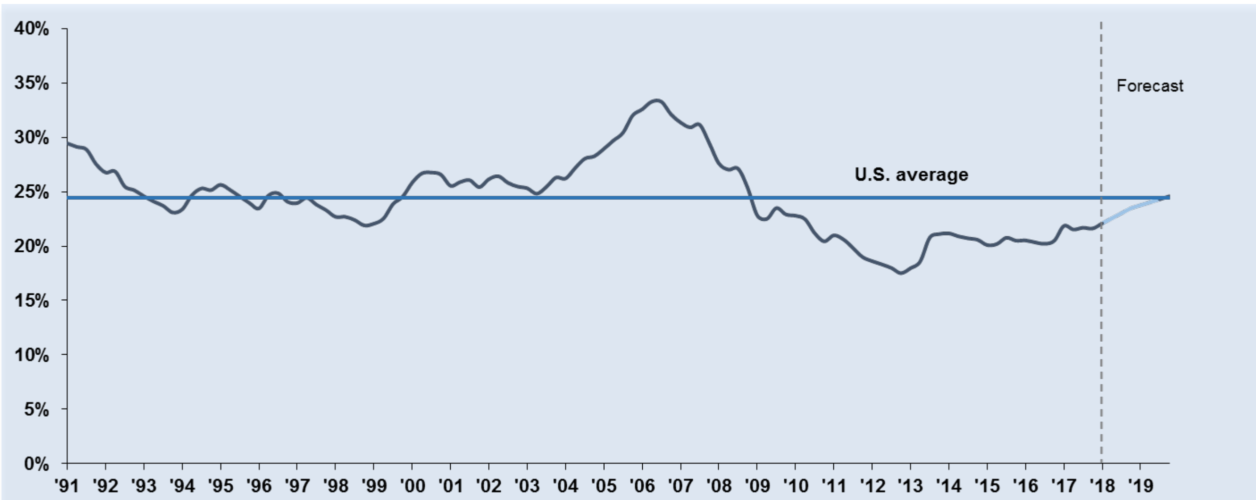


Source: Federal Reserve Board (historical through the first quarter of 2018), Blue Chip Indicators (October 2017, April 2018)

Faster Than Expected Rise in Interest Rates a Risk for Housing

Low interest rates have kept the mortgage service burden of the average homeowner manageable despite the rising cost of ownership due to increasing home prices. Rising interest rates will place a drag on housing demand, particularly for new home buyers and in more expensive markets. If rates rise gradually and slowly as expected, the drag will be modest as sufficient adjustment time is provided. A faster rise than expected poses the risk of a larger drag on housing demand and home prices in more expensive housing markets. If mortgage rates rise in-step with the 10-year Treasury rate forecast, the average monthly mortgage payment-to-income ratio for the national average home price with a 30-year fixed rate mortgage and 20 percent down for a median income household would rise to near the long-term average (see figure 3).

Figure 3: Trend in Mortgage Payment-to-Income Ratio for National Average Home Price



Source: U.S. Bureau of Labor Statistics, Black Knight, and Moody's Analytics

Note: Mortgage payment for average-priced home for a 30-year fixed-rate mortgage originated with a 20 percent down payment.

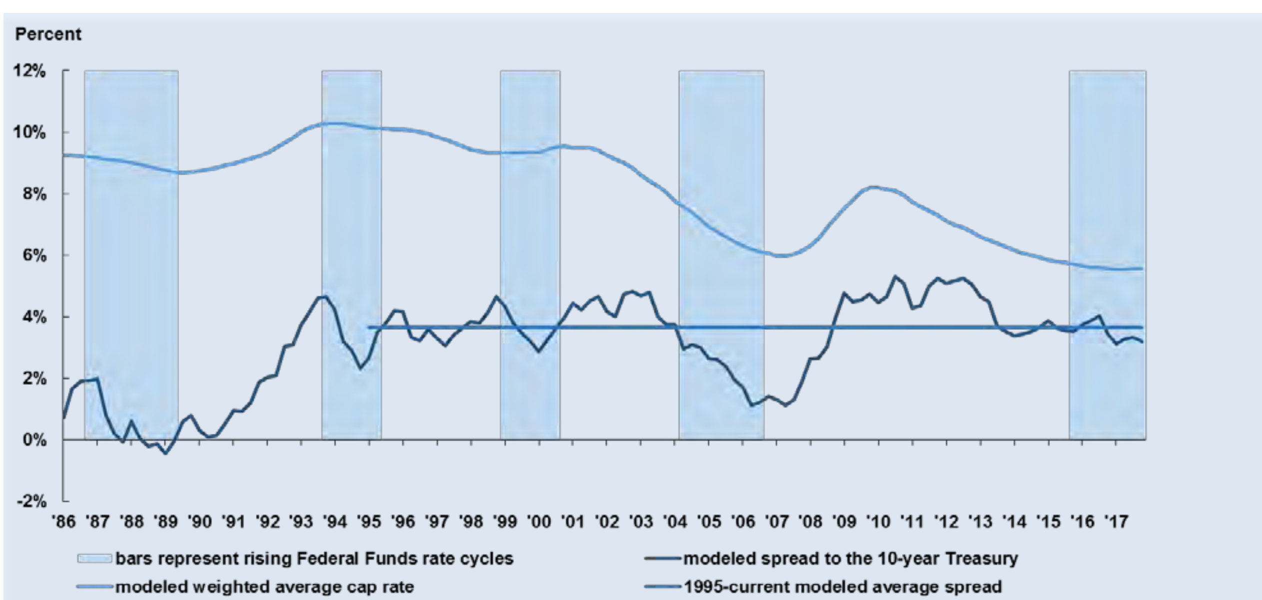
Unexpectedly Fast Interest Rate Increases a Risk for CRE

Higher long-term rates and resulting higher financing costs tend to reduce investor demand putting downward pressure on CRE prices. Demand is also influenced by expected future net operating income (NOI), expected returns from alternative investments, and the perceived level of general risk in the economy. In an expanding economy, positive impacts on CRE prices from these factors may offset the negative impact from higher interest rates, supporting property values or allowing for price growth despite increasing financing costs. In the last four rising interest rate cycles, cap rates (the ratio of a property's one-year NOI to market value) were relatively flat or declined as property prices increased at a similar or faster rate than NOI. Cap rates have also remained relatively flat or have fallen during rising interest rate cycles because the perceived level of general economic risk tends to decrease during these cycles.

