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Overview of Commercial (Depository) Banking and Industry Conditions

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Summary

A commercial bank is an institution that obtains either a federal or state charter that allows it to accept federally insured deposits and pay interest to depositors. In addition, the charter allows banks to make residential and commercial mortgage loans; to provide check cashing and clearing services; to underwrite securities that include U.S. Treasuries, municipal bonds, commercial paper, and Fannie Mae and Freddie Mac issuances; and to conduct other activities as defined by statute, namely the National Banking Act. Commercial banks are limited in what they can do. For example, the Glass-Steagall Act separates commercial banking (i.e., activities that are permissible for depository institutions with a bank charter) from investment banking (i.e., activities that are permissible for brokerage firms, which do not include taking deposits or providing loans).

Congressional interest in the financial conditions of depository banks, or the commercial banking industry, has increased in light of the financial crisis that unfolded in 2007-2009, which resulted in a large increase in the number of distressed institutions. Providing credit during the financial crisis was difficult for the banking system. Thus, an analysis of post-financial crisis trends that pertain to lending activity may provide some useful insights about recovery of the banking system. The financial condition of the banking industry can be examined in terms of profitability, lending activity, and capitalization levels (to buffer against the financial risks). This report focuses primarily on profitability and lending activity levels. Issues related to higher bank capitalization requirements are discussed in CRS Report R42744, *U.S. Implementation of the Basel Capital Regulatory Framework*, by Darryl E. Getter.

The banking system generally has substantially more small banks (i.e., those with $1 billion or less in assets) relative to larger size banks. For several decades, bank assets have increased while the number of banking institutions has decreased. The banking industry continues consolidating, with more of the industry's assets held by a smaller number of institutions.

Generally speaking, by most measures, the health of the banking system has improved since 2009. There are fewer problem banks since the peak in 2011, as well as fewer bank failures in comparison to the peak amount of failures in 2010. The return on assets (RoA) and return on equity (RoE) for the banking industry, expressed as percentages, have rebounded since the financial crisis. Although RoA and RoE have not returned to pre-recessionary levels, the range of percentages that should be associated with optimal performance of the banking system is subjective.

The banking system currently has increased its capital reserves that have been designated to buffer against unforeseen macroeconomic and financial shocks. The banking system also has loan-loss reserves to sufficiently cover losses expected to be uncollectible. For loans that are noncurrent (delinquent) but have not yet gone into default, however, the banking system still needs to rebuild this loan-loss capacity if such loans do become uncollectible. Hence, news of industry profitability should be tempered by the news that aggregate loan-loss provisions still must increase to sufficiently buffer against noncurrent loans.

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Introduction

A commercial or depository bank is typically a corporation that obtains either a federal or state charter to accept federally insured deposits and pay interest to depositors. Commercial banks also make residential and commercial mortgage loans, consumer loans, provide check cashing and clearing services, and may underwrite securities, including U.S. Treasuries, municipal bonds, Fannie Mae and Freddie Mac issuances, and commercial paper (unsecured short-term loans to cover short-term liquidity needs). The permissible activities of depository banks are defined by statute, namely the Glass-Steagall Act.[1] By contrast, investment banks (or brokerage firms) are not allowed to accept federally insured deposits, and they do not make loans (i.e., a debt obligation owed to a single lending source). Instead, investment banks receive commissions to facilitate corporate mergers and corporate issuances of securities, such as corporate stocks and bonds (i.e., borrowing from the public).[2]

Congressional interest in the financial conditions of depository banks, also referred to as the commercial banking system, has increased following challenging economic conditions and changes in the regulatory environment. Specifically, the recession that began in December 2007 and ended in 2009 is frequently referred to as the Great Recession in part due to the financial crisis that unfolded.[3] Both large and small banking institutions experienced losses related to the declining asset values (of mortgage-related assets), resulting in a substantial increase in bank failures.[4]

Consequently, higher prudential requirements for U.S. banking institutions were implemented. The Basel Committee on Banking Supervision, which provides an international consensus framework to promote internationally consistent bank prudential regulatory standards, adopted the third Basel Accord that was subsequently adopted by U.S. federal banking regulators.[5] In addition, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (P.L. 111-203, 124 Stat. 1376), which also contained enhanced prudential regulatory requirements for financial institutions. Hence, the challenge for the banking industry is to determine the sustainable amount of financial (lending) risk-taking while simultaneously facing

[1] The Glass-Stegall Act (GSA) is part of the Banking Act of 1933, specifically Sections 16, 20, 21, and 32, 48 Stat. 162. Sections 20 and 32 of the GSA were repealed by the Gramm-Leach-Bliley Act of 1999, P.L. 106-102, to allow for bank holding companies. Commercial banking and brokerage activities, however, must still occur in separate subsidiaries of a bank holding company. See, *Permissible Securities Activities of Commercial Banks Under the Glass-Steagall Act (GSA) and the Gramm-Leach-Bliley Act (GLBA)*, by David H. Carpenter and M. Maureen Murphy.

[2] Underwriting in banking refers to two types of activities. *Loan underwriting* occurs when a bank performs a (default) risk assessment of a potential borrower to determine whether to extend credit (loanable funds), the amount, and how much to charge the borrower. *Securities underwriting* occurs when a bank agrees to take on the risk of distributing securities (in the form of bonds or stocks) of another entity that wishes to attract outside investors to provide funding. If, however, the bank is unable to find enough interested investors, then it retains any unsold securities and assumes the default risk associated with the entity. The remaining provisions of the GSA still restrict the securities underwriting activities of depository banks. Depository banks and depository subsidiaries of bank holding companies may underwrite federal, state, and local government securities, as well as the securities guaranteed by federal or state governments; but they are not allowed to underwrite corporate debt or equity securities.

[3] See "U.S. Business Cycle Expansions and Contractions," *National Bureau of Economic Research*, at http://www.nber.org/cycles.html; and "The Financial Crisis Timeline," *Federal Reserve Bank of St. Louis*, at https://www.stlouisfed.org/Financial-Crisis.

[4] See CRS InFocus CRS In Focus IF10055, *Bank Failures and the FDIC*, by Raj Gnanarajah.

[5] For more information on the Basel Committee of Banking Supervisors and the Basel III Accord, see http://www.bis.org/ and CRS Report R42744, *U.S. Implementation of the Basel Capital Regulatory Framework*, by Darryl E. Getter.

higher costs associated with greater financial risk-taking (i.e., compliance with prudential regulations designed to minimize the severity of financial distress under deteriorating macroeconomic conditions).

This report begins with a general overview of the banking industry. It describes how banks facilitate the financial intermediation process as well as the associated financial risks. It also explains the market structure of the banking industry, referring primarily to the asset distribution. Next, this report summarizes profitability and lending activity levels in the banking industry. Particular attention is paid to metrics related to capitalization levels, asset performance, and earnings of depository banks.

The Basics of Commercial (Depository) Banking

Financial intermediation is the process of matching savers, who are willing to lend funds to earn a future rate of return, with borrowers, who are in need of funds to make transactions. It is expensive for savers to locate, underwrite, and monitor repayment behavior of borrowers. Similarly, it is expensive for borrowers to locate a sufficient amount of savers with funds and favorable lending terms. Hence, banks develop expertise in *intermediation*, or facilitating the transfer of funds from savers to borrowers.[6]

The typical intermediation transaction made by commercial banks provides loans to borrowers at higher rates than the cost to borrow the funds from savers, who provide loanable funds in the form of bank deposits. Generally speaking, banks (as well as numerous lenders or financial institution types) profit from the *spread* between the rates they receive from borrowers and the rates they pay to depositors.[7]

Financial intermediation, however, involves risk. Banks face the risk that borrowers will default on their loans, making it more difficult to repay depositors. In addition, banks face funding or liquidity risk stemming from more frequent movements in short-term interest rates. Banks must have access to an uninterrupted source of short-term funding (deposits) until their long-term loans are fully repaid. Consequently, greater variability in short rates may translate into variable profit spreads. Furthermore, depositors could suddenly and simultaneously decide to withdraw their deposits, perhaps due to a sudden change in economic conditions or even speculation about deteriorating economic conditions, resulting in financial distress for one bank or several banks.[8] Hence, bank profitability and financial risk are inextricably linked.