The risk premium for holding CRE assets, which is measured as the spread between cap rates and 10-year Treasury yields, acts as a buffer that absorbs increases in the Treasury yield without corresponding cap rate increases. In the last four rising interest rate cycles, the cap rate spread tightened as the perceived risk of holding CRE assets declined (see figure 4). In the current cycle, the aggregate CRE cap rate has flattened out since late 2015 and the risk spread has tightened as interest rates have risen. The average cap rate masks the fact that cap rates have risen a modest amount in several markets, especially in the office property segment where price growth has slowed the most.

Looking ahead, CRE prices are expected to grow relatively slowly in 2018 as investors fear that peak prices are near despite continued economic growth. As a result, the aggregate cap rates will likely rise a small amount in 2018. If the economy overheats in 2018 and inflation accelerates, the Federal Reserve may raise interest rates at a faster pace and to a larger degree than expected. This could raise risk premiums, reduce investor demand for CRE properties, cause property price growth to slow significantly, and increase cap rates more than anticipated.

Figure 4: Trend in the CRE Cap Rate Spread to 10-Year U.S. Treasury



Source: CoStar (February 2018 baseline forecast)

Part II: Bank Performance

Profitability and Asset Quality Remain Strong

Net Interest Income Growth Drives Revenue Growth

Bank profitability improved in 2017 when compared with 2016 on a pre-tax basis. OCC-supervised banks reported healthy revenue growth in 2017 compared with 2016. Net income was flat for banks with total assets less than $1 billion and declined 8.5 percent for the federal banking system because of the effect of the TCJA (see table 1). Pre-tax income rose 4 percent in 2017 for the federal banking system and more than 7 percent for banks with assets less than $1 billion. Rising net interest income offset higher noninterest and provision expenses while noninterest income remained flat. Tax-driven expense recognition contributed to 5 percent growth in noninterest expense. This increase is primarily attributable to strong growth in net interest income across the federal banking system, which increased 8 percent in 2017 after increasing 6 percent in 2016. Growth in net interest income for banks with total assets of less than $1 billion increased by 6 percent in 2017, reflecting an improvement over 2016. Higher net interest income across banks of all sizes was driven primarily by increasing margins, higher loan volumes, and higher interest rates.

Table 1: Trends in Bank Net Income

	Federal banking system			Banks with total assets of less than $1 billion		
	2015	2016	2017	2015	2016	2017
Year-to-date revenue in billions of dollars						
Net interest income	288.0	305.6	329.6	7.9	8.2	8.7
Noninterest income	178.8	178.5	177.3	2.5	2.7	2.6
Realized securities gains and losses	2.8	2.7	1.9	0.1	0.1	0.0
Year-to-date expenses in billions of dollars						
Provision expense	27.2	35.2	36.8	0.2	0.3	0.4
Noninterest expense	279.8	281.9	295.6	7.6	7.9	8.0
Pre-tax net income	**162.6**	**169.7**	**176.4**	**2.6**	**2.7**	**2.9**
Income taxes	50.5	53.3	69.9	0.5	0.5	0.7
Net income	**111.6**	**115.9**	**106.1**	**2.1**	**2.2**	**2.2**

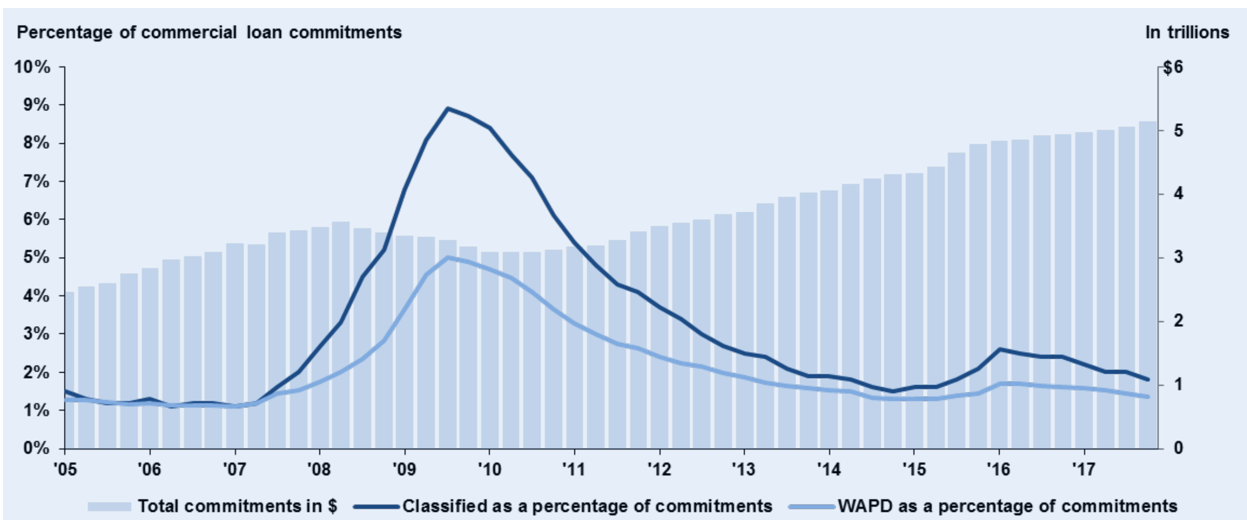
Source: Integrated Banking Information System (OCC)

Note: Data are merger-adjusted and held constant for banks in continuous operation from the first quarter of 2010 to the fourth quarter of 2017. Banks with total assets less than $1 billion exclude credit card and trust institutions. Net income may not total due to rounding and the effects from discontinued operations.

Asset Quality Metrics Are Stable and Reflect Sound Credit Quality

Credit quality improved in the fourth quarter of 2017 at the largest OCC-supervised banks, the seventh quarter of improvement since oil and gas exposures caused an increase in risk at the end of 2015. The weighted-average probability of default (WAPD) for 2017 ended at 1.4 percent, and the ratio of classified commitments to total commitments ended at 2.0 percent. These metrics compared favorably with 1.6 percent and 2.4 percent, respectively, at the end of 2016 (see figure 5). The oil, gas, and pipeline sector accounted for about 25 percent of all classified commitments and the highest WAPD—4.5 percent—which was down from the peak of 7.8 percent in 2016. Classified commitments ended 2017 at 7.7 percent of aggregate tier 1 capital plus the allowance for loan and lease losses. This represents an increase from 6.4 percent at the end of 2016 due to an increase in classified oil, gas, and pipeline sector-related loans. Industries that experienced credit quality deterioration include furniture manufacturing, radio, specialty retail, restaurants, and cargo ship transportation. Similarly, the 2017 Shared National Credits (SNC) review concluded that the level of adversely risk-rated commitments in the SNC portfolio declined slightly but remained elevated and stemmed primarily from distressed borrowers in the oil, gas, and pipeline sector and/or other industry sector borrowers with excessive leverage.[2]

Figure 5: Commercial Loan Trends for Select Banks



Source: OCC

[2] OCC NR 2017-90, "Reviews of Shared National Credit Portfolio Find Risk Remains High, Underwriting and Risk Management Practices Continue to Improve" (August 2, 2017).

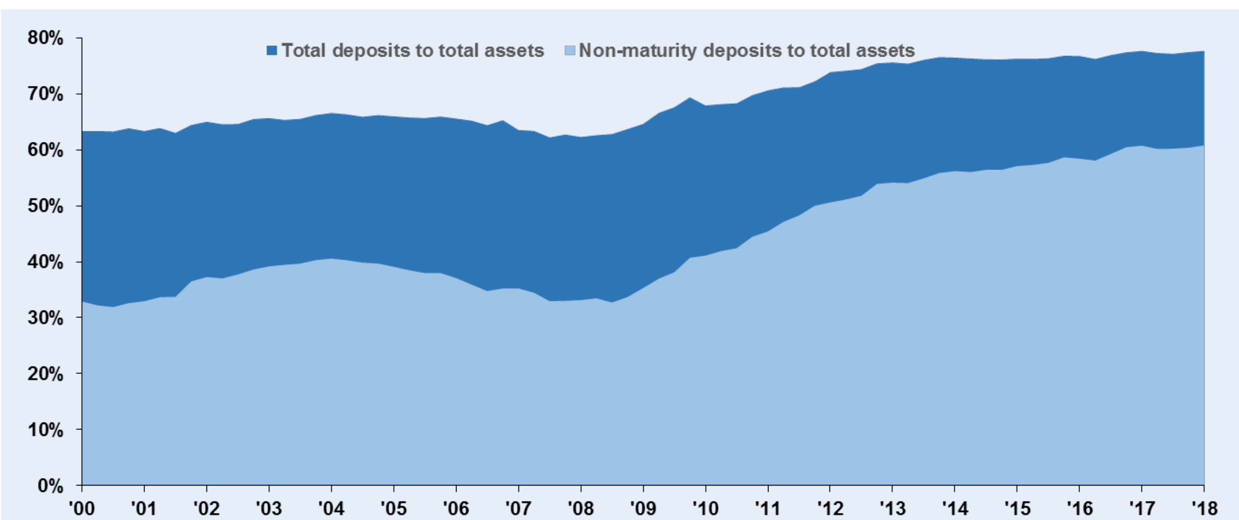
Part III: Special Topics in Emerging Risk

Rising Interest Rates Introduce Increased Uncertainty in Deposits

Deposits fund a larger portion of bank balance sheets compared with pre-recession levels, and the mix has shifted toward non-maturity deposits. Banks experienced significant growth in deposits during and after the financial crisis both as customers sought the safety of insured deposits and due to the extended period of low interest rates. When interest rates began to rise in late 2015, banks did not have to increase deposit costs as they had to do during previous periods of rising interest rates. While deposits continued to grow and deposit rates remained relatively stable, it is uncertain whether that relationship will continue if interest rates increase as market participants expect. Bank NIMs have increased at large and small banks during the current period of rising interest rates largely because of the ability of banks to manage deposit costs effectively. The continued increase in market interest rates may eventually lead to higher funding costs for banks as economic growth increases loan demand and competition for funding and customer expectations of higher returns pressure banks to raise deposit yields.

Deposits have increased fairly steadily as a share of bank balance sheets since 2008, when the economy was mired in the Great Recession and financial crisis. Before the Great Recession and financial crisis, deposits consistently trended downward as a share of bank assets throughout the post-World War II period. Deposits funded 64 percent of bank assets in 2008, but that increased to 77 percent of assets at the end of 2017 (see figure 6). Low market rates and the influx of deposits allowed banks to keep funding costs at historical lows. Further, this growth was centered in low-cost, non-maturity deposits. Depositors moved money to non-maturity deposits for a variety of reasons, including safety and the relatively low yields for term products available in the broader market.

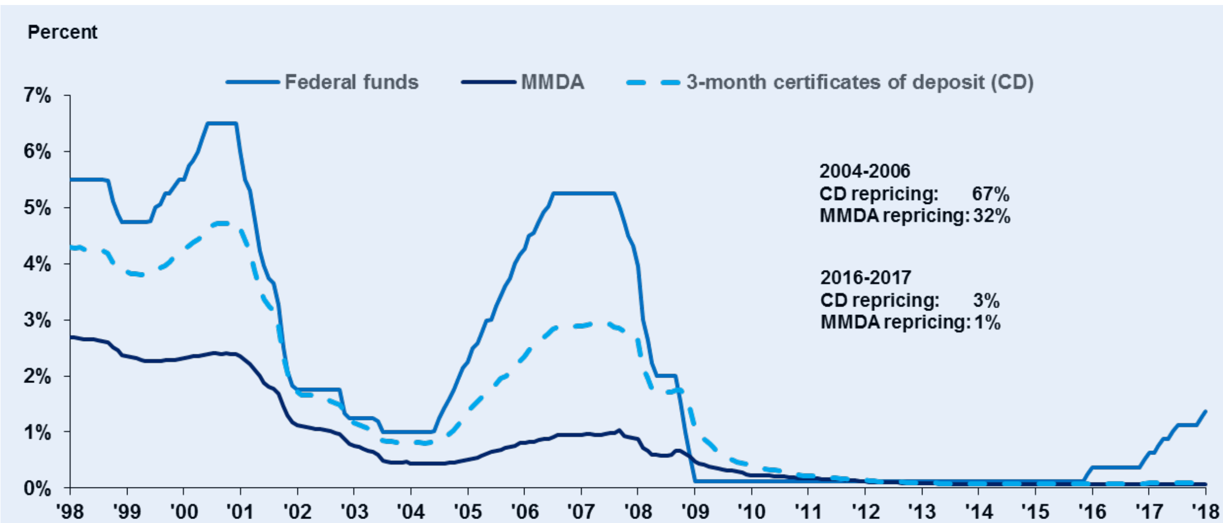
Figure 6: Trends in Deposit Structure



Source: Integrated Banking Information System (OCC)