In addition to default and funding risks, financial intermediation increases borrowers' vulnerability to economic downturns. During business cycle booms, lenders may grow optimistic and increase credit availability as if the ideal economic and financial market conditions will persist.[9] The trade-off (or costs) associated with greater lending is a greater likelihood of severe financial distress if macroeconomic conditions were to deteriorate. In other words, recessions that occur when individuals have more loan repayment obligations (or are more leveraged financially)

[6] Other institutions such as credit unions, pension funds, or hedge funds also engage in the financial intermediation matching process.

[7] The spread is also referred to at the net interest margin, discussed later in this report.

[8] This phenomenon is known as a bank run. The federal deposit insurance system in the United States was established in the 1930s to insure deposits, which helps to sustain public confidence and avoid runs on U.S. banks. See CRS Report R41718, *Federal Deposit Insurance for Banks and Credit Unions*, by Darryl E. Getter.

[9] See Hyman P. Minsky, *The Financial Instability Hypothesis*, The Jerome Levy Economics Institute, Working Paper no. 74, May 1992.

are likely to be more arduous, in particular if these borrowers suddenly face lower income prospects (via job losses or pay cuts).

Bank Balance Sheet Definitions

The following balance sheet terminology is used throughout the report.

- Bank *assets* include long-term consumer, residential, and commercial loans that banks originate as well as cash and other loans in the form of financial securities (such as Treasury bonds and municipal bonds) that they are permitted to hold in their asset portfolios. Bank assets will generate earnings (revenues) or losses, depending upon whether customers repay or default on their loans and whether the issuers of the securities held in bank portfolios repay their debt obligations.
- Bank *liabilities* include the funds that they borrow. When customers (depositors) make savings or checking deposits into a bank, the bank is essentially borrowing those funds for short periods of time in order to lend them out for longer periods of time. The interest paid for these borrowings are, therefore, the costs incurred by the bank to obtain the funds necessary to originate new loans.
- Bank *capital* is the difference between the value of assets and liabilities. Bank capital includes items such as common shareholder equity, retained earnings, and provisions set aside for loan and lease losses.

Commercial Bank Market Structure and Asset Distribution

Assets in the banking industry are not evenly distributed, meaning that banking firms are not identical and, for some metrics, must be analyzed separately to get a more accurate assessment of financial conditions. Using data from the Federal Deposit Insurance Corporation (FDIC), **Figure 1** shows the number of U.S. banks since 2000 by size categories of bank asset holdings: less than $100 million, $100 million-$1 billion, $1 billion-$10 billion, and greater than $10 billion. Community banks have traditionally been considered institutions with total assets at or below $1 billion; however, some institutions with $10 billion in total assets may be considered community banks.[10] At the other extreme are the large financial institutions that have $10 billion or more in assets. The number of banks with more than $10 billion in assets has remained relatively constant, ranging from 101 to 107 institutions between year-end 2000 and 2015.

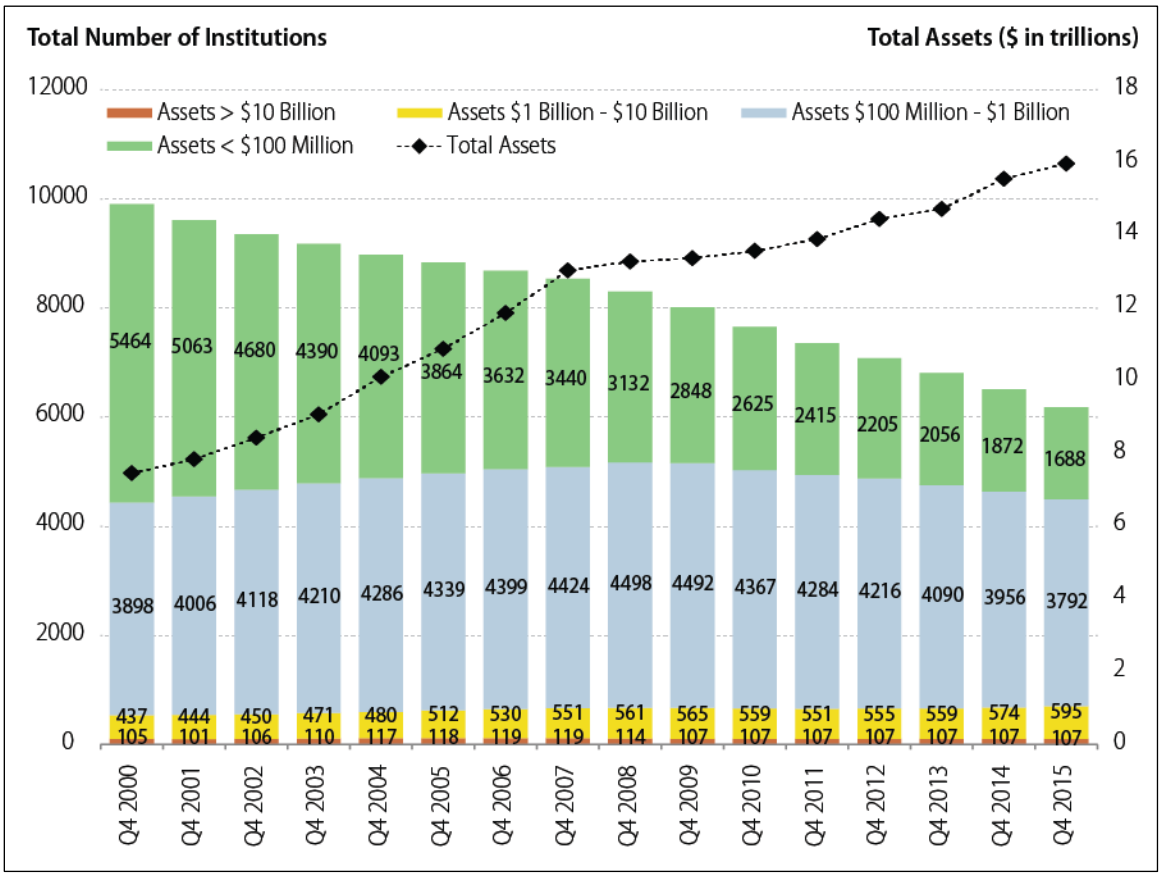
As of 2015, the FDIC reports that total industry assets were $15,967.92 billion.[11] For several decades, bank assets have increased while the number of banking institutions has decreased. The smallest of the community banks, those with less than $100 million in assets, have accounted for most of the industry consolidation even prior to the 2007-2009 recession.

[10] An alternate and more extensive definition of a community bank is associated with its functions as opposed to its asset size. See Federal Deposit Insurance Corporation (FDIC), *FDIC Community Banking Study*, Washington, DC, December 2012, at http://www.fdic.gov/regulations/resources/cbi/report/cbi-full.pdf.

[11] See FDIC *Quarterly Banking Report*, at https://fdic.gov/bank/analytical/qbp/qbpmenu.html.

Figure 1. FDIC-Insured Institutions by Number of Institutions

2000-2015



Source: Created by CRS using Federal Deposit Insurance Corporation (FDIC) data.

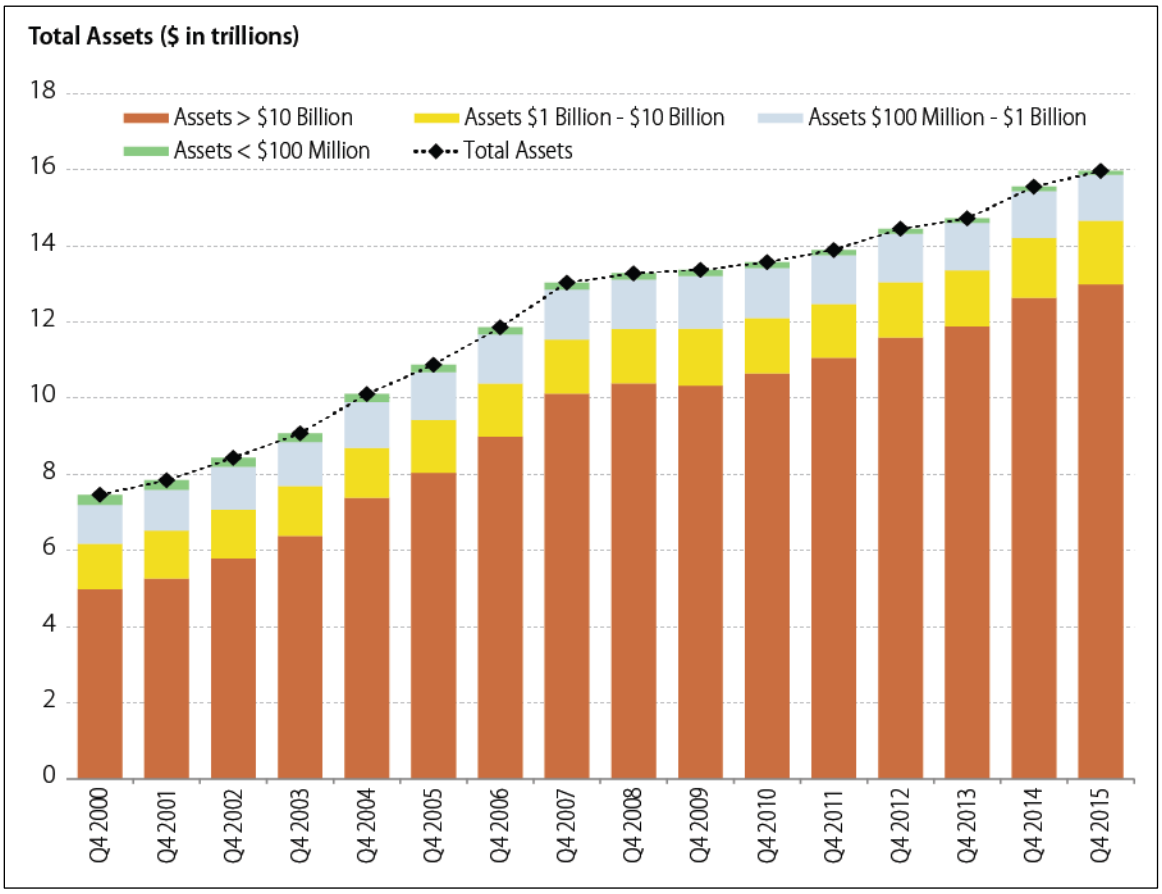
Notes: The number of institutions holding $10 billion or more in assets appears as the smallest bars sitting on the horizontal axis, ranging from 101 to 107 over the entire period.

Figure 2 shows the same bank asset categories by asset size rather than by number of institutions. Banking institutions with less than $100 million in assets collectively hold approximately 1% of all industry assets. In contrast, banks with more than $10 billion in assets collectively hold approximately 80% of all industry assets. With this in mind, it can be challenging for industry analysts to determine whether the banking industry should be viewed as one competitive industry or as numerous firms with characteristics similar to monopolists. Even though banks generally accept deposits and take loans, it is unclear the extent that small banks compete with large banks and for what types of financial services; small banks compete with each other because of their focus on specialized lending and geographical limitations; or large banks compete with each other or maintain focus on specialized financial services.[12]

[12] For example, a large bank may have a large student loan operation whereas another large bank may have a large credit card operation. Midsize banks ($2 billion to $10 billion) may choose to do small scale commercial real estate lending in comparison to larger banks ($10 billion or greater) that may choose to provide financing for multi-family apartment buildings and hospitals. Small or community banks, however, are more likely to make less complex business loans in comparison to large banks that might arrange a loan participation (syndication) structure. Loan participations allow multiple institutions to jointly provide financing for large-scale, complex projects. See Rachel Witkowski, "Small Banks Slowly Reconsidering Loan Participations," *American Banker*, March 14, 2012.

Figure 2. FDIC-Insured Institutions by Asset Size

2000-2015



Source: Created by CRS using FDIC data.

Notes: The institutions holding $100 million or less in assets appear as the smallest bar below the dots.

An Overview of Capital (Equity) Regulation

Banking regulators (i.e., the Office of the Comptroller of the Currency, the Federal Reserve, the FDIC, and state banking regulators) require U.S. banking institutions that accept federally insured deposits to comply with *safety and soundness* regulations, which are designed to monitor and buffer against the types of financial intermediation risks that can result in financial distress for banks and the broader economy.[13] Asset (loan) defaults are less likely to result in the inability of a bank to repay its shorter-term obligations to its creditors (and especially its insured depositors) if sufficient capital is maintained to absorb the losses. If a bank's capital falls below minimum regulatory threshold levels, it would be considered undercapitalized and faces the prospect of being shut down by its regulator, which appoints the FDIC[14] as the receiver of the insolvent

[13] See CRS Report R43087, *Who Regulates Whom and How? An Overview of U.S. Financial Regulatory Policy for Banking and Securities Markets*, by Edward V. Murphy.

[14] When a bank fails, the FDIC typically closes the institution and administers the repayment of depositors. See CRS Report R41718, *Federal Deposit Insurance for Banks and Credit Unions*, by Darryl E. Getter.

institution. Hence, compliance with regulatory capital requirements implies that capital reserves must grow proportionately with bank asset (lending) portfolios.[15]

The abatement of financial risk, however, may curb lending activity. As previously mentioned, recessions are likely to be milder when fewer loan repayment obligations are outstanding; but the trade-off may be fewer loans, translating into fewer transactions that could possibly spur more robust expansions. Consequently, determining the optimal amount of financial intermediation risk for the banking system to take while simultaneously trying not to undermine economically stimulative lending activity is often a regulatory challenge.

Recovery from the 2007-2009 Recession

After 2007, the banking system saw unusually high numbers of distressed institutions, with failures at rates not seen since the savings and loan crisis that began in the 1980s and lasted through the early 1990s.[16] The number of banks that failed, or fell substantially below their minimum capital reserve requirements, increased as the financial crisis of 2008 unfolded. No banks failed in 2005 and 2006, and three bank failures occurred in 2007.[17] In contrast, the FDIC administered 489 bank failures over the 2008-2013 period.[18]

The FDIC maintains a problem bank list, which lists banks at risk of failure because their capital reserves have fallen below regulatory minimum levels (but perhaps not yet far enough below to be shut down). The number of depository institutions on the FDIC's problem list spiked beginning in 2008 and peaked at 888 in the first quarter of 2011. **Figure 3** shows the number of problem banks and the total assets of those banks relative to the total assets of the entire banking system. The chart suggests that problem banks were primarily small institutions because of the small share of total banking assets they held.

[15] Regulators require banks to maintain minimum *capital-asset ratio* levels, thus maintaining the proportional growth of assets and capital. Capital-asset ratios are computed by placing a financial institution's total capital in the numerator of the ratio and then dividing by its total assets, which are usually weighted by degree of default risk. Note that this analysis will focus primarily on the component of capital most closely associated with loan losses rather than discuss the more complex aspects of capital regulation. See Douglas J. Elliot, "A Primer on Bank Capital," The Brookings Institution, January 28, 2010, at http://www.brookings.edu/~/media/research/files/papers/2010/1/29%20capital%20elliott/0129_capital_primer_elliott.pdf; and CRS Report R42744, *U.S. Implementation of the Basel Capital Regulatory Framework*, by Darryl E. Getter.