Deposit costs usually increase when interest rates rise, but the increase in deposit costs during this tightening cycle has been modest. Deposit beta measures the responsiveness of bank deposit rates to changes in market rates—lower betas since 2015 indicate that banks have not increased deposit rates as much as in prior cycles. The bank loan-to-deposit ratio fell more than usual in the current cycle, leaving banks flush with liquidity. Banks' use of more volatile and costly funding also remains low. At the same time, asset sensitivity has increased and, unlike deposit costs, yields on bank assets have risen in line with Federal Reserve rate hikes. In contrast to earlier Federal Reserve tightening cycles, this has led to a rise in NIMs even as market rates have climbed. Since the Federal Reserve began increasing short-term interest rates in December 2015, OCC-supervised banks have only increased deposit yields 12 percent of the total increase in the federal funds rate. In the previous cycle of increasing interest rates, from 2004-2006, money market demand account (MMDA) interest rates increased 32 percent of the federal funds target rate, but have only increased 1 percent of the federal funds rate in the current rising interest rate period (see figure 7).

Figure 7: Trends in Deposit Pricing

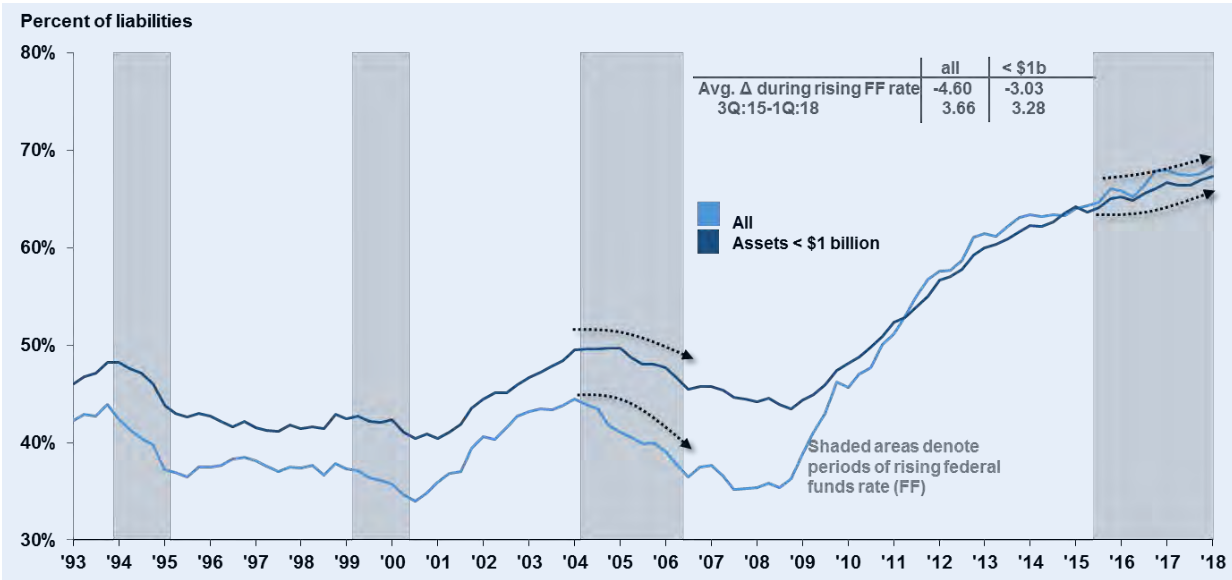


Source: Federal Reserve and Ratewatch

The shift in deposit mix has also been more favorable to banks at this point in the cycle than the historical norm. An analysis of transaction accounts and regular savings deposits shows that the share of these lower-cost deposits increased during the current rising rate cycle (see figure 8). In previous periods of rising rates these deposit accounts have declined as a percentage of liabilities. This was also a driver of the lower deposit betas noted on the previous page of this report and helps explain why overall NIM has increased for the system and for small banks.

Based upon past observations, such NIM improvements may not persist. Rising interest rates typically trigger outflows of low-cost deposits, increasing deposit betas, and a flatter yield curve, which could temper NIM expansion. Accordingly, it is important for bank management to understand the sensitivity of deposit assumptions across a range of scenarios and the potential effects on earnings and liquidity.

Figure 8: Trends in Transaction and Savings Accounts in Rising Interest Rate Cycles



Source: Integrated Banking Information System (OCC)

The potential for greater competition for deposits created by new regulations and nonbank alternatives may exacerbate the effect of rising interest rates on deposit stability. Regulatory changes, including the liquidity coverage ratio (LCR),[3] for banks with total assets of $250 billion or more, increase competition for insured retail deposits. The LCR requires banks subject to the rule to hold high-quality liquid assets as a liquidity buffer against short-term funding outflows. Insured retail deposits require the lowest amount of high-quality liquid assets against potential outflows, creating an inherent premium to hold such deposits. Banks subject to the ratio have already altered their balance sheets to reduce some funding that requires high levels of high-quality liquid assets. As banks further optimize their balance sheets with respect to the rule, LCR banks compete for insured retail deposits to reduce the amount of high-quality liquid assets they must hold.

In addition to regulatory changes, enhanced technological capabilities of mobile and internet banking applications and the emergence of nonbank financial and financial technology companies create additional competition for deposits that differs from prior increasing interest rate cycles. These differences include the ability to transfer money easily, including across linked accounts from different institutions. As consumers weigh the overall economic value of the account, including new flexibilities and options, this broader concept of economic value may place banks that are able to offer more robust account features and applications at an advantage. This may be one factor that explains why those banks that offer robust account and advanced application features have not needed to increase rates at this point in the cycle.

[3] OCC Bulletin 2014-51, "Liquidity Coverage Ratio: Final Rule" (October 17, 2014).

OCC examiners review interest rate risk management processes, including non-maturity deposit assumptions,[4] and resulting earnings and economic value simulations as part of the examination process. The OCC analyzed the non-maturity deposit assumptions used by midsize and community banks across different levels of total deposit growth, non-maturity deposit share growth, and non-maturity deposit costs. This analysis attempts to identify differences in deposit assumptions for banks with low, average, and high growth rates. Banks with the highest growth rates in the non-maturity deposit-to-assets ratio were expected to have more conservative deposit assumptions, particularly higher deposit decay rates, which estimate the percentage of an account that will "run-off" or move out of a particular deposit product for a given rate change. There was no consistent difference in the deposit decay or repricing rates used by banks in the three groups. The analysis found that bank deposit assumptions vary based on different bank strategies and local environments but are mostly uncorrelated with recent growth trends.

It is unknown whether depositors will revert to the rate sensitivity experienced during prior increasing rate cycles. Deposits acquired during a period of historically low rates could expose banks to interest rate and liquidity risks that are more severe than projected by banks' models. Accordingly, it is important for bank management to perform sensitivity analyses of deposit assumptions across a range of scenarios and identify the potential impact on earnings and liquidity. Testing the sensitivity of existing assumptions by applying subtle or significant variations to the repricing or decay rates may be used to analyze the potential effect on capital and earnings if depositors are less stable, or more price sensitive, than expected. Contingency funding plans should be revised as appropriate to reflect the effect of meaningful changes in macroeconomic or bank specific conditions such as changes in interest rate expectations, deposit assumptions, or results of sensitivity testing. Bank management may refer to OCC supervisory issuances for guidance on risk management for liquidity and interest rate risk.[5]

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[4] For definitions and more information on non-maturity deposit assumptions, see appendix G of the "Interest Rate Risk" booklet of the *Comptroller's Handbook*.

[5] Resources include the "Interest Rate Risk" and "Liquidity" booklets of the *Comptroller's Handbook*. Also see OCC Bulletin 2010-1, "Interest Rate Risk: Interagency Advisory on Interest Rate Risk Management" (January 8, 2010), and OCC Bulletin 2010-13, "Liquidity: Final Policy Statement: Interagency Policy Statement on Funding and Liquidity Risk Management" (March 22, 2010).

Part IV: Trends in Key Risks

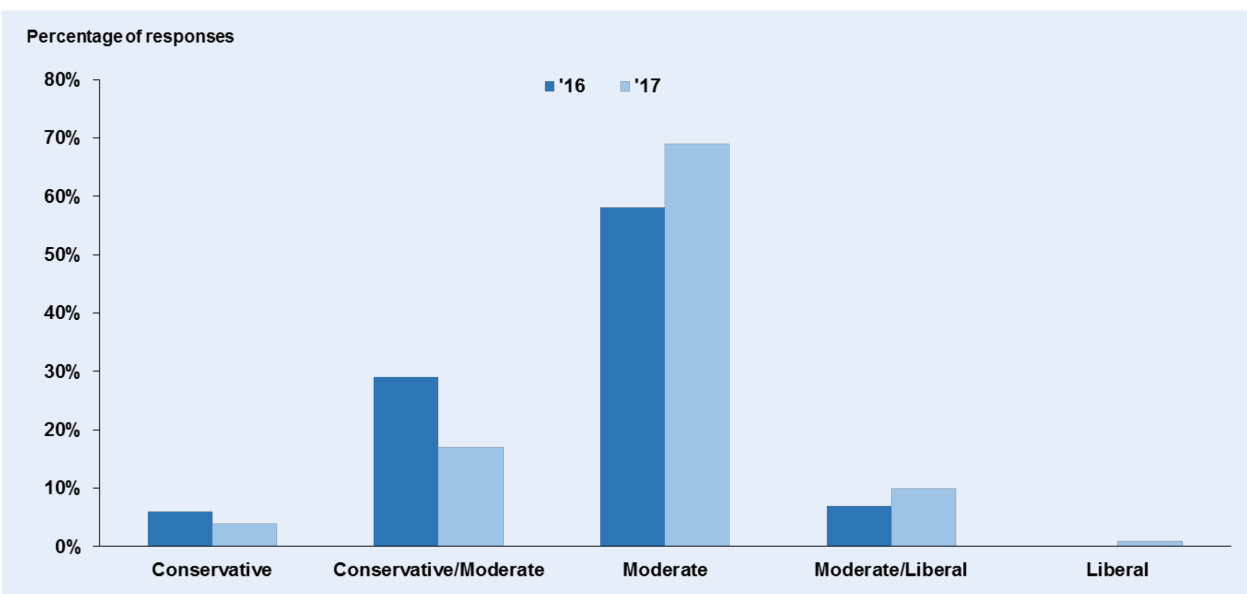
A. Easing Underwriting Practices

Examiners Report Easing in Commercial Credit Underwriting Practices

Credit underwriting assessments completed by OCC examiners in the second half of 2017 indicate that the majority of banks operated within a moderate risk appetite and maintained satisfactory underwriting standards. Banks continued to ease underwriting practices more often than examiners noted tightening. This easing began in 2013 after a period of substantial tightening after the recession. The number of outstanding MRA concerns related to commercial credit underwriting increased 24 percent from the first quarter of 2017 through the first quarter of 2018.

When compared with 2016, there was a modest shift from conservative/moderate underwriting to moderate underwriting during 2017, with a slight uptick in moderate/liberal underwriting practices (see figure 9). This incremental easing was influenced by banks' desire for interest income and loan growth to meet strategic objectives amid a competitive credit market that is affecting all sizes of banks. Examples of eased underwriting that examiners identified include diminished protective financial covenants, generous cash flow adjustments, limited or no guarantees, longer amortization periods, extended interest-only terms, and higher loan-to-value ratios or advance rates. In addition, outstanding MRA concerns related to the management of commercial credit policy exceptions increased by 45 percent from the first quarter of 2017 through the first quarter of 2018, albeit from a relatively modest level. The potential for additional rate hikes also presents increased risk, as rising interest rates could affect affordability of current debt service requirements or refinance ability, which has the potential to influence underwriting behavior and credit terms.

Figure 9: Trends of Credit Underwriting Practices of Overall Credit Portfolios



Source: OCC

B. Operational Risk Remains Elevated, Partly Because of Increasing Cyber Threats and Use of Third-Party Service Providers

Severity of Cyber Threats Is Increasing

The OCC implemented the Federal Financial Institutions Examination Council (FFIEC) Cybersecurity Assessment Tool (CAT)[6] into its examination process in 2015. This has enabled a holistic assessment of the federal banking system's cybersecurity profile in a repeatable and measurable manner. Since then, the majority of OCC-supervised banks have been through at least two examination cycles and show improvement across all five evaluation domains. Despite these improvements, the evolution of cyber threats requires vigilance by banks and consumers. Cyber threats target operational vulnerabilities that could expose large quantities of personally identifiable information and proprietary intellectual property, facilitate misappropriation of funds at the retail and wholesale levels, and disrupt business.