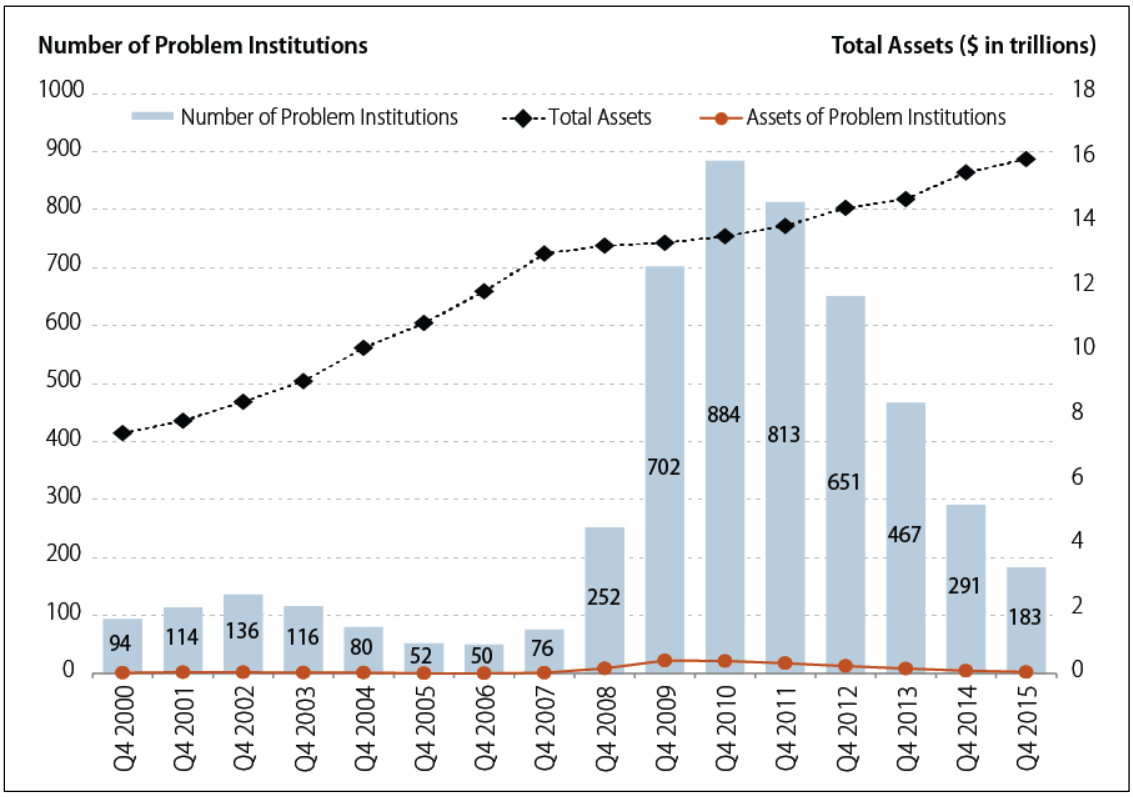
[16] See FDIC, Division of Research and Statistics, *Chapter 4: The Savings and Loan Crisis and Its Relationship to Banking*, History of the Eighties—Lessons for the Future: An Examination of the Banking Crises of the 1980s and Early 1990s, Washington, DC, at http://www.fdic.gov/bank/historical/history/167_188.pdf.

[17] See FDIC *Quarterly Banking Report* as of December 31, 2009, at http://www2.fdic.gov/qbp/2009dec/qbp.pdf.

[18] See FDIC *Quarterly Banking Report* as of December 31, 2013, at http://www2.fdic.gov/qbp/2013dec/qbp.pdf.

Figure 3. FDIC Problem List and Assets of Distressed Institutions

2000-2015



Source: Created by CRS using FDIC data.

Notes: The "Total Assets" line represents the aggregate assets for all FDIC-insured banking institutions.

The industry has returned to profitability since the recession. Return on assets (RoA) and return on equity (RoE) are commonly used metrics to gauge bank profitability. RoA is computed with net revenue (i.e., total revenue minus total expenses) in the numerator and average total assets in the denominator. The RoA measures the financial return of a bank's average assets or lending activities. Because the banking industry relies heavily upon borrowed liabilities to fund assets, the ratio's numerator would be significantly smaller than the denominator; therefore, a RoA of approximately 1% is considered profitable.[19] RoE is computed with net income in the numerator and the total amount of common shareholder equity in the denominator. The RoE is a measure of financial return for shareholders. Unlike RoA, RoE does not have a barometer of "acceptable" performance because it can increase due to either asset profitability or depleting capital positions, making it difficult to establish a benchmark standard.[20] Nonetheless, double-digit RoE returns such as those prior to the recession tend to be more acceptable for shareholders.

The FDIC reported industry declines in both RoA and RoE during the 2007-2009 recession as the numerators of both ratios fell even faster than their denominators. The negative returns coincided with the wave of loan defaults that also occurred during the recession, which led to the

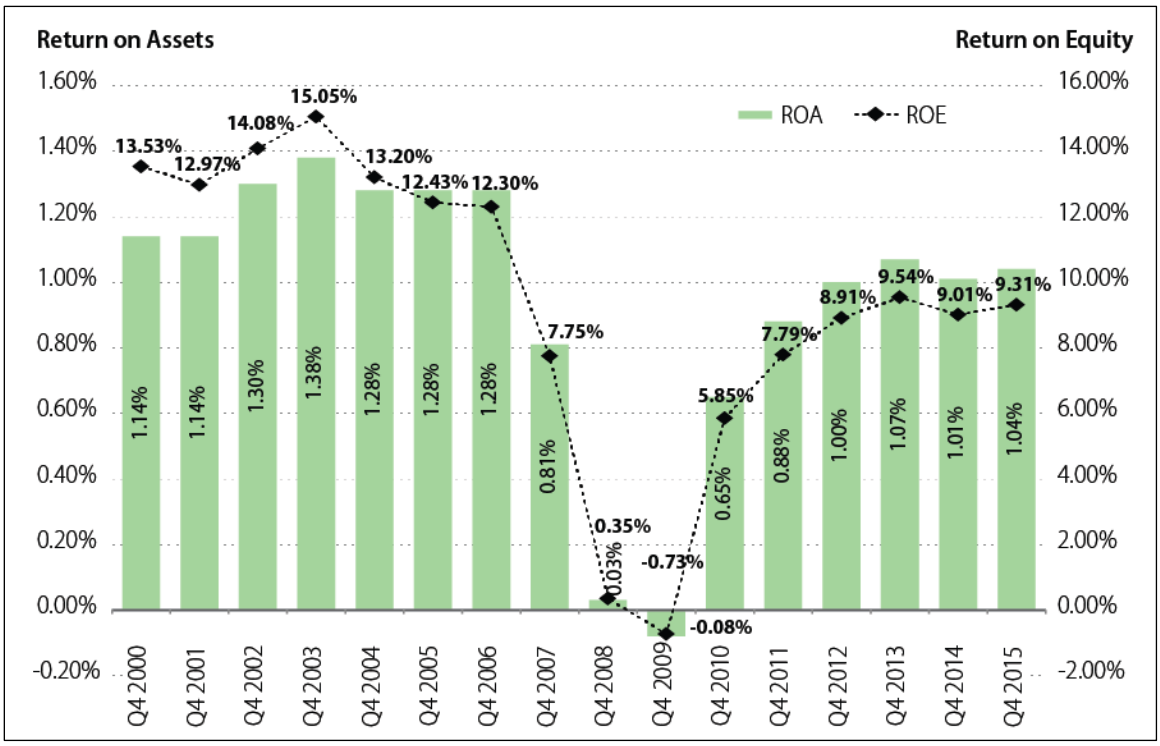
[19] See Ricki Helfer, chairman of FDIC, "On the Release of the Quarterly Banking Profile," Speech at Federal Deposit Insurance Corporation, Washington, DC, September 12, 1995, at http://www.fdic.gov/news/news/speeches/archives/1995/sp12sept95.html.

[20] See European Central Bank, *Beyond RoE—How to Measure Bank Performance*, Appendix to the Report on EU Banking Structures, Germany, September 2010, at http://www.ecb.europa.eu/pub/pdf/other/beyondroehowtomeasurebankperformance201009en.pdf.

deterioration of capital, increases in the number of banks on the FDIC's problem list, and increases in bank failures. The RoA and RoE measures, which are illustrated in **Figure 4**, have exhibited a reversal in course since the recession.