OCC examination results show that the following categories, which are part of the CAT, require continued diligence.

Cybersecurity Controls

A significant number of cyber incidents originate from social engineering including phishing emails. Malware and malicious links distributed in this manner help cyber criminals gather information or access networks. Such methods are frequently the primary entry mechanism to perpetrate other malicious activity, such as loading ransomware onto computers, accessing confidential information, transacting unauthorized payments, or conducting espionage. It is important for banks to implement appropriate technical controls and conduct regular, mandatory information security training for staff on their responsibilities. Such training should include how to identify and prevent social engineering and phishing attempts and how and when to report suspicious activities.

Poor authentication controls enable unauthorized access to customer data and theft of bank funds, resulting in fraud and reputation risk. Confidential credentials are sold online and are used to gain access to customer or bank employee accounts. As part of a layered security approach, it is important for banks to implement strong authentication and management of privileged and high-value user access (e.g., system administrators, staff capable of moving funds, and directors and executives with access to sensitive corporate information).

Use of unpatched or unsupported software and hardware by banks and their service providers is another common vulnerability. A sound system-development life cycle requiring regular maintenance and system updates is important to protect against these weaknesses.

[6] See the FFIEC Cybersecurity Assessment Tool at ffiec.gov/cyberassessmenttool.htm.

Third-Party Connections

Third-party service providers are increasingly targets for cybercrime and espionage. When compromised, these third parties' systems may then provide avenues to exploit banks' systems and operations. As banks establish third-party relationships, understanding connections, system interfaces, and access entitlements with these third parties is vital to implementing the appropriate controls to manage risk.

Resilience Testing

Given the increasing operational risk and severity of consequences associated with cyber attacks, it is important for banks to have a well-established and tested response plan in case a cyber incident occurs. Bank management should clearly designate appropriate personnel for key response mechanisms, which include operations, service providers, public affairs, legal, law enforcement, and other government entities.

The interagency Financial and Banking Information Infrastructure Committee developed a Financial Sector Cyber Exercise Template for banks to use to evaluate their responses to a cyberattack. The template provides a high-level scenario and series of questions every bank should be able to answer when responding to an incident.[7]

Use of Third-Party Service Providers Is Increasing, and Critical Operations Are Increasingly Concentrated in a Few Large Service Providers

Banks increasingly rely on third-party service providers. Reliance on third parties for payments, transaction processing, and other important functions creates a high level of risk for the banking industry. Banks' implementation of effective risk management processes to manage third-party risk mitigates this exposure and results in a stable environment. Banks' focus on third-party risk management has resulted in fewer open concerns and MRAs related to this area. Continued effective due diligence, change management, and ongoing monitoring are essential for banks to effectively manage risks associated with (1) the use of third-party service providers for critical services, (2) increasing interdependencies and interconnectivity, and (3) the implementation of new products and services offered through emerging financial technology firms that leverage innovative technologies and delivery channels.

Consolidation has increased among significant service providers. The consolidation has concentrated reliance on a smaller group of third parties providing critical services, resulting in large numbers of banks, especially community banks, relying on a few large service providers for core systems and operations support. In addition, banks depend on a limited number of service providers for specialized products and services, such as merchant-card processing, denial-of-service mitigation, asset management products and services, and other specific products or market services. By using service providers, banks can achieve greater economies of scale and can streamline services among industry participants. Increased use of a limited number of third-party service providers creates concentrated points of failure, resulting in systemic risk

[7] See Financial and Banking Information Infrastructure Committee's "Financial Sector Cyber Exercise Template" at fbiic.gov/financial-sector-cyber-exercise.html.

to the financial services sector. Banks should remain vigilant for third-party risk exposures when it comes to increased use of a limited number of third-party service providers and implement appropriate risk management practices.

Fraud and Attempted Fraud Trends Are Rising

Multiple industry reports indicate rising trends in attempted fraud and successful fraudulent transactions.[8] Given these trends and the rapidly changing business environment—faster payments, mobile payment solutions, and emerging technologies and delivery channels—robust internal controls are essential to avoiding fraud losses. Leading industry practices include a comprehensive risk assessment, effective internal controls, and layering multiple protective solutions to prevent and deter fraud. Additionally, communication and coordination with peers and law enforcement can enable broader environmental awareness and faster response. Fraud detection and response programs are important fraud risk management considerations. Effective third-party risk management is especially important when banks rely on third parties for fraud prevention and detection solutions.

C. Compliance Risk Remains Elevated

New Technology Offerings and Evolving Criminal Methods Result in High BSA/AML/OFAC Compliance Risk

Banks face challenges in complying with BSA requirements because of complex and dynamic money-laundering and terrorism-financing methods. Bank offerings based on new technological platforms may increase access to financial products and services and provide convenience to customers, but such offerings may also create vulnerabilities that criminals can exploit as vehicles for money laundering.

BSA/AML/OFAC compliance risk management is an area of emphasis as some banks have not adopted appropriate risk management systems to keep pace with evolving risks, resource constraints, changes in business models, and regulatory changes. The OCC continues to find instances when banks have not adjusted or realigned BSA/AML/OFAC risk assessments to reflect changes in risk profiles resulting from multiple factors. These include growth (organic and through mergers and acquisition), the introduction of new products and services, new or growth in inherently high-risk customers, and significant increases in transaction volume. A sound risk assessment is the foundation of an effective BSA/AML program and can be the basis to identify coverage gaps within AML systems. The OCC has tied many risk assessment concerns to weaknesses in change management processes, such as excluding the bank's compliance function from decisions involving changes in product or service offerings.

The OCC expects banks to be aware of regulatory changes, including the FinCEN's Beneficial Ownership/Customer Due Diligence regulation, implemented in May 2018. Banks may need to

[8] See, e.g., Amanda Dorphy and Heather Hultquist, Payments, Standards, and Outreach Group, Federal Reserve Bank of Minneapolis, *2017 Financial Institution Payments Fraud Mitigation Survey: Report of Results*, 3-5 (January 2018); LexisNexis Risk Solutions, *2017 True Cost of Fraud Study*, 8-9 (October 2017); Al Pascual, Kyle Marchini, and Sarah Miller, Javelin, *2018 Identity Fraud: Fraud Enters a New Era of Complexity* (February 6, 2018).

make changes to systems to comply with the new regulatory requirements and should also implement training, quality assurance, independent testing, and controls. New U.S. economic and trade sanctions, as well as additional requirements in existing sanctions programs based on dynamic foreign policy and national security goals, may increase compliance and operational risk for banks as they attempt to address the resulting change management issues. While the number of EAs issued has declined, several banks remain under EAs or have MRAs concerns to correct deficient practices related to their BSA/AML compliance programs.