Figure 4. Return on Assets and Return on Equity

2000-2015



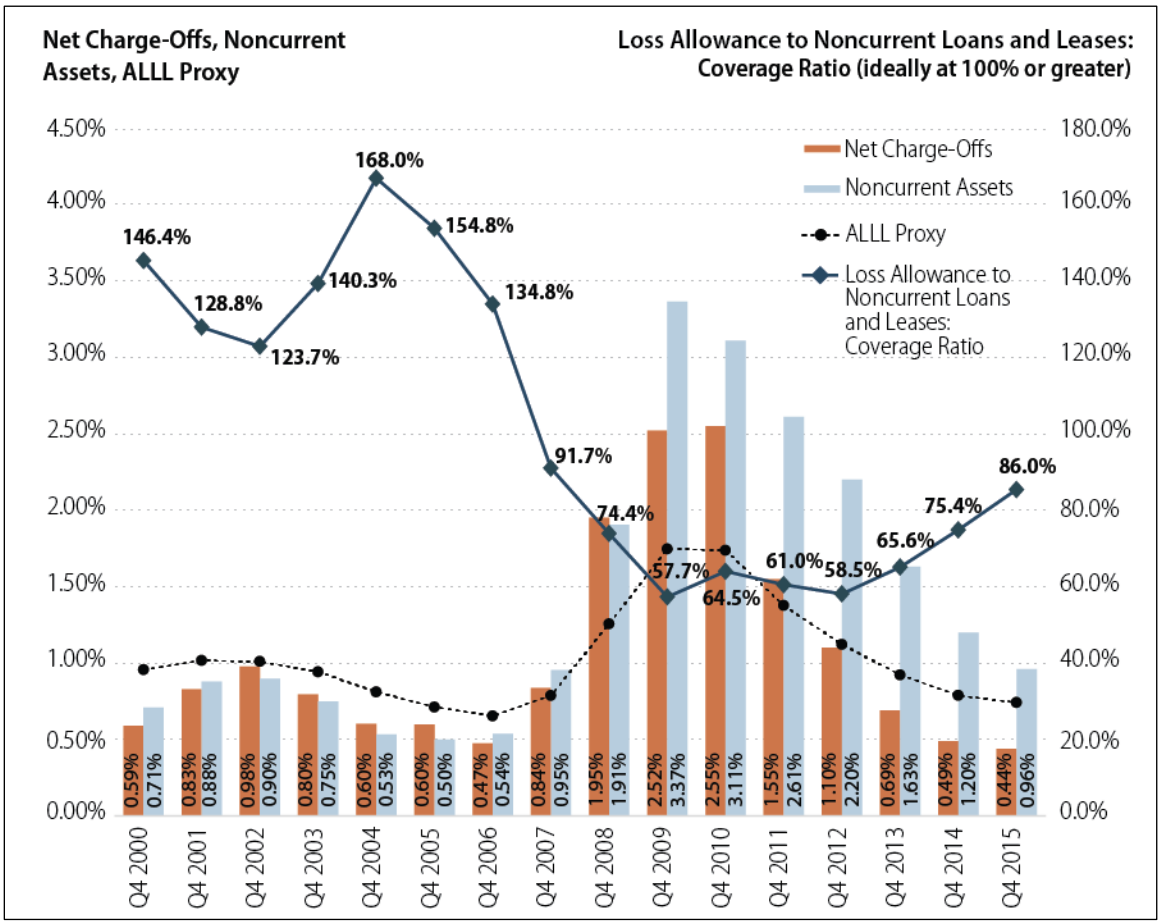
Source: Created by CRS using FDIC data.

Figure 5 shows the increase in noncurrent assets (i.e., loans or bonds) and charge-offs after 2007. *Non-current assets* are loans or bonds that borrowers do not repay as scheduled. The *allowance for loan and lease losses* (ALLL) is a component of regulatory bank capital set aside for anticipated (or estimated) loan losses. *Loan loss provisioning* refers to increasing the amount of ALLL when loan default risks increase; decreases are referred to as *charge-offs* or deductions from ALLL when lenders determine that noncurrent assets will not be repaid.[21] RoA and RoE movements are essentially related to loan and bond repayment problems.

[21] Net charge-offs are charge-offs minus the delinquent loans that recover. Mortgage and credit card charge-offs differ. A credit card loan charge-off can be recognized immediately, but writing off mortgages takes considerably more time. When it becomes clear that a mortgage default cannot be cured, the property is generally seized via foreclosure and must be resold to recover some losses.

Figure 5. Net Charge-Offs, Noncurrent Assets, ALLL Proxy, and Coverage Ratio

2000-2015



Source: Created by CRS using FDIC data.

Notes: The ALLL proxy, discussed further in the text of the report, is computed by CRS using FDIC data.

Bank regulators require banking organizations to hold capital for both anticipated and unanticipated default risks. Capital requirements pertaining to the maintenance of equity shareholder levels are designed to buffer against *unanticipated* losses and generally do not vary.[22] In contrast, ALLL requirements change more frequently (quarterly) or when expected credit losses may have increased. Hence, a bank may have sufficient capital to meet unanticipated defaults, which may be associated with unforeseen events (such as a sudden increase in the unemployment rate), but it may still need to increase ALLL provisions should a borrower begin showing signs of repayment difficulties that may result in default. If banks can absorb anticipated loan losses using current income earnings, their capital will be left intact for unanticipated losses.

The ratio of aggregate ALLL provisioning to total bank assets, also shown in **Figure 5**, is an ALLL proxy. Loan loss provisioning matched and often exceeded the *anticipated* percentage of

[22] In addition to responding to higher balance sheet risks, regulators are implementing Basel II.5, Basel III, and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act; P.L. 111-203), which collectively will result in higher bank capital requirements. See CRS Report R42744, *U.S. Implementation of the Basel Capital Regulatory Framework*, by Darryl E. Getter.

problem assets prior to 2007, which are composed of net charge-offs and noncurrent assets.[23] The ALLL indicator suggests that the amount of loan loss provisioning since the recession covers net charge-offs. The percentage of noncurrent loans, however, must decline even more relative to the current level of ALLL provisioning (or ALLL provisioning must increase more) before the industry can fully cover its anticipated default risks.[24]

Although the ALLL indicator was constructed for illustrative purposes, the amount of loan loss allowance of noncurrent loans and leases, also referred to as the *coverage ratio*, is a more commonly used metric to assess the ability to absorb losses from nonperforming assets (as shown in **Figure 5**).[25] A coverage ratio below 100% indicates that there is insufficient provisioning to cover weak loans that could go into further distress. Since the recession, regulators have required banks to increase loan-loss provisioning (as well as other components of regulatory capital) levels to better match the levels of problem loans.[26]

Post-Recession Lending Activity

The asset (lending) growth rate of the banking industry is computed using two methodologies (illustrated in **Figure 6**). For both methodologies, the total assets per quarter were initially averaged for each year, arguably adjusting for seasonal movements in lending activity over the year. The asset growth rate (represented by the more volatile striped bars) is computed by simply calculating the percentage change of the average total assets from year to year. The asset growth rate (represented by the solid bars) is computed using a moving average smoothing technique that reduces short-term volatility in data. Some economists prefer analyzing smoothed data series to curtail overstating observed activity or directional change.[27] Hence, the asset growth rate using the moving average or smoothing methodology fell below negative 2% beginning in the first quarter of 2009, which had not occurred since the 1990-1991 recession;[28] the second and fourth quarters of 2009 also saw negative asset growth. Given the magnitude of loan repayment problems, banks grew more cautious about lending (or allowing their asset portfolios to grow) to avoid the risk of further weakening their ALLL and capital reserve positions. The bank lending rate has increased since the 2007-2009 recession. Except for the 2001 recession, the more recent growth rates are below the pre-recessionary levels.

[23] The ratio of ALLL-to-total assets in this analysis follows a similar practice found in Luc Laeven and Giovanni Majnoni, "Loan Loss Provisioning and Economic Slowdowns: Too Much, Too Late?" *Journal of Financial Intermediation*, vol. 12, no. 2 (April 2003), pp. 178-197. Loan loss reserve proceeds, however, must come from current income earnings as opposed to total assets.

[24] For more details on the decline in loan loss provisions, see FDIC *Quarterly Banking Reports* for March 31, 2012, at http://www2.fdic.gov/qbp/2012mar/qbp.pdf and December 31, 2013, at http://www2.fdic.gov/qbp/2013dec/qbp.pdf.

[25] See James B. Thomson, "Current Banking Conditions, FDIC-Insured Institutions," Federal Reserve Bank of Cleveland, *Economic Trends*, June 1, 2010, at https://www.clevelandfed.org/en/newsroom-and-events/publications/economic-trends/economic-trends-archives/2010-economic-trends/et-20100601-current-banking-conditions-fdic-insured-institutions.aspx.

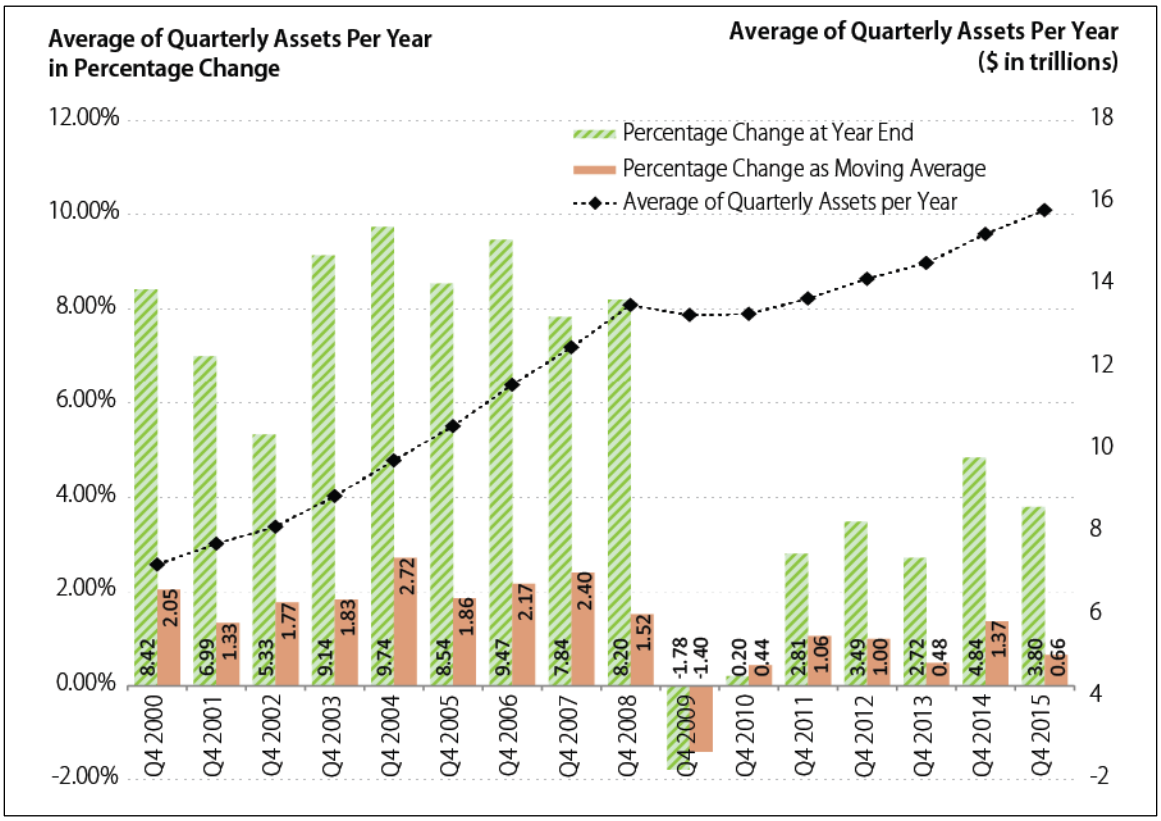
[26] See Catherine H. Goni et al., *Supervisory Trends: "Matters Requiring Board Attention" Highlight Evolving Risks in Banking*, Federal Deposit Insurance Corporation, Supervisory Insights, Summer 2014, at https://www.fdic.gov/regulations/examinations/supervisory/insights/sisum14/sisummer2014.pdf.

[27] See "Smoothing Data with Moving Averages," Federal Reserve Bank of Dallas, at http://www.dallasfed.org/research/basics/moving.cfm.

[28] See National Bureau of Economic Research Business Cycle Dating Committee, March 1991, at http://www.nber.org/March91.html.

Figure 6. Asset Growth Rate

2000-2015



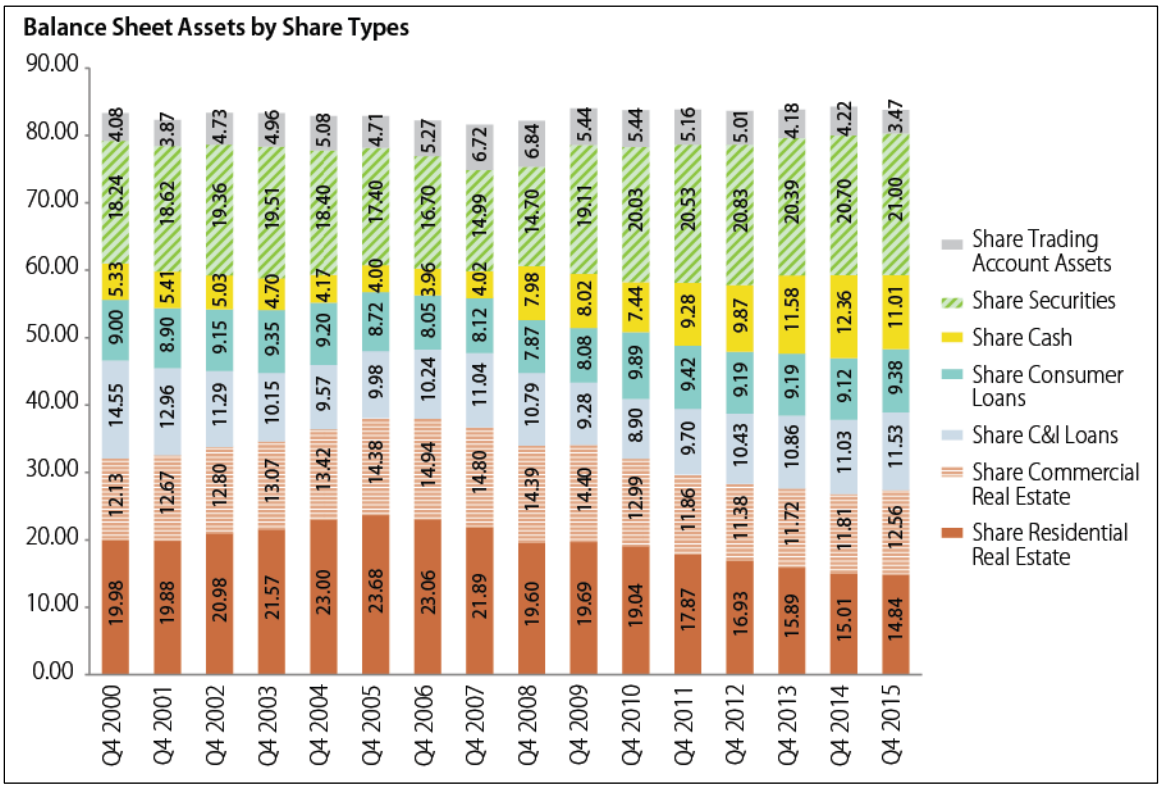
Source: Created by CRS using FDIC data.