Amendments to Regulations Continue to Challenge Compliance Management Systems

Changes to the HMDA have required banks to significantly enhance their data collection and reporting systems in 2017 and 2018 to meet regulatory obligations. For HMDA data collected in 2017, covered banks were required to update their submission processes before March 1, 2018, to use a new platform and comply with specifications issued by the Bureau of Consumer Financial Protection. For all covered applications on which banks take action on or after January 1, 2018, covered banks must collect information related to 110 data fields, as compared with the 39 fields required for applications before 2018. Data collected in 2018 must be submitted by March 1, 2019. The Bureau of Consumer Financial Protection's recent announcement that it intends to engage in rulemaking to reconsider aspects of the 2015 HMDA Rule may require further HMDA-reporting change management by banks.

The amended MLA and its implementing regulation expanded specific protections provided to service members and their families and covers a wider range of credit products. The types of charges that must be counted toward the military annual percentage rate limit of 36 percent are more inclusive than the "finance charges" counted toward the annual percentage rate under TILA. The amendments have the potential for significant compliance, credit, and reputation risk exposure. Risks include violations of the MLA and the potential for voiding the credit agreement if the military annual percentage rate exceeds the 36 percent limit. The effect of rising interest rates could present additional challenges to banks focused on providing loan products to service members and their families.

The majority of OCC-supervised banks have mortgage products that are subject to the integrated disclosure requirements under TILA and RESPA. Common supervisory concerns include the accuracy of loan estimates and closing disclosures and inaccurate timing and tolerance violations. Violations of the integrated disclosure requirements can result in reimbursements and rescissions. Noncompliance could result in statutory damages, civil liability, and reputation risks. Such concerns highlight the complexity of these amendments and change management and compliance management system challenges that banks face.

Some Compliance Management Systems Are Not Evolving at the Pace of Risks

Two continuing concerns regarding compliance management systems are (1) bank internal quality assurance and risk assessment processes that support these systems and (2) the ability to maintain sufficient compliance expertise to manage additional risks and complexities. The evolving and complex nature of consumer compliance risks affects many large and midsize banks and affects community banks to a lesser degree. Consumer compliance-related MRA concerns remain outstanding at a majority of large and midsize banks and at a much smaller number of community banks. While the pace and intensity of regulatory changes has eased, compliance management systems remain challenged by other factors, including heightened attention to consumer protection, complex regulatory structures and uncertainty, merger and acquisition activities, new products and services, increasing reliance on third parties, and compliance talent challenges. Banks are expected to have compliance management systems commensurate with the risks in their products and services. In some banks, enhanced management attention to customer complaints, third-party risk management, and change management processes have identified challenges requiring corrective actions.

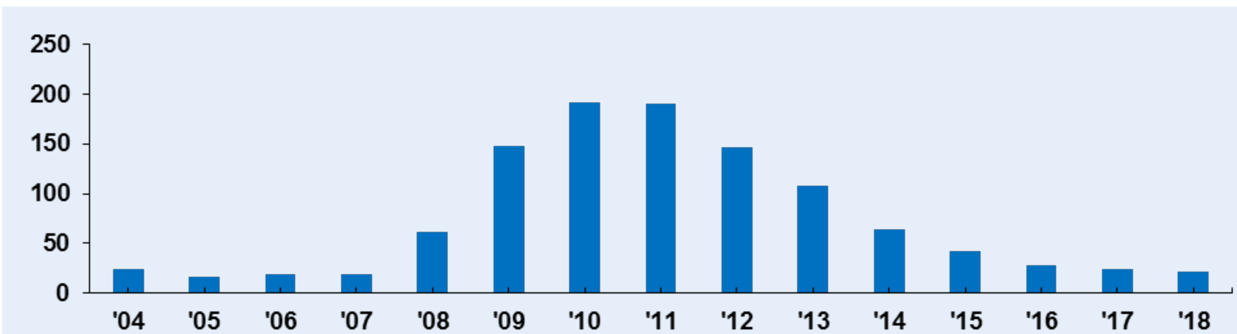
Banks face increasing operational and compliance risk to implement changes to supporting operating systems and to manage existing compliance management systems. Rising interest rates may cause an increase in the volume of mortgage loan refinancing in the short term. This, in turn, may stress operational resources—including those that support compliance with consumer protection laws and regulations. As banks consider outsourcing compliance management activities, management should conduct sound due diligence and maintain sufficient oversight when relying on third parties to provide or service bank products. In addition, periodic reviews of customer product and service disclosures with associated operating processes can help identify and avoid potential adverse customer experiences and legal claims.

Part V: Supervisory Actions

Number of Banks Rated 4 or 5 is Declining

The number of OCC-supervised banks with composite ratings of 4 or 5 declined by 14 percent year-over-year through the end of 2017, but the number remains slightly above levels immediately preceding the recession (see figure 10). The number is relatively unchanged through the first quarter of 2018 and is the lowest since 2007. The decline since the peak in 2010 is attributable to a variety of factors, including merger and acquisition activity, failures or liquidations, and composite rating upgrades resulting from recapitalizations and improvements in risk management.