Notes: The asset growth rate is shown as a moving average, which was computed by CRS.

Figure 7 illustrates some of the more common types of asset holdings in the aggregate banking portfolio. Since the 2007-2009 recession, the banking system holds larger shares of cash and smaller shares of residential mortgages, which is computed in **Figure 7** using 1-4 family residential mortgages and home equity lines of credit. The share of cash holdings has more than doubled since 2000 to approximately 12% of aggregate portfolio holdings. The increase in cash holdings would be consistent with the increase in regulatory capital requirements for banks as shareholders purchase bank stocks with cash. Conversely, the share of residential mortgage credit, which peaked to almost 24% in 2005, has since steadily declined (by more than 33%) to approximately 15%. The share of commercial and industrial (C&I) lending has seen a decrease of approximately 24% since 2000, but it appears to be rising since the 2007-2009 recession. As of 2015, the total asset shares represented by commercial real estate lending, consumer loans (e.g., credit cards, installment loans), and securities (e.g., state and municipal bonds, U.S. Treasury securities) approximate pre-recession levels. Lastly, a trading account holds assets that the bank would like to sell or trade. Although banks wanted to sell more assets during the recession, the share of assets for sale has returned to and has fallen below pre-recessionary levels.

Figure 7. Composition of Industry Assets

2000-2015



Source: Created by CRS using FDIC data.

Revenue Composition by Bank Size

As previously stated, banks typically borrow funds from depositors for shorter periods of time relative to their originated loans. Banks must continuously renew their short-term borrowings until longer-term loans have been fully repaid. For example, suppose a bank originates a consumer loan that is expected to be repaid in full over two years. Over the two years that the loan is being repaid, the bank will simultaneously "fund the loan," meaning that it will treat its depositors' funds as a sequence of quarterly (for a total of eight quarters) or monthly (for a total of 24 months) short-term loans and make periodic interest payments to depositors.[29] The spread or difference between lending long and borrowing short is known as the *net interest margin*.

Typically, smaller banks engage in "relationship banking," meaning that they develop close familiarity with their respective customer bases and provide financial services within a circumscribed geographical area. Relationship banking allows these institutions to capture lending risks that are unique, infrequent, and localized. These institutions, which rely heavily on commercial (real estate and retail) lending and funding with deposits, typically have higher net interest margins than large banks. Funding loans with deposits is cheaper than accessing the

[29] For example, if a bank originates a two-year loan at a fixed 6% interest rate and pays depositors a 2% return, then the net interest margin or spread would be 4%. Because the 6% rate is fixed, fluctuations in short-term interest rates mean that the spread would also fluctuate over the two years that the loan is being repaid.

short-term financial markets, particularly for small institutions that do not have the transaction volume or size to justify the higher costs.

In contrast, large institutions typically engage in "transactional banking" or high-volume lending that employs automated underwriting methodologies that often cannot capture atypical lending risks.[30] Large banks are not as dependent upon deposits to fund their lending activities because of their greater ability to access short-term money markets. Large banks typically have lower spreads because their large-scale activities generate large amounts of fee income from a wide range of activities, which can be used to cover the costs of borrowing in the short-term money markets.[31] Revenues are earned by originating and selling large amounts of loans to nonbank institutions, such as government-sponsored enterprises (Fannie Mae and Freddie Mac) and non-depository institutions that hold financial assets (e.g., insurance companies, hedge funds). A large share of fees are still generated from traditional banking activities (e.g., safe deposit, payroll processing, trust services, payment services) and from facilitating daily purchase and payment transactions, in which service fees may be collected from checking, money orders, and electronic payment card (debit and credit) transactions.[32] Hence, transactional or high-volume banking activities allow large banks to generate fee income and engage in financial transactions characterized by minimum deal size or institutional size requirements, which simultaneously act as a participation barrier for community banks.[33]

Because of the differences in the composition of bank revenue streams, the net interest margins and fee income streams are illustrated by asset size categories. **Figure 8** presents the net interest margins (or spreads) by bank size. By 2009, the net interest margins had declined for small banks, but they still remained higher over time than the margins for larger banks. The net interest margins for large banks increased over the recession period as they experienced a large influx of deposits during the recession, perhaps due to uncertainty in the money market; this "flight to safety" influx resulted in a substantial drop in their funding costs.[34] In other words, large banks were able to rely relatively less on short-term financial markets and could, instead, take advantage of cheaper funding from deposits. Although net interest margins may appear to be returning to pre-recession trends, the future performance of this spread would still be affected by a shift in the composition of asset holdings. For example, the spread may be affected by an increase in liquid asset holdings (e.g., securities backed by the U.S. federal government), perhaps due to weaker

[30] For more information on automated underwriting, see Wayne Passmore and Roger Sparks, *The Effect of Automated Underwriting on the Profitability of Mortgage Securitization*, Federal Reserve Board, Finance and Discussion Series 1997-19, Washington, DC, 1997, at http://www.federalreserve.gov/pubs/feds/1997/199719/199719abs.html.

[31] See Judy Plock, Mike Anas, and David Van Vickle, "Does Net Interest Margin Matter to Banks?," Federal Deposit Insurance Corporation, *FDIC Outlook*, June 2, 2004, at http://www.fdic.gov/bank/analytical/regional/ro20042q/na/infocus.html.

[32] See CRS Report R41529, *Supervision of U.S. Payment, Clearing, and Settlement Systems: Designation of Financial Market Utilities (FMUs)*, by Marc Labonte.

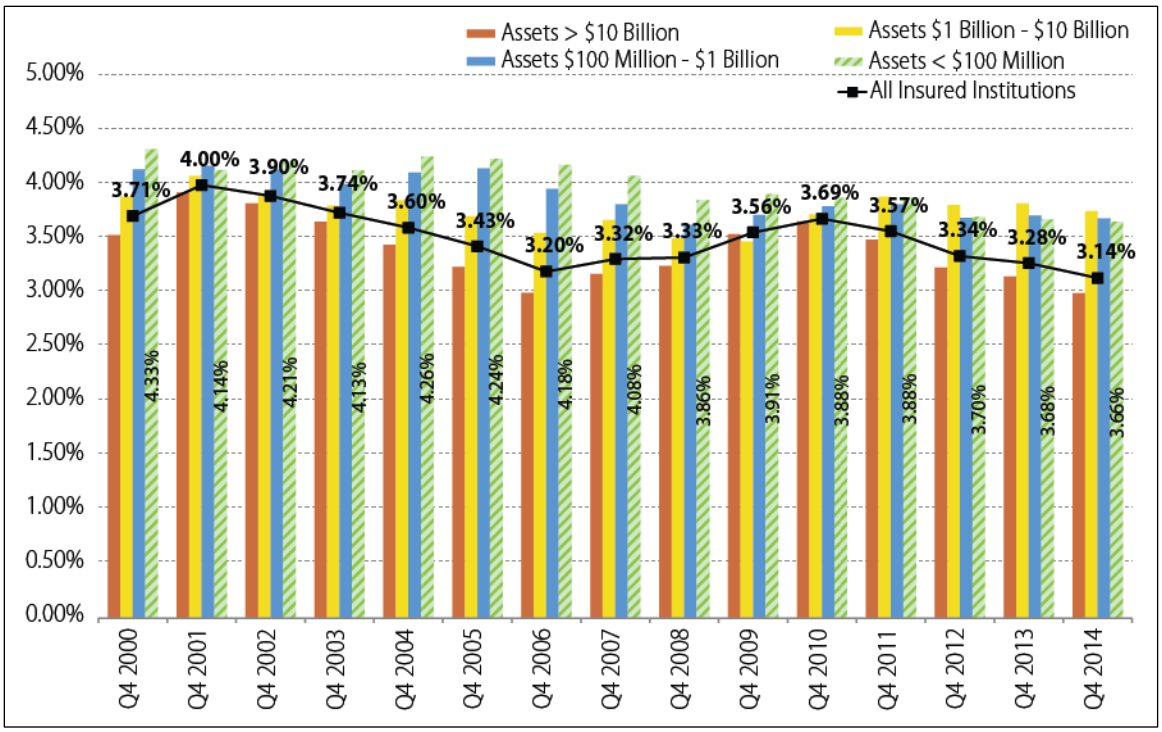
[33] See Conference of State Bank Supervisors, Community Banks and Capital: Assessing a Community Bank's Need and Access to Capital in the Face of Market and Regulatory Challenges, December 2011, at http://CSBS-CommunityBanksCapitalWhitePaper120811.pdf.

[34] For more information on the influx of deposits into the banking system, see Paul Davis, "In Cash Glut, Banks Try to Discourage New Deposits," *American Banker*, July 2010, at http://www.americanbanker.com/bulletins/-1023018-1.html; Office of the Comptroller of the Currency, *Semi-Annual Risk Perspective*, Spring 2012, at http://occ.gov/publications/publications-by-type/other-publications-reports/semiannual-risk-perspective/semiannual-risk-perspective-spring-2012.pdf. Many depositors may have moved money to larger banks in response to uncertainty in the money markets. For discussions about money market funds falling below $1 per share, see Nada Mora, "Can Banks Provide Liquidity in a Financial Crisis?," *Economic Review, Federal Reserve Bank of Kansas City*, Third Quarter 2010, pp. 31-68; CRS Report R42083, *Financial Stability Oversight Council: A Framework to Mitigate Systemic Risk*, by Edward V. Murphy; and CRS Report R42787, *An Overview of the Transaction Account Guarantee (TAG) Program and the Potential Impact of Its Expiration or Extension*, by Sean M. Hoskins.

demand for more illiquid loans (e.g., mortgages, commercial loans) or lower capital requirements associated with holding more liquid loans. Banks may alter the composition of their asset portfolios, attempting to seek higher yielding lending opportunities (e.g., holding less mortgages and more credit card loans) to help maintain spreads above 3%. Bank spreads may also be affected by the amount of deposits that remain or flow out of the banking system as the economy strengthens. Hence, it has become more challenging to predict future profitability arising from more traditional lending activities.

Figure 8. Net Interest Margins (Spreads) by Bank Asset Size Categories

2000-2015



Source: Created by CRS using FDIC data.

Figure 9 presents noninterest income as a percentage of assets by bank size. The overall trend of fee-generating activities has rebounded since the recession, but there appears to be more volatility in fee-income revenues of smaller institutions. Although greater reliance upon fee income as a percentage of (large) bank income suggests a reduction in exposure to credit and funding risks, it may not necessarily translate into greater stability of earnings streams.[35] For example, banks no longer generate as much fee income by selling (mortgage) loans to private-label securitization markets, particularly those largely abandoned by investors at the beginning of the financial crisis.[36] In other words, high-volume fee-generating transactions are still dependent upon fluctuations in investor demand for securities created from securitized (structured finance) deals,

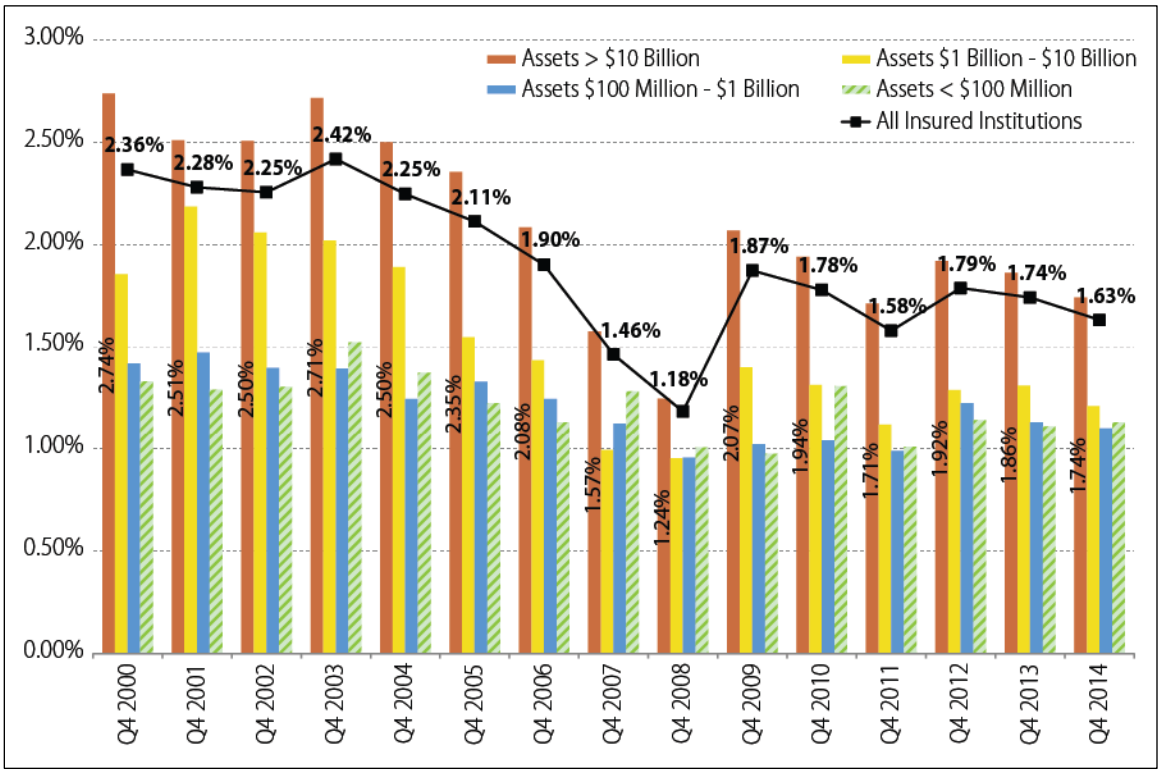
[35] Robert DeYoung and Tara Rice, "How Do Banks Make Money? The Fallacies of Fee Income," Federal Reserve Bank of Chicago, *Economic Perspectives*, 2004, pp. 34-51, at http://www.chicagofed.org/digital_assets/publications/economic_perspectives/2004/ep_4qtr2004_part3_DeYoung_Rice.pdf.

[36] For information on securitization markets issues, see U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, Subcommittee on Securities, Insurance and Investment, *Securitization of Assets: Problems and Solutions*, Testimony of George P. Miller, American Securitization Forum, 111th Cong., 1st sess., October 7, 2009.

which adds variability to income. In addition, regulatory costs may reduce fee income. Recent regulation of fees that large institutions may collect from debit transactions would affect the earnings streams.[37] Banks might respond by seeking new opportunities to provide financial services to generate new fee revenues.[38] Hence, future fee-generating activities are still affected by financial market uncertainty.

Figure 9. Percentage of Non-Interest Income by Bank Size Asset Categories

2000-2015



Source: Created by CRS using FDIC data.

Conclusion

Since the 2007-2009 financial crisis, the banking industry has exhibited profitability. Net interest margins and fee income as a percentage of assets are less volatile now than when the U.S. economy was in recession, but they are still lower in comparison to 2000. The industry is still accumulating sufficient reserves to cover noncurrent assets. These factors may be influencing the asset growth rate, which has been positive since 2011, but remains below the average rate of growth observed over the past two decades.

Profitability in the banking industry should not be interpreted as evidence of a return to previous lending patterns. The industry is adapting its business models to the post-recession regulatory environment in which higher overall capital requirements would be expected to increase funding costs and the choice of financial assets held in portfolios. Because large banks may be less

[37] For example, see CRS Report R41913, *Regulation of Debit Interchange Fees*, by Darryl E. Getter.

[38] See CRS Report R43364, *Recent Trends in Consumer Retail Payment Services Delivered by Depository Institutions*, by Darryl E. Getter.

dependent upon traditional lending activities than smaller banks, large institutions might be able to generate sufficient fee income from a wide range of other financial activities to remain profitable even if lending activity does not resemble pre-recessionary levels. Hence, profitability trends may differ for banks by size.

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