Figure 10: Number of OCC-Supervised Banks Rated 4 or 5



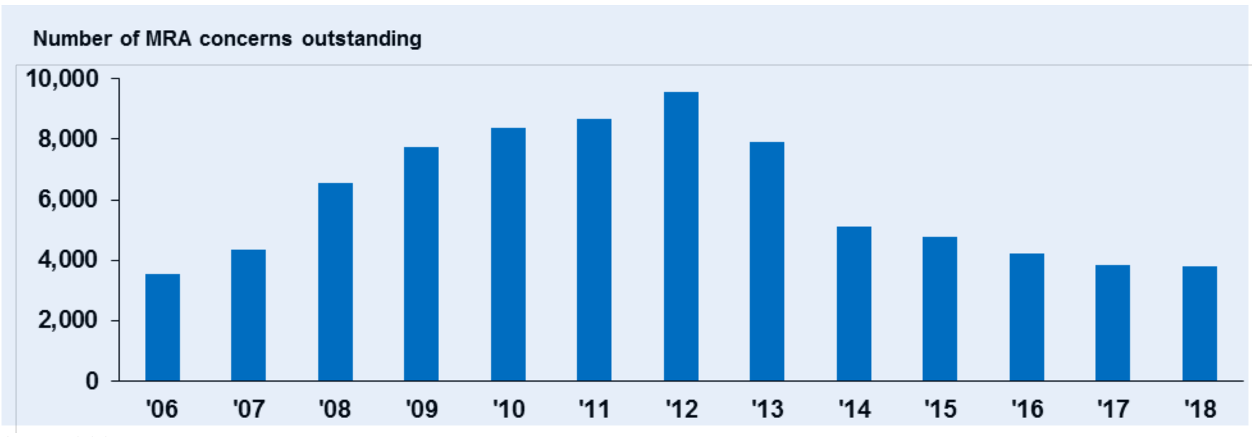
Source: OCC

Note: Data for 2018 are as of March 31. All other data are as of year-end.

Outstanding MRA Concerns Are Declining

The OCC communicates supervisory concerns to a bank's board and management in the form of MRA concerns or EAs. Supervisory concerns include practices that deviate from sound governance, internal control, or risk management principles.[9] Such deviations, if not addressed appropriately, could adversely affect a bank's condition or risk profile, result in violations of laws or regulations, and result in EAs. The number of outstanding MRA concerns peaked in 2012 and declined steadily through December 31, 2017, to the lowest level since 2006 (see figure 11). MRA concerns are relatively unchanged through the first quarter of 2018.

Figure 11: Number of MRA Concerns Outstanding



Source: OCC

Note: Data for 2018 are as of March 31. All other data are as of year-end.

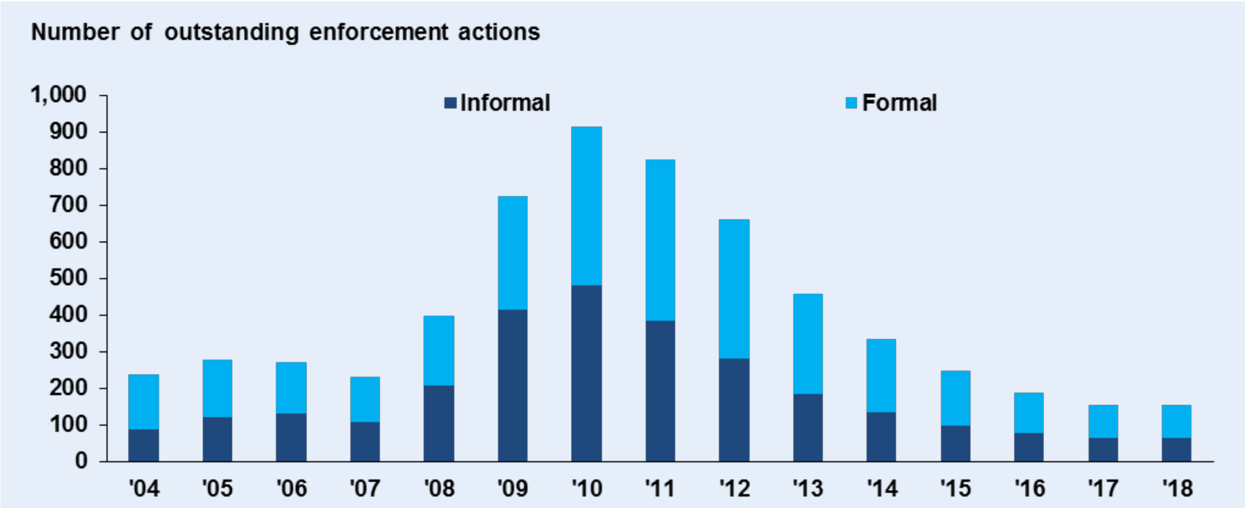
As of March 31, 2018, the top three MRA concern risk areas for midsize and community banks were operational (35 percent), credit (32 percent), and compliance (19 percent). For large banks, the top three MRA concern risk areas were operational (41 percent), compliance (34 percent), and credit (17 percent).

[9] OCC Bulletin 2014-52, "Matters Requiring Attention: Updated Guidance" (October 30, 2014).

Outstanding Enforcement Actions Have Declined Since 2010

The OCC uses EAs to address more acute deficiencies requiring corrective action. Informal EAs include commitment letters, memorandums of understanding, individual minimum capital ratios, and notices of deficiency issued under 12 CFR 30. Formal EAs are generally published or made available to the public and include cease-and-desist orders, consent orders, capital directives, prompt corrective action directives, formal agreements, safety and soundness orders issued under 12 CFR 30, and civil money penalties. Generally, the OCC may take these actions for violations of laws or regulations; deficient practices, including those that are unsafe or unsound; or violations of final orders, conditions imposed in writing, or written agreements entered into with the OCC. The number of EAs outstanding against banks has steadily declined since peaking in 2010 (see figure 12), reflecting overall improvement in banks' risk management practices. Compliance or operational failures, however, have resulted in a number of recent EAs. These EAs address a lack of appropriate governance, oversight, and risk management systems and controls.

Figure 12: Number of Outstanding Enforcement Actions Against Banks



Source: OCC

Note: Data for 2018 are as of March 31. All other data are as of year-end.

Abbreviations

AML	Anti-money laundering
BSA	Bank Secrecy Act
CAT	Cybersecurity Assessment Tool
CRE	Commercial real estate
EA	Enforcement actions
FFIEC	Federal Financial Institutions Examination Council
FinCEN	Financial Crimes Enforcement Network
GDP	Gross domestic product
HMDA	Home Mortgage Disclosure Act
LCR	Liquidity coverage ratio
MLA	Military Lending Act
MMDA	Money market demand account
MRA	Matters requiring attention
NIM	Net interest margins
NOI	Net operating income
NRC	National Risk Committee
OCC	Office of the Comptroller of the Currency
OFAC	Office of Foreign Assets Control
RESPA	Real Estate Settlement Procedures Act
SNC	Shared National Credits
TCJA	Tax Cuts and Jobs Act
TILA	Truth in Lending Act
WAPD	Weighted-average probability of default

